*IOSR Journal Of Humanities And Social Science (IOSR-JHSS)*
*Volume 27, Issue 9, Series 3 (September, 2022) 42-50*
*e-ISSN: 2279-0837, p-ISSN: 2279-0845.*
*www.iosrjournals.org*

# Resource base view of COVID-19 safety practices among contracting firms in Adamawa, Nigeria.

Esther Musa Awosanmi
*Department of International Relations and Strategic Studies, School of Social and Management Sciences, Adamawa State Polytechnic, Yola-Nigeria*
*Corresponding author: laraibayoawos1@gmail.com*

Samuel Abiodun Alara
*Department of Quantity Surveying, School of Environmental Science Technology (SEST), Federal Polytechnic, Mubi, Adamawa-Nigeria*

Emmanuel J. Zira (Ph.D)
*Department of Department of General Studies, Federal Polytechnic Mubi, Adamawa State3 School of Humanities and Creative Arts Technology, Federal Polytechnic, Mubi, Adamawa-Nigeria*

And

Musa Shalangwa
*Department of International Relations and Strategic Studies, School of Social and Management Sciences, Adamawa State Polytechnic, Yola-Nigeria*

**Abstract**
The world is grappling to contain the devastating consequences of COVID-19 pandemic on human health and global economy. This study evaluates contracting firms' compliance with COVID-19 safety rules based on firms' attributes in Adamawa, Nigeria. A quantitative research approach was employed through descriptive research design. A valid and reliable questionnaire containing information relating to respondent demographic information and COVID-19 safety regulations were randomly administered to 169 contracting firms registered with the Adamawa State Bureau of Public Procurement (ADSBPP) across the state, 147 valid responses were used for analysis; corresponding to an 87% response rate. The data collated were analyzed using descriptive and inferential statistics through SPSS v26. The study finding revealed that contracting firm compliance with COVID-19 safety rules differs based on registration category, business set up, scope of operations, ownership, specialization, staff strength, years of operation, and nature of project. Bigger indigenous firms, foreign firms, civil engineering firms, and civil & building firms compliance with COVID-19 rules is higher in comparison with smaller indigenous and building firms. The study revealed the extent of the level of compliance, as well as, exposed the laxity in compliance with COVID-19 safety rules in Nigeria. This suggests an increased risk of spreading the virus on construction sites in Adamawa – Nigeria. The study recommends authorities should consider firm's characteristics in the award of contract and the integrating contractors' COVID-19 safety management rules as a basis for awarding contracts.

**Keywords:** *COVID-19, Resource, Contracting, Firms, characteristics, Adamawa, Nigeria*.

---

Date of Submission: 26-08-2022 Date of Acceptance: 10-09-2022

---

## I. Introduction

The resource-based view (RBV) argues that firms possess resources, a subset of which enable them to achieve competitive advantage, and a subset of those that lead to superior long-term performance (Barney, 2001). Resources that are valuable and rare can lead to the creation of competitive advantage. That advantage can be sustained over longer time periods to the extent that the firm is able to protect against resource imitation, transfer, or substitution (Barney, 2001). The current global concern to curb the spread of coronavirus (COVID-19) through a range of prevention and containment measures has necessitated the understanding of contracting firms' compliance to COVID-19 safety measures in relation to firms' attributes (Alara, 2021; World Health

Organization, 2022). The WHO declared COVID-19 a pandemic in March, 2020 and has infected more than 400 million persons and caused over 5 million deaths across the globe (World Health Organization, 2022; W. World Health Organization, 2020). In Africa, there are now more than 8 million confirmed cases of COVID-19 which resulted in over 200,000 deaths across the continent, with a number of African countries experiencing community transmission (Africa_CDC, 2020). Nigeria Centre for disease control (NCDC) announced the first case of COVID-19 disease on the 27th of February 2020 since its emergence in China. Thus far, Nigeria has recorded more than 200,000 confirmed cases of coronavirus and over 2,000 deaths while Adamawa has recorded over 1,000 confirmed cases and over 30 deaths (NCDC, 2020).

COVID-19 is spread through respiratory droplets. Respiratory droplets may be produced through cough, sneeze, normal breath or conversation. These respiratory droplets may cause viral transmission from person to person when individuals are near one another. Exposure can occur at the workplace while traveling to work and during work-related travel to an area with local community transmission (World Health Organization, 2020). These could lead to the viral transmission of person to person when individuals are near one another. Typically, this implies that the entire human population is potentially susceptible to COVID-19 infection (Preskorn, 2020). According to information from World Health Organization (2022), viral transmissions increased from 1% to 4% globally in recent times. Thus, the concern to combat the pandemic is costing the world a lot in producing an effective vaccine. The outbreak of COVID-19 disrupted economic activities globally and keeps spreading on global scale (McKibbin & Fernando, 2020). When COVID-19 infection runs out of control it results in a total lockdown of all human activities and as such, disrupts the construction sector of any infected nation from playing its role as an economy stimulant (NBC, 2020). The new normal imposed by the outbreak of the COVID-19 pandemic necessitated studies on the adaptability, effects and prospects, consequences, potential risks, control measures and impacts of COVID-19 on the construction sector (Al Amri & Marey-Pérez, 2020; Alara, 2021; Amoah & Simpeh, 2020; Ejeh et al., 2020; Ezeokoli et al., 2020; Hollingsworth, 2020; Ibrahim et al., 2020; McKibbin & Fernando, 2020; Ogunnusi et al., 2020; Shibani et al., 2020). Despite the importance of these research none explore contracting firms' performance in relation to firms' attributes. The COVID-19 safety requirements for construction companies in accordance to WHO global response strategies and the Federal Government of Nigeria COVID-19 regulations of 2020 & 2021 requires absolute compliance with its safety rules.

The most effective way of handling a pandemic is to contain its spread through absolute compliance with COVID-19 safety practices. This will reduce its impact on the economy and the society, as well as the morbidity and mortality rates (Hyams et al., 2002). Ferreira et al. (2011) and Finney et al. (2008) argues that resource-based theory may offer a new lens of rigour to examine the dynamics of firm's strategic responses to regulations. Similarly, Gikutha (2017) argued in favour of applying resource-based theory to assess the determinants of strategic posture of hotels in Kenya. This assists in understanding how firms differ in strategic response to regulations relative to their attributes (Oliver, 1991; Zucker, 1987). Previous studies revealed that organizational characteristics are good predictors of firms' practices (Alara, 2021; Okafor, 2007; Shittu et al., 2016). Contracting firms' attributes includes registration category, nature of 3 business setup, scope of operation, nationality of the owner, area of specialization, staff strength, years of operation, nature of project, and currency of projects operational activeness. Barney (2001) argued that RB theory provides useful perspective to understand firms' performance in relation to firms' attributes. In general, empirical studies using the theory have strongly supported the resource-based view to understand firms' performance in relation to firms' attributes (Ferreira et al., 2011; Finney et al., 2008; Gikutha, 2017). Accordingly, this study aims at to investigate how firms' attributes (i.e., area of specialization, nationality, registration category) interact to obtain competitive advantage in halting the rising number of COVID-19 cases using theoretical lens of RB theory. The COVID-19 safety requirements for construction companies in accordance to WHO global response strategies and the Federal Government of Nigeria COVID-19 regulations of 2021 are outlined under the following subheadings: safety signage, health services, hygiene & sanitation, site access, social distancing, personal protection, staff welfare, project site meetings, and document submittals. The objective of the study in light of the aforementioned is to evaluate contracting firms' compliance with COVID-19 safety rules based on firms' attributes in Adamawa, Nigeria.

## II. Methodology

This study investigates how firms' attributes (i.e., area of specialization, nationality, registration category) interact to obtain competitive advantage in halting the rising number of COVID-19 cases using theoretical lens of RB theory. The study specifically evaluates contracting firms' compliance with COVID-19 safety rules based on firms' attributes in Adamawa, Nigeria. A quantitative research approach was employed through exploratory and descriptive research design (McNabb, 2020). A valid and reliable questionnaire containing information relating to respondent demographic features and COVID-19 safety regulations were

randomly 4 administered to contracting firms registered with the Adamawa State Bureau of Public Procurement (ADSBPP). The questionnaire was segmented into two sections. Section

A contains demographic information while section B contains statements relating to the COVID-19 safety requirements for construction companies in accordance to WHO global response strategies and the Federal Government of Nigeria COVID-19 regulations of 2021; outlined under the following subheadings: safety signage, health services, hygiene & sanitation, site access, social distancing, personal protection, staff welfare, project site meetings, and document submittals. The respondents were requested to express their opinion on a 5-point Likert scale ranging from very low (1) to very high (5). The Likert scale is calibrated as: 0-1.44 (very low); 1.45-2.44 (low); 2.50-3.44 (moderate); 3.50-4.44 (high); & 4.45-5.0 (very high). These questionnaires were randomly administered to 169 active contracting firms from the three senatorial districts across the state, 147 valid responses were used for analysis representing 87% response rate.

**Data Analysis**

The analyses conducted for the study are descriptive and inferential statistics. The descriptive statistics covers frequency, percentages, mean and standard deviation. While the inferential statistics covers ANOVA with post hoc for testing differences and level of significance, and effects size using eta squared. ANOVA was used to test differences on compliance with COVID-19 regulations among contracting firms based on firms' characteristics. The hypothesis postulated mirroring the study objective is: $H_o$: there is no statistically significant differences on scores of contracting firms' compliance with COVID-19 safety rules based on firms' characteristics 5 H1: there is statistically significant differences on scores of contracting firms' compliance with COVID-19 safety rules based on firms' characteristics.

## III. Results

Table 1 presents result of respondents' demography and firm characteristics. Eighty-six percent of the respondents are male and the remaining are female. Their management level is either low (18.4%), middle (34.7%), or top (46.9%). About 12% of the respondents' have less than 10 years' experience, while about 88% have more than 11 years' experience. Respondents' educational qualification ranges from BSc/HND (over 50%), MSc (35.4%), and PhD (13.6%). Their specialization is either in project management (53.7%), building (6.1%), quantity surveying (4.1%), architecture (6.1%), engineering (4.1%), H&S management (24.5%), or business administration (1.4%). The firms surveyed executed 147 construction projects, 18.4% of the companies executed less than 10 projects, 77.6% executed 10 to 20 projects, while 4.1% executed over 20 projects. Their work experience, educational qualifications, and professional specializations shows that they are competent and qualified to respond to the enquiries of this study. The firms' registration categories are D (over 43%), C (38.8%), and B (17.7%). Revealing that the firms are registered as large firms (category D) or medium firms (categories C &B). The firm's business set up are sole proprietorship (25.9%), partnership (21.1%), and limited liability organizations (over 53%). They operate at local (34%), regional (8.8%), national (over 54%), and multinational (2.7%) scopes. Their ownership nationalities are foreign (2.7%), indigenous (90%), and mixed (6.8%). Their operational specialization is in building (34%), building & civil engineering (2.7%), and civil engineering (63.3%) works. The staff strength of 76.2% of the firms are less than 30 employees, 21.1% of the firms' have 30 to 100 employees, while 2.7% of the firms' have over 100 employees. Thirty-four percent of the firms' have been in operation for at least 10 years, 40.8% of the firms' have been operating for 11 to 20 years, while 25.2% have been in operation for over 20 years. About 35% of the firms executed public projects, 146.3% executed private projects, while 49% executed both public and private projects. These results show that the firms sampled possessed the attributes that are considered for this study.

**Table 1: Demographical Characteristics Variables among respondents**

| **Respondents Demographic Profile** | | | **Construction Companies Demographic Profile** | | |
|---|---|---|---|---|---|
| | **Frequency** | **%** | | **Frequency** | **%** |
| **Gender** | | | **Category** | | |
| Male | 126 | 85.7 | A | - | - |
| Female | 21 | 14.3 | B | 26 | 17.7 |
| | | | C | 57 | 38.8 |
| | | | D | 64 | 43.5 |
| **Management Status** | | | **Business setup** | | |
| Low | 27 | 18.4 | Sole proprietorship | 38 | 25.9 |
| Middle | 51 | 34.7 | Partnership | 31 | 21.1 |
| Top | 69 | 46.9 | Limited liability | 78 | 53.1 |
| **Years of Experience** | | | **Scope** | | |
| Less than 10 | 17 | 11.6 | Local | 50 | 34 |

| | | | | | |
|---|---|---|---|---|---|
| 11 to 20 | 78 | 53.1 | Regional | 13 | 8.8 |
| Over 20 | 52 | 35.4 | National | 80 | 54.4 |
| | | | Multinational | 4 | 2.7 |
| **Qualification** | | | **Nationality** | | |
| OND | - | - | Foreign | 4 | 2.7 |
| HND/B.Sc. | 75 | 51 | Indigenous | 133 | 90.5 |
| M.Sc./M.Tech. | 52 | 35.4 | Mixed | 10 | 6.8 |
| Ph.D. | 20 | 13.6 | | | |
| **Specialization** | | | **Specialization** | | |
| Project manager | 79 | 53.7 | Building | 50 | 34 |
| Builder | 9 | 6.1 | Civil engineering | 93 | 63.3 |
| Quantity Surveyor | 6 | 4.1 | Both | 4 | 2.7 |
| Architect | 9 | 6.1 | | | |
| Engineer | 6 | 4.1 | | | |
| H&S management | 36 | 24.5 | | | |
| Business Admin | 2 | 1.4 | | | |
| **No of project** | | | **Staff strength** | | |
| Less than 10 | 27 | 18.4 | Less than 30 | 112 | 76.2 |
| 11 to 20 | 114 | 77.6 | 30 and 100 | 31 | 21.1 |
| Over 20 | 6 | 4.1 | Above 100 | 4 | 2.7 |
| | | | **Years of operation** | | |
| | | | Less than 10 | 50 | 34 |
| | | | 11 to 20 | 60 | 40.8 |
| | | | Over 20 | 37 | 25.2 |
| | | | **Nature of project** | | |
| | | | Public | 51 | 34.7 |
| | | | Private | 24 | 16.3 |
| | | | Both | 72 | 49 |

**Source: Field survey, 2022**

**Compliance with COVID-19 Safety Rules**

Table 2 shows the result of responses on compliance with Covid-19 safety rules among contracting firms. Compliance with adequate COVID-19 guidance signage was assessed to have low compliance (2.19). Health services which include duty to ensure each site has a 7 active first aid area, robust health surveillance system, COVID-19 record of employee travel history, unwell personnel not allowed access to site, records of site attendance, and two-week isolation period for contacts with confirmed case were all assessed to have low compliance (1.50-2.44). While the remaining items which includes temperature screening for all employees and visitors entering the site, and unwell personnel to seek medical attention were moderately complied with (2.50-3.44). All the safety rules under hygiene and sanitation (Duty to provide access to soap and running water, provide appropriate alcohol-based hand sanitizers, and clean & disinfect surfaces of construction equipment) were scored high compliance (3.50-4.440). Use of limited critical personnel, and visitors should not be allowed on site which are safety rules under site access had low compliance. While the remaining safety rules which are permission before leaving the site, and sites should be appropriately hoarded off had moderate compliance (2.50-3.44). Practising social distancing, and identification & decongesting high-risk areas which are safety rules under social distancing are were assessed to have low compliance (1.50- 2.44). Personal protection safety rules of using of PPE, PPE should not be shared, reusable PPE should be sanitized, use of disposable gloves & masks, and workers are required to wash their hands after removing gloves were moderately complied with (2.50-3.44). Staggered work breaks at sites, cleaning and maintaining personnel utensils and daily briefings with all employees which are safety rules under staff welfare were assessed to have low compliance (1.50-2.44). Electronic document submission and use of non-contact means to transfer paperwork under document submittals record low compliance (1.50-2.44), while the remaining items, minimize physical exchange of cash and proximity were moderately complied with. Temporarily suspend meeting or held online and reduce in-person meetings under project/site meetings safety rules were scored moderate compliance. In general, the average means score value (2.54) for the level of compliance with Covid-19 safety regulations by contracting firms was relatively low.

**Table 2:** Compliance with Covid-19 Safety Rules among construction companies

| S/N | Covid-19 safety rules | Mean |
|---|---|---|
| | **Safety Signage** | |
| 1 | Adequate Covid-19 guidance signage and instructions | 2.19 |
| | **Health Services** | |
| 2 | Duty to ensure each site have an active first aid area | 1.65 |
| 3 | Robust health surveillance system | 1.76 |
| 4 | Temperature screening for all employees and visitors entering the site | 3 |
| 5 | COVID-19 record of employee travel history | 1.9 |
| 6 | Unwell personnel not allowed access to site | 2.14 |
| 7 | Records of site attendance | 1.6 |
| 8 | Unwell personnel to seek medical attention | 2.78 |
| 9 | Two-week isolation period for contacts with confirmed case | 2.41 |
| | **Hygiene and Sanitation** | |
| 10 | Duty to provide access to soap and running water | 3.78 |
| 11 | Provide appropriate alcohol-based hand sanitizers | 3.64 |
| 12 | Clean and disinfect surfaces of construction equipment | 3.76 |
| | **Site Access** | |
| 13 | Use of limited critical personnel | 2.34 |
| 14 | Visitors should not be allowed on site | 2.24 |
| 15 | Permission before leaving the site | 2.97 |
| 16 | Sites should be appropriately hoarded off | 2.98 |
| | **Social Distancing** | |
| 17 | Practising social distancing | 2.25 |
| 18 | Identification and decongesting high risk areas at sites | 2.33 |
| | **Personal Protection** | |
| 19 | Use of personal protective equipment (PPE) | 3.62 |
| 20 | PPE should not be shared | 3.47 |
| 21 | Reusable PPE should be sanitized | 2.75 |
| 22 | Use of disposable gloves and masks | 2.45 |
| 23 | Workers are required to wash their hands after removing gloves | 2.69 |
| | **Staff Welfare** | |
| 24 | Staggered work breaks | 1.95 |
| 25 | Cleaning and maintaining personnel utensils | 1.84 |
| 26 | Daily briefings with all employees | 1.88 |
| | **Document submittals** | |
| 27 | Electronic document submission | 2.36 |
| 28 | Use of non-contact means to transfer paperwork | 2.40 |
| 29 | Minimize physical exchange of cash and proximity | 2.46 |
| | **Project/Site meetings** | |
| 30 | Temporarily suspend meeting or held online | 2.57 |
| 31 | Reduce in-person meetings | 2.53 |
| | **Average mean score** | **2.54** |

**Source: Field survey, 2022**

**Compliance with COVID-19 Safety rules based on firm characteristics**

Table 3 presents result of level of compliance with COVID-19 safety rules base on firms' characteristics. Category B and C firms' compliance with COVID-19 safety rules is low while compliance of category D contractors' is moderate. The differences in scores shown by the post S/N Covid-19 safety rules Mean 9 hoc test revealed that the score of category D is higher than that of category C and that of category C is higher than that of category B. The companies' registration category has an effect size of 0.4, which is a large effect according to Cohen (2013). This implies that company registration category has a very large effect on a company's COVID-19 safety rules compliance.

Compliance with COVID-19 safety rules base on business set up, shows that sole proprietorship has low compliance while partnership and limited/public liability has moderate compliance. The differences in scores as shown by the post hoc test is that the score of partnership is higher than that of limited/public liability and that of limited/public liability is higher than that of sole proprietorship. The table shows that the companies'

business set up has an effect size of 0.51, which is a large effect according to Cohen (2013). This implies that company's business set up has a very large effect on a company's COVID-19 safety rules compliance.

Contracting firms' operating at the local and multinational levels moderately comply with COVID-19 safety rules. While those operating at national and regional levels have low compliance. Post hoc test scores show that the score of multinationals is higher than the local, and that of the local is higher than national and that of national is higher than regional. The companies' scope of operation has an effect size of 0.18, which is a large effect according to Cohen (2013). This implies that company's scope of operation has a very large effect on a company's COVID-19 safety rules compliance.

Foreign contracting firms' and those with mixed ownership moderately comply with COVID19 safety rules while indigenous contracting firms' compliance is low. The post hoc test scores show that the score of foreign is higher than the mixed, and that of the mixed is higher than that of indigenous. They have an effect size of 0.19, which is a large effect according to Cohen (2013). This 10 implies that company's ownership nationality has a very large effect on a company's COVID-19 safety rules compliance.

Contracting firms' that specializes in civil engineering works, and building & civil engineering works moderately comply with COVID-19 safety rules while those that specializes in building works compliance is low. Their post hoc test scores show that the score of firms with both specialization is higher than that of civil engineering contracting firms, and that of civil engineering firms is higher than that of building works firms. Their effect size is 0.55, which is a large effect according to Cohen (2013). This implies that contracting firms' area of specialization has a very large effect on firm's COVID-19 safety rules compliance.

Contracting firms' with more than 100 employees and those with 30-100 employees moderately comply with COVID-19 safety rules while those with less than 30 employee's compliance is low. Their post hoc test scores show that the score of contractors with above 100 employees is higher than that of 30-100 employees, and that of 30-100 is higher than that of less than 30 employees. The table shows that the firms' staff strength has an effect size of 0.30, which is a large effect according to Cohen (2013). This implies that company's area of specialization has a very large effect on a company's COVID-19 safety rules compliance.

Contracting firms' compliance with COVID-19 base on firms' years of operation revealed that those with less than 10 years in operation have low compliance while those that operated for 11 to 20 years and over 20 years have moderate compliance. Their post hoc test scores show that the score of those with over 20 years of operation is higher than those with 11 to 20 years of operation, and those with 11 to 20 years of operation is higher than those with less than 10 years' operations. The firms' years of operation has an effect size of 0.54, which is a large effect according to Cohen (2013). This implies that firms' years of specialization has a very large effect on firm's COVID-19 safety rules compliance. 11 Contracting firms' executing less than 10 projects, 11 to 20 projects and over 20 projects moderately comply with COVID-19 safety rules. The post hoc test scores show that the score of contractors that are executing over 20 projects is higher than those executing 11 to 20 projects, and score of those executing 11 to 20 projects is higher than the score of contracting firms executing less than 10 projects. Their effect size is 0.54, which is a large effect according to Cohen (2013). This implies that the number of projects the firms are executing has a very large effect on the firms COVID-19 safety rules compliance.

**Table 3: Compliance with COVID-19 Safety rules based on firms' characteristics**

| Variables | | | N | Mean | SD | F/Stat | P Value | ή | Post-Hoc |
|---|---|---|---|---|---|---|---|---|---|
| Registration Category | | | | | | | | | |
| | 1 | Category B | 26 | 1.95 | .21 | 48.53 | .000 | .40 | 3>2>1 |
| | 2 | Category C | 57 | 2.36 | .27 | | | | |
| | 3 | Category D | 64 | 2.96 | .66 | | | | |
| Business Setup | | | | | | | | | |
| | 1 | Sole Proprietorship | 38 | 1.99 | .20 | 95.54 | .000 | .51 | 2>3>1 |
| | 2 | Partnership | 31 | 3.27 | .56 | | | | |
| | 3 | Limited/Public Liability | 78 | 2.53 | .46 | | | | |
| Scope of operation | | | | | | | | | |
| | 1 | Local | 50 | 2.65 | .66 | 10.48 | .000 | .18 | 4>1>2>2 |
| | 2 | Regional | 13 | 2.38 | .56 | | | | |
| | 3 | National | 80 | 2.44 | .51 | | | | |
| | 4 | Multinational | 4 | 3.97 | .09 | | | | |
| Nationality | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | Foreign | 4 | 3.97 | .09 | 16.56 | .000 | .19 | 1>3>2 |
| | 2 | Indigenous | 133 | 2.48 | .56 | | | | |
| | 3 | Mixed | 10 | 2.94 | .55 | | | | |
| Area of Specialization | | | | | | | | | |
| | 1 | Building | 50 | 1.97 | .18 | 671.89 | .000 | 55 | 3>2>1 |
| | 2 | Civil | 93 | 2.79 | .50 | | | | |
| | 3 | Both | 4 | 3.97 | .09 | | | | |
| Staff Strength | | | | | | | | | |
| | 1 | Less than 30 | 112 | 2.39 | .53 | 29.41 | .000 | .30 | 3>2>1 |
| | 2 | 30 and 100 | 31 | 2.95 | .51 | | | | |
| | 3 | Above 100 | 4 | 3.97 | .09 | | | | |
| Years of Operation | | | | | | | | | |
| | 1 | Less than 10 | 50 | 1.97 | .17 | 119.44 | .000 | .54 | 3>2>1 |
| | 2 | 11 to 20 | 60 | 2.67 | .44 | | | | |
| | 3 | Over 20 | 37 | 3.13 | .59 | | | | |
| Nature of Projects | | | | | | | | | |
| | 1 | Public | 51 | 2.30 | .33 | 94.28 | .000 | .42 | 3>1>2 |
| | 2 | Private | 24 | 1.91 | .15 | | | | |
| | 3 | Both | 72 | 2.93 | .59 | | | | |
| Number of Projects | | | | | | | | | |
| | 1 | 27 | 27 | 2.72 | .69 | 119.44 | .000 | .15 | 3>1>2 |
| | 2 | 114 | 114 | 2.45 | .54 | | | | |
| | 3 | 6 | 6 | 3.59 | .42 | | | | |

Source: Field survey, 2022

The level of significance values (ρ) for all the firms' characteristics are < 0.05, these indicated that there are significant differences between the scores of each of the firm characteristics. Thus, the null hypothesis that, there is no statistically significant differences on scores of firms' compliance with COVID-19 safety rules based on contracting firms' characteristics was rejected. The result reveals that contracting firms' compliance with COVID19 safety rules differs based on their registration category, business set up, scope of operations, ownership, specialization, staff strength, years of operation, and nature of project.

This result reveals that firms' characteristics are good predictors of construction firms' compliance with COVID-19 safety rules. This finding agrees with Alara (2021) study that organizational characteristics shapes the COVID-19 safety practices among small and medium construction enterprise (SMEs) in Nigeria. Moreover, it shows that none of the COVID-19 safety rules were absolutely complied by the contracting firms based on firms' characteristics. Though, it indicated that bigger indigenous firms, foreign firms, civil engineering firms, and civil & building firms compliance with COVID-19 rules is higher in comparison with smaller indigenous and building firms. This result shows that the contracting firms are responding to 13 the fight on COVID-19 pandemic like some South African construction firms (Simpeh & Amoah, 2021). However, their compliance differs based on firms' characteristics.

## IV. Conclusion

There is global concern to curb the spread of COVID-19 since the WHO declared it a pandemic in March 2020; the world is grappling to contain its devastating consequences on the global economy. The most effective way of handling a pandemic is to contain its spread through absolute compliance with COVID-19 safety practices. This will reduce its impact on the economy and the society, as well as the morbidity and mortality rates. This study evaluates contracting firms' compliance with COVID-19 safety rules based on firms' attributes in Adamawa, Nigeria. The study finding revealed that contracting firm compliance with COVID19 safety rules differs based on registration category, business set up, scope of operations, ownership, specialization, staff strength, years of operation, and nature of project. Bigger indigenous firms, foreign firms, civil engineering firms, and civil & building firms compliance with COVID-19 rules is higher in comparison with smaller indigenous and building firms. The study revealed the extent of the level of compliance, as well as, exposed the laxity in compliance with COVID-19 safety rules in Nigeria. This suggests an increased risk of spreading the virus on construction sites in Adamawa – Nigeria. The study recommends authorities should consider firm's characteristics in the award of contract and the integrating contractors' COVID-19 safety management rules as a basis for awarding contracts. Public and private authorities should enforce COVID-19 safety compliance through massive COVID-19 awareness promotion campaign among contracting firms to halt the rising number of COVID19 cases.

## References


[1]. Africa_CDC. (2020, 4 December 2020). Responding to the Second Wave of COVID-19 in Africa. Africa CDC. Retrieved 17 December, 2020 from https://africacdc.org/download/responding-to-the-second-wave-of-covid-19-in-africa/ 14 Al

[2]. Amri, T., & Marey-Pérez, M. (2020). Impact of Covid-19 on Oman's Construction Industry.Technium Soc. Sci. J., 9(1), 661-670.

[3]. Alara, S. A. (2021). Organizational characteristics and COVID-19 safety practices among small and medium construction enterprises (SMEs) in Nigeria. Frontiers in Engineering and Built Environment, 1(1), 41-54.https://doi.org/10.1108/FEBE022021-0006

[4]. Amoah, C., & Simpeh, F. (2020). Implementation challenges of COVID-19 safety measures at construction sites in South Africa. Journal of Facilities Management.

[5]. Barney, J. B. (2001). Is the resource-based "view" a useful perspective for strategic management research? Yes. Academy of management review, 26(1), 41-56.

[6]. Cohen, J. (2013). Statistical power analysis for the behavioral sciences. Academic press.

[7]. Ejeh, F. E., Saidu, A. S., Owoicho, S., Maurice, N. A., Jauro, S., Madukaji, L., & Okon, K. O. (2020). Knowledge, attitude, and practice among healthcare workers towards COVID19 outbreak in Nigeria. Heliyon, 6(11), e05557.

[8]. Ezeokoli, F., Okongwu, M., & Fadumo, D. (2020). Adaptability of COVID-19 Safety Guidelines in Building Construction Sites in Anambra State, Nigeria. Archives of Current Research International, 69-77.

[9]. Coronavirus Disease (Covid-19) Health Protection Regulations 2021, 9 (2021). https://covid19.ncdc.gov.ng/media/files/Coronavirus_Disease_COVID19_Health_Prtection_Regulations_2021.pdf

[10]. Ferreira, J. J., Azevedo, S. G., & Ortiz, R. F. (2011). Contribution of resource-based view and entrepreneurial orientation on small firm growth. Cuadernos de Gestión, 11(1), 95116.

[11]. Finney, R. Z., Lueg, J. E., & Campbell, N. D. (2008). Market pioneers, late movers, and the resource-based view (RBV): A conceptual model. Journal of Business Research, 61(9), 925-932.

[12]. Gikutha, L. M. (2017). Determinants of Strategic Posture of Hotels in Kenya: A Resource Based View Perspective United States International University-Africa].

[13]. Hollingsworth, J. (2020). Construction safety practices for covid-19. Professional Safety, 65(6), 32-34.

[14]. Hyams, K. C., Murphy, F. M., & Wessely, S. (2002). Responding to chemical, biological, or nuclear terrorism: the indirect and long-term health effects may present the greatest challenge. Journal of health politics, policy and law, 27(2), 273-292.

[15]. Ibrahim, O. R., Suleiman, B. M., Abdullahi, S. B., Oloyede, T., Sanda, A., Gbadamosi, M. S., Yusuf, B. O., Iliyasu, R. Y., Ibrahim, L. M., & Dawud, A. D. (2020). Epidemiology of COVID-19 and Predictors of Outcome in Nigeria: A Single-Center Study. The American journal of tropical medicine and hygiene, 103(6), 2376-2381.

[16]. McKibbin, W. J., & Fernando, R. (2020). The global macroeconomic impacts of COVID-19: Seven scenarios. Asian Economic Papers, MIT Press, 1-55. https://doi.org/https://10.1162/asep_a_00796

[17]. McNabb, D. E. (2020). Research Methods for Political Science: Quantitative, Qualitative andMixed Method Approaches. Routledge.

[18]. NBC, N. B. o. S. (2020). Nigerian Gross Domestic Product Report (Q3 2020). 15www.nigeranstat.gov.ng

[19]. NCDC, N. C. f. D. C. (2020). First case of corona virus disease confirmed in Nigeria. ncdc.gov.ng. Retrieved 17 December, 2020 from https://ncdc.gov.ng/news/227/firstcase-ofcorona-virus

[20]. Ogunnusi, M., Hamma-Adama, M., Salman, H., & Kouider, T. (2020). COVID-19 pandemic: the effects and prospects in the construction industry. International journal of real estate studies, 14(Special Issue 2), 120-128.https://doi.org/https://www.utm.my/intrest/files/2020/11/2_Final_MS_CRES Covid025.pdf

[21]. Okafor, C. A. (2007). Organizational characteristics and performance in Nigerian quoted companies. Research Journal of Business Management, 1(1), 37-49.

[22]. Oliver, C. (1991). Strategic responses to institutional processes. Academy of management review, 16(1), 145-179.

[23]. Preskorn, S. H. (2020). The 5% of the population at high risk for severe COVID-19 Infection is identifiable and needs to be taken into account when reopening the economy. Journal of psychiatric practice, 26(3), 219-227. https://doi.org/10.1097/PRA.0000000000000475

[24]. Shibani, A., Hassan, D., & Shakir, N. (2020). The Effects of Pandemic on Construction Industry in the UK. Mediterranean Journal of Social Sciences, 11(6), 48-48.

[25]. Shittu, A. A., Ibrahim, A. D., Ibrahim, Y. M., Adogbo, K. J., & Mac-Barango, D. O. (2016). Impact of organisational characteristics on health and safety practices of construction contractors. Nigerian Journal of Technological Research, 11(1), 60-67.
[26]. Simpeh, F., & Amoah, C. (2021). Assessment of measures instituted to curb the spread of COVID19 on construction site. International Journal of Construction Management, 1 19. https://doi.org/10.1080/15623599.2021.1874678
[27]. World Health Organization. (2020). Coronavirus Disease (COVID-19): Health and Safety in the Workplace. Retrieved 24 September from https://www.who.int/news room/qadetail/coronavirus-disease-covid-19-health-and-safety-in-the-workplace
[28]. World Health Organization. (2022). Coronavirus Disease (COVID-19) Dashboard. World Health Organization. Retrieved 21 Feb. 2022 from https://covid19.who.int
[29]. World Health Organization, W. (2020). WHO Director-General's opening remarks at the mediabriefing on COVID-19 - 9 March 2020. World Health Organization. Retrieved 17 December, 2020 fromhttps://www.who.int/directorgeneral/speeches/detail/whodirector-general-s-opening remarks-at-the-media-briefingon-covid-19---9-march2020
[30]. Zucker, L. G. (1987). Institutional theories of organization. Annual review of sociology, 13(1), 443-464.

Esther Musa Awosanmi, et. al. "Resource base view of COVID-19 safety practices among contracting firms in Adamawa, Nigeria." *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, 27(09), 2022, pp. 42-50.