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LEVEL OF HEALTH AND SAFETY COMPLIANCE BY THE ARTISANS OF CONSTRUCTION SMES OF DIFFERENT ANTHROPOLOGICAL CULTURES IN ABUJA MUNICIPAL AREA COUNCIL (AMAC)

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ABSTRACT: *Health and safety compliance in all industries is a serious issue of concern. More especially in small and medium size construction firms can never be over emphasized. This study was motivated by the reason of daily health and safety related cases on construction sites within and outside the Nigerian construction industry. The differences which exist in the anthropological culture of people provide the curiosity to determine how it influences the level of health and safety compliance of the construction artisans. Therefore, this study will determine the level of health and safety compliance by the construction artisans of different anthropological cultures: Abuja Municipal Area Council (AMAC). This study area is preferred because it has the highest share of construction activities and composition of the various anthropological cultures in Nigeria. A quantitative study; survey questionnaire was used by means of cluster sampling type of the random sampling technique. The data analysis was done using the Statistical Package for Social Science (SPSS) 21. From the results obtained; it shows that the composition of the construction artisans of the small and medium construction firms in the AMAC are; Hausa, Igbo, Yoruba and the rest which are termed as "Others" in this study. The result shows that Hausa are the most populated, the "Others" are the next, followed by the Yoruba, and the last but not the least is the Igbo. The result shows that the level of artisans complains to the health and safety on small and medium construction firms is generally moderate.*

KEYWORDS: Anthropological Culture, AMAC, Construction Artisans and Health & Safety.

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INTRODUCTION

It is imperative and essential to note that employers are required to ensure that their work places are free of hazards injurious to the health of their workers and other persons whose health may adversely be affected by the operations of the business (Kheni et al, 2007). Giving Regard to occupational safety and health performance can be an indicator of compliance with safe work practice (Wright, 2003). Safety compliance is ranged from good to poor, where compliance to the safety requirements remarked as good safety compliance, whereas none compliance to the safety requirements is remarked to as poor safety compliance (Zin and Ismail, 2012). Further in their work, Zin and Ismail (2012) said compliance with safety requirements will help the work to be done both efficiently and safely. Safety behaviour, safety training, and safety compliance explains the core activities that needs to be carried by employees according to occupational safety and health requirements to prevent workforce accidents (Zin and Ismail, 2012 and Mahmood, 2010).

Cultural differences have significant impact upon industrial safety practice and help in understanding the different approaches to accident prevention and safety management (Alhajeri, 2011). The meaning that people give to the organisations they belong, their concept of its structure, practices and policies, is defined by their culture (Trompenars and Hampden-Tuner 2013). Anthropological culture is seen as shared beliefs, values and behaviour of specific groups (Throsby, 2003 cited in Simmons, 2015). Culture therefore influences the health and safety compliance practice in organisations, and as a result it reflects in the construction industry's health and safety compliance practice. Alhajeri (2011) further continues that; culture describes variations among people from different nations or of different ethnicities. Culture includes system of values, Culture distinguishes one group from the other, Culture is learned, and not innate, Culture influences beliefs, attitude, perceptions and behavior in a somewhat uniform and predictable way (Bird, 2003).

It is an unarguable fact that; the majority of the construction businesses in the developing countries are small and medium enterprises (Kheni et al, 2007). According to the central bank of Nigeria; small and medium firms are the firms that employ from 11 to 100 people and has assets between ₦5 and ₦500 million (www.legit.ng, visited on 14/10/2019). Small construction firms play an increasingly important part in improving the overall performance of construction industries across the world (Lu et al, 2009). Construction industry is prone to many hazards and accidents potentials; a world class construction project execution is impossible without proper construction safety management. Construction materials, tool, machinery and handling techniques all comes with their own dangers. Owning to this fact, it implies that ensuring health safety compliance in the construction sites is as important as any other aspect, for successfully executing a project. To that; this study is aimed at determining the level of health and safety compliance by the artisans of construction SMEs of different anthropological cultures in Abuja Municipal Area Council (AMAC)

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LITERATURE REVIEW

The construction industry is viewed both in the developed and the developing countries as that sector of the economy which, through planning, design, construction, maintenance, repair, and operation, transforms various resources into constructed facilities (Kheni et al 2008, and Isa et al, 2013).

Health

Health is the protection of bodies and minds of people from illness resulting from the materials, processes or procedures used in the workplace (Hughes and Ferrett, 2016). On the other hand, health is seen as the processes employed towards protecting people from the adverse effects of all the operations concluded within a construction and work site (Cooney, 2016). He also have it that; the protection from processes, procedures or materials of workplace that can

Cause illness to the minds and bodies of people in known as health (Cooney, 2016). It is imperative and essential to note that employers are required to ensure that their work places are free of hazards injurious to the health of their workers and other persons whose health may adversely affected by the operations of the business (Kheni, Dainty and Gibb, 2007). "Occupational health should aim at: the development and maintenance of the highest level of physical, mental and social comfort of employees in all professions; the prevention amongst employees of depart from health caused by their working situation; the protection of the employees in their employment from risk developing from factors harmful to health; the placing and maintenance of the occupational environment converted to his physiological capabilities; and to abstract, the adaption of work every man to his employment" (Guidotti, 2011 cited by Minhal 2015).

Safety

Hughes and Ferret (2016) defined safety as the protection of people from physical injury. Cooney (2016) views safety as how individuals are protected from physical harm in the course of executing their duties and responsibilities. In general, the distinction between health and safety is hazy, with both words often used interchangeably towards indicating the physical and mental conditions of individuals in the workplace. Giving Regard to occupational safety and health, performance can be an indicator of compliance with safe work practice (Wright, 2003). Safety compliance is ranged from good to poor, where compliance to the safety requirements remarked as good safety compliance, whereas none compliance to the safety requirements is remarked to as poor safety compliance (Zin and Ismail, 2012). Further in their work, Zin and Ismai (2012) said compliance with safety requirements will help the work to be done both efficiently and safely. Safety behaviour describes the behaviour that support the safety practices and activities such as providing safety training and safety compliance explains the core activities that need to be carried by employees according to occupational safety and health requirements to prevent workforce accidents (Zin and Ismail, 2012 citing Mahmood, 2010). Safety is the state in which no danger of damage causing accident exist (Minhel, 2015). Work related to hazard is not a new phenomenon but its frequent occurrences on sites remain a major setback towards successful project delivery (Ogundipe et al, 2018). Safety in construction sites can never be over rated, for a safe work environment helps to keep skilled employees and other employees on job and project sites on track by reducing accidents that results in injuries and delays, while also reducing the risk of litigation and regulatory action (Cesarini et al, 2013).

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Health and safety training

The first and foremost step towards achieving the plan is training (Ayman, 2011). It is a legal requirement for an employer to provide a training and information to employees in terms of health and safety (Okorie and Smallwood, 2011). It is a note arguable fact that provision of information and training for employees will develop them in the area of their awareness to and understanding of the specific hazard and risk associated to with their jobs and working environment (Hughes and Ferret, 2016). The health and safety training will no doubt reduce the unsafe acts among the employees, and thereby create a safer work environment. In their work, Okorie and Smallwood (2011) have it that; health training is of particular importance to rural migrant workers who are mostly poor in terms of education. Okorie and Smallwood (2011) went on to say that there is a moral reason for the health and safety training, based on the premise that every one that is involved in an industrial process has the "right to know" about the hazards associated with their work. Citing Hughes and Ferret (2008); Okorie and Smallwood (2011) maintained that new hire workers to the construction site should be given an induction training before they are to start work, as it is obvious that new workers are statistically the most vulnerable to be injured early after commencing work. Small and medium enterprise of the construction industry managers need to conduct more tool box talks to ensure that the information communicated is appropriate, especially providing clear verbal instruction to both the literate and illiterate employees on health and safety (Agumba and Haupt, 2011). It is a known fact that accidents statistics are each year published by the HSE and it indicates that there is need for health and safety awareness even in the occupations that may look very low hazard, as in the case of health services and hotels (Hughes and Ferret, 2016).

Health and Safety culture

Health and safety culture of an organization is simply described as the development stage of the organization in health and safety management at a particular time (Hughes and Ferret, 2016). It is obvious that the most feasible way to improve the health and safety performance in the construction industry is through a culture change (Musonda and Haupt, 2011). Employers often view health and safety (H&S) as a cost a cost in the system (Agumba and Haupt, 2011). As such, the employers more in particular those of the small and medium construction firms are reluctant about the providing a health and safety culture that will aid in minimizing the injuries and ill-health in the construction sites. Agumba and Haupt (2011) went on to say that small contractors can barely maintain tools and regard safety equipment as luxury items. This perspective from small contractors about safety equipment engenders ill-concern to safety culture. Culture is also seen as a characteristic set of assumptions, belief, values, knowledge, attitudes and symbols shared and held by the members of a group which therefore influences their behavioral patterns and perception (Musonda and Haupt, 2011).

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Environmental protection

Cooney (2016) views environmental protection as it relates to specific activities conducted within the workplace impacting the surrounding environment including the soil, air, flora, water and the fauna. The health and safety of the associated workers are also included herein. Activities and processes related to effluent and waste disposal are fall under the preview of this aspect.

Construction Small and Medium Enterprise (SMEs)

Construction small and medium enterprises (SMEs) do contribute immensely to the economic development globally (Napoleon 2016). Lu et al (2009) has it that; Small construction firms play an increasingly important part in improving the overall performance of the construction industry across the World. According to Lu et al (2009), a construction company is set to be small or medium sized if it meets two out of the criteria relating to turnover, balance sheet total and number of employees in its first year, or in the case of a subsequent year, in that year and the preceding year. According to the central bank of Nigeria, it is a company that employs from 11 to 100 people and has assets between ₦5 and ₦500 million (www.legit.ng, retrieved on 14/10/2019). Small enterprises are those enterprises with 10 to 49 employees and N5,000,000 to N50,000,000 (excluding land and buildings); Medium enterprises are those with 50 to 199 employees and N50,000,000 to N500,000,000 (excluding land and buildings) (www.benchmacince.net, retrieved on 18/062021). Small construction firms play an increasingly important part in improving the overall performance of construction industries across the world (Lu et al, 2009). Construction business in many developing countries, particularly sub-Saharan Africa have no sufficient capacity to enable them compete effectively in the international market or undertake large and complex development schemes (Kheni et al, 2007). Small firms' management is constrained by intrinsic problems which large firms do not have (Lu et al, 2009). It is an unarguable fact that; the majority of the construction businesses in the developing countries are small and medium enterprises (Kheni et al, 2007). It is acknowledged that large firms' performance is significantly impacted by their small supply chain partners' performance (Lu et al, 2009).

Construction Industry

Othman et al (2018) has it that; construction industry enhanced the growth of socio-economic of country as well as the providing the required infrastructures and enhanced facilities for social comfort. The construction industry serves the human need by building new structures and adding to, altering, repairing, and maintaining existing structures. These structures but not limited to buildings, highways, bridges, dams, power plants, refineries, airports, railroads, docks, canals, sewage treatment plants, and many others (Rajendran and Kime 2017). This industry is viewed both in the developed and the developing countries as that sector of the economy which, through planning, design, construction, maintenance, repair, and operation, transforms various resources into constructed facilities (Kheni et al 2008, cited by Isa, jimoh and Achuenu 2013). Various reasons for labour movement across the world have been established and documented. Part of which is: labour migration is due to wage difference between the home country of the migrants and the host country (Abiodun and Segbenu, (2017). The Nigerian construction industry has an increased in the GDP to 752833.66 NGN million in the second quarter of 2019 from 671448.37 NGN million in the first quarter of 2019. GDP in Nigeria averaged 578835.22 NGN million from 2010 until 2019, reaching an all-time high of

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752833.66 NGN million in the second quarter of 2019 and recorded low of 369190.91 NGN million in the third quarter of 2010. Construction industry is one among the cannonading industries of today which have a great impact on the economy of any nation (hhilifting.com, visited on 15th Sep. 2019).

Abuja Municipal Area Council (AMAC)

Abuja Municipal Area Council (AMAC) is one among the six (6) area councils in the FCT-Abuja. It is definitely the most developed among the area councils in the FCT-Abuja, and has twelve (12) political wards with a population density of 1,236,000 people. The AMAC has a land mass of 1.769-kilometer square (km^2) (Chibuike et al, 2022)

FCT-Abuja is the administrative headquarter of Nigeria located in the north-central zone of the country. It replaced the former capital Lagos as the capital city in 1991, although Lagos remains the most populous city. Abuja is not just the fastest-growing city in Africa but also one of the fastest-growing cities in the world. Abuja is one of the planned and wealthiest cities in Africa. The city was found to bring all of the tribes, religions and ethnic groups found throughout Nigeria. It is located in Centre of Nigeria and has a land area of 8,000 square kilometers. Abuja is bounded on the north by Kaduna state, on the west by Niger state, on the east and south-east by Nasarawa state and on the south-west by kogi state. Abuja falls within latitude 7^0 45' and 7^0 39', it shares the savannah grass with the north which as a result has rich soil for agriculture and enjoy equitable climate that is neither too hot nor too cold all year round. It has six (6) local government areas; Abaji, Abuja Municipal, Gwagwalada, Kuje, Bwari and Kwali.

METHODOLOGY

The research design adopted for the purpose of this research endeavour was quantitative. Hence, survey questionnaire was used. The population for this research endeavour was the accessible artisans of the small and medium construction firms within the metropolitan area of the AMAC. This group selected is suitable for this research because; they form the major part of the construction industry, and the health and safety implications are directly on them; for they are the mostly available on site, in the construction industry. For the purpose of this study, a population of 5,000 artisans in the small and medium construction firms was adopted. The data for this research endeavour was collected through both the primary and secondary sources. The primary source was used to provide the primary data via; survey questionnaire and interpretation of the same as need be. The questionnaire for this study was self-made. The sample frame for this research endeavour were the artisans (i.e. skilled labour): Block/Brick layer, Carpenter, Iron Bender, Electrician, Plumber, Tiller, and Painters working in the construction sites of the small and medium construction firms.

The simplified formula for proportions provided by Yamane (1967) to calculate the sample size was adopted for this research endeavor to calculate the sample size because of its flexibility and acceptability of the level of precision. In their work on “perspectives for the implementation of lean construction in the Ghanaian construction industry”, Ayarkwa, Agyekum and Adinyira (2011) used the formula as recommended for such a study by Israel, (1992).

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Yamane formula, $n = \frac{N}{1+Ne^2}$

Where;

n= the sample size,

N=the number of the population and

e= level of precision.

For the purpose of this endeavor, the precision of +/-5 and 95

Therefore, the sample size of this research endeavour will be the calculated value as given below:

Where,

N=5,000

e=0.05

Hence, n=$\frac{N}{1+Ne^2}$=$\frac{5,000}{1+5,000(0.05)^2}$ =$\frac{5,000}{1+12.5}$ =$\frac{5,000}{13.5}$ =370

Therefore, the sample size to be adopted is 370 of the population selected.

Cluster type of the random sampling will be used for this research endeavour. Cluster sampling is where the whole population is divided into clusters or groups. Subsequently, a random sample is taken from these clusters, all of which are used in the final sample (Wilson, 2010 and Taherdoost, 2016). For the purpose of this research endeavour, the tool that was used for the analysis of the data is Statistical Package for Social Science (SPSS), which was able to conveniently do the analysis in all the required research data that was collected and collated.

RESULTS AND DISCUSSION

Table: 01 Anthropological Cultural Compositions of the Construction Artisans in the AMAC

S/NO	Anthropological culture	Frequency	Percentage (%)	Construction Firm			
				Micro	Small	Medium	Large
1	Hausa	84	39.8	32	46	6	1
2	Igbo	26	12.3	9	10	7	
3	Yoruba	27	12.8	11	13	3	
4	Others	74	35.1	33	33	5	2
5	TOTAL	201	100	85	102	21	3

Source: *Mailafiya et al (2022).*

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From the results of the survey questionnaire in Table: 01 above; it has shown that the anthropological cultural composition of the construction artisans working in the small and medium construction firms in the AMAC to be dominantly the Hausa group, having a frequency of 84 and making up the 39.8 percentages. The "Others" group forms the next dominating group which comprises of the all-other anthropological cultural groups in Nigeria apart from Hausa, Igbo and Yoruba groups, having the frequency of 74 and 35.1 percentages. The next dominant anthropological cultural group is the Yoruba, which has a frequency of 27 and 12.8 percentages. And lastly the Igbo group has 26 frequency and 12.3 percentages, thereby making it the least most dominant anthropological cultural group of the construction artisans working in the small and medium construction firms in the AMAC. These results are found across the various sizes of the construction firms as; micro, small, medium and large as the case may be.

Table 02: Cut-Off Level

S/NO.	CUT OFF	DECISION
1	1.00-1.50	Very Low
2	1.51-2.49	Low
3	2.50-3.49	Moderate (Indifferent)
4	3.50-4.49	High
5	4.50-5.00	Very High

Source: *Morenikeji, 2006 and Adeyemo et al, 2015*

Table 03: level of health and safety compliance in the AMAC

S/NO.	Respondents' opinion	Perception (weight opinion)					Total No. of respondents	Total weight opinion	Mean score	Remark (level of Compliance)
		V.H. (5)	H (4)	M (3)	L (2)	V.L. (1)				
1	Sick artisans are allowed to work	19 (95)	51 (204)	25 (75)	54 (108)	62 (62)	211	544	2.58	Moderate
2	Site supervisors don't allow sick artisans work	64 (320)	81 (324)	32 (93)	17 (34)	14 (14)	211	785	3.72	High
3	Medicines are always available in case of any ill health symptom while working	26 (130)	48 (192)	52 (156)	49 (98)	36 (36)	211	612	2.9	Moderate
4	Artisans take precaution on harmful exposure on site	41 (205)	95 (380)	29 (87)	31 (62)	15 (15)	211	749	3.55	High
5	Artisans comply to jobsite safety policies	49 (245)	101 (404)	39 (117)	16 (32)	5 (5)	211	803	3.80	High

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6	I always use my safety foot wears	93 (465)	61 (244)	26 (78)	21 (42)	10 (10)	211	839	3.98	High
7	Supervisors always ensure artisans comply to health and safety	42 (210)	105 (420)	28 (84)	24 (48)	12 (12)	211	774	3.67	High

Source: *Adeyemo et al, 2015*

Where,

V.H.= Very High

H=High

M=Moderate

L=Low

V.L.= Very Low

Average of the mean score $= \frac{2.58+3.72+2.9+3.55+3.8+3.98+3.67}{7} = \frac{24.2}{7} = \mathbf{3.46}$

Comparing the cut-off table decision from table 03 and level of H&S compliance in table o4; it shows that "sick artisans are allowed to work" is Moderate; "Medicines are always available in case of any ill health symptom while working" is also Moderate. Whereas "Site supervisors don't allow sick artisans work" is High, "Artisans take precaution on harmful exposure on site" is High, "Artisans comply to jobsite safety policies" is High, "I always use my safety foot wears", and "Supervisors always ensure artisans comply to health and safety" is also High. Comparing 3.46 which is the average of the mean score of the level of compliance to health and safety by the construction artisans of the small and medium construction firms in the AMAC to the Cut-off table; it shows that generally the level of health and safety compliance is Moderate. This result therefor, differs with the position of Umeokafor, et al 2014 in their work Compliance with Occupational Safety and Health Regulations: A Review of Nigeria's Construction Industry, has it that the state of occupational safety and health (OSH) in Nigeria is poor. This therefore means that there is an appreciable improvement in the level of compliance in the construction industry, more in particular the building construction industry of this study area.

CONCLUSION

The result of the data analysis of this study shows that the level of health and safety compliance by the artisans of small and medium construction firms in the study area is found to be generally moderate.

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RECOMMENDATION

i. More academic research should be done to determine the level of the health and safety compliance by the construction professionals in the AMAC and by extension the entire Nigeria.

ii. Stakeholders in the construction industry should priorities the enforcement of health and safety measures always.

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