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GOVERNMENT'S COVID-19 BUSINESS STIMULUS
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Dr. Nnaemeka Nathaniel Obasi

Alumni, University of the West of Scotland.

Director of Research and Innovation, F and I Oil and Gas Lagos, Nigeria.

Email: naemekafandil@gmail.com, naemeka69@yahoo.com

ABSTRACT

Purpose: Does COVID-19 pandemic affect business operation in Nigeria? What is the relationship between COVID-19 pandemic and workforce in Nigeria? What is the impact of government COVID-19 business stimulus on businesses in Nigeria? Through these questions, the objective of this research was to identify how COVID-19 pandemic affected business operation and workforce, as well as identifying how business collapse caused by the pandemic can be reduced via stimulus measure and putting good policies in place to actualise it.

Methodology: For the research design, this study adopted quantitative method with large sample size and utilized regression analysis. The study has a sample size of 150 businesses using a structured questionnaire with random sampling technique to investigate the impact of COVID-19 pandemic on business operation and workforce, as well as the effect of government COVID-19 business stimulus on businesses in Nigeria. This study used logistic regression analysis as the method of data analysis.

Findings: The logistic regression result computed from the survey data from the respondent businesses revealed that COVID-19 exerted negative impact on both the business operation and workforce in Nigeria. Furthermore, result indicated that government COVID-19 business stimulus exerted positive impact on businesses, thereby reduced business collapse.

Unique contribution to practice and policy: Its unique contribution to practice and policy is that policy makers will shift in line with the findings. Policy makers should ensure that policies that mitigate business collapse in the advent of a pandemic are put in place and adhered to help check business failure associated with the pandemic.

Keywords: *COVID-19 pandemic, business operation, workforce, job losses, government stimulus*

Introduction

In the world today, infectious diseases have caused havoc and the convergence of people influenced in spreading it. The world has witnessed several disease outbreaks and epidemics over the past ten years (Ozigi & Umar, 2021). The corona virus outbreak has been over a year and the World Health Organisation declared COVID-19 a public health emergency of international concern on 30th January 2020 and a pandemic on 11 March. Bogoch et al., (2020) revealed that more than 1.4 million people in 177 countries were infected with COVID-19 and that more than eighty-five thousand had lost their lives globally as at April 2020. They argued that COVID-19 started in Wuhan China and spread to other countries through air travel. The speedy spread of COVID-19 pandemic inflicted devastating difficulties in the history of mankind and contracted the global economy.

The COVID-19 virus was discovered in Nigeria in February 2020. The virus was first discovered in Lagos, Ogun and Abuja which later spread to other cities in Nigeria. When the virus continued to spread government embarked on partial lock down and was followed by total lock down in March 2020. Since the emergence of COVID-19 pandemic, most activities in the world have changed, including Nigeria. The changes such as increased in death rate, low food production, drastic fall in social gathering, fall in foreign exchange due to fall in export and import, business collapse, job losses, changing of business operation from physically contact to online and rise in poverty among others.

Researching on the impact of COVID-19 on business operations and job losses is pertinent because health is important and propels prosperity through economic growth and prosperity (Bloom et al., 2001). Therefore, absence of healthy environment negatively affects business activity. In the same vein, Ozigi and Umar (2021) noted that pandemic causes a setback to business performance. COVID-19 pandemic have caused colossal damage to the global economy, increased unemployment and shrank the global economy by 4 percent (UNDP, 2021). COVID-19 pandemic had a large socioeconomic impact on Nigeria which has one of the highest numbers of people living in abject poverty (UNDP, 2021). Nigerian economy had already suffered due to decline in oil price in recent time and security challenges stemming from insurgent violence especially in the northern part of the country. The fallout from the pandemic had plunged the economy into a recession – the real GDP contracted by 6.1 percent in 2021 (UNDP, 2021)

COVID-19 pandemic has instigated plethora of research in economics, health, agriculture, business and many more. It is hoped that these researches will come up with strategies on how to mitigate the influence of the pandemic on world economy. Srivastava and Agarwal (2020) revealed that COVID-19 pandemic negatively affected the stock market around the globe and has caused more economic meltdown. In an attempt to ascertain the impact of COVID-19 on businesses in Nigeria, a survey on business operations, and work force during COVID-19 pandemic were conducted. The study goes further to examine job losses in UK during COVID-19 pandemic to show how the pandemic impacted on a developed country work force. To ascertain a measure suitable for alleviating the impact of COVID-19 pandemic on businesses, this study conducted a survey on the impact of government business stimulus measure on business enterprises.

Research Hypotheses

1. COVID-19 pandemic has negative influence on business operation and workforce
2. Government business stimulus has positive influence on businesses.

2.0: Literature Review

2.1: Overview of businesses in Nigeria in the context of MSME and empirical literature

In Nigeria, more than forty-one million businesses are designated as micro, small and medium enterprises accounting for 99.8 percent, 0.17 percent and 0.004 percent respectively of the Nigerian economy (Ozigi & Umar, 2021). About 96% of SMEs in Nigeria are in the business sector and contribute to 48% and 84% gross domestic product and total employment respectively (Abioye et al., 2021). Some of the features of small enterprises are the employees who are less than ten and the business asset is less than five million naira excluding landed property. Large number of small businesses are sole proprietorship. Specifically 65 percent business ownership is the form of sole proprietorship, 21 percent private limited liability company, 6 percent as faith-based ownership and 5 percent as partnership (Abioye et al., 2021). Based on the foregoing, large number of enterprises in Nigeria is in the form of micro businesses and any form of economic shock will immensely affect the livelihood of many citizens.

As COVID-19 pandemic is still ravaging the world, countries are coming up with how to curtail the spread and reduce its effects within their borders (Obiakor, 2020). Nigerian government like the government of other countries has used different measures to check its spread and these include the closure of public places such as airports, hotels, churches, mosques, schools and markets among others. In Nigeria, the closure of public places started on 30th March 2020 in Abuja, Lagos and Ogun state being the first areas to have COVID-19 cases in the country (Ozigi et al., 2021). Though the closure was important, but it had negative effect on the economy of the country (Obiakor, 2020). The closure mostly affected the business activity of the micro and small business enterprises (Lakuma et al., 2020). The reason is not far-fetched. Most of the micro and small enterprises stopped operation for a while due to their inability to undertake proper preventive measures like hand sanitizers and soaps for staff and customers, nose-mask and social distancing (Lakuma et al., 2020). Nigerian economic downturn was caused by fall in the oil price at the international market and the negative economic effect from the COVID-19 pandemic which did not only lead to fall in the demand of oil but also made it difficult for economic activity to take place when social distancing was put in place (Ozili, 2020).

In the study by Fate Foundation and BudgIT (2020) on the impact of COVID-19 on 1,943 micro, small and medium enterprises in Nigeria, the findings revealed that 94.3 percent of businesses recorded negative results in sales and revenue. According to AfDB's African Economic Outlook 2020 report cited in UNDP (2021), GDP fell by 1.7% in 2020, and that if the COVID-19 pandemic continues till after the second quarter of 2020, that GDP will fall by 3.4% (AfDB, 2020). The quick and massive shock of COVID-19 pandemic and the short term measure to reduce its spread have plunged the world economy into a severe economic downturn. While the economic activity among the advanced countries is expected to contract by 7 percent in 2020 amid disrupted demand and supply, trade and finance, emerging and developing economies are expected to contract by 2.5 percent in the same year (UNDP 2019). Nigerian economy was forecasted to shrink by 3.2 percent in 2020 but expected to recover in 2021 to 1.7 percent (UNDP, 2019).

Adenomon et al., (2020) studied the effect of COVID-19 outbreak on stock exchange performance in Nigeria using GARCH model covering the period of 2nd January 2020 to 16th April 2020, findings revealed that profit contracted during COVID-19 period as against the normal pre-COVID-19 results. Chukwuka and Ekereuche (2020) investigated on the impact

of COVID-19 pandemic on the Nigeria economy. The study showed that the Nigerian economy that was projected to experience 2.5 percent GDP growth had been truncated by COVID-19 pandemic leading to a higher increase in the nation's debt servicing.

Abideen (2020) conducted a study on the effect of COVID-19 pandemic on the performance of SME's business in Nigeria. Result revealed that COVID-19 pandemic had significant negative impact on the performance of SME's business. There are many research on-going in Nigeria that are yet to unravel and explore the empirical impact of COVID-19 pandemic on business operation and workforce in Nigeria with specific emphasis on government stimulus measures to avert business collapse in Nigeria during COVID-19 pandemic. Unlike previous studies, this study is narrowed down to particular facets of business activity (business operation and workforce). This will help the policymakers in identifying the facet of business activity that was hampered by COVID-19 pandemic and proffer solution.

2.2: Government stimulus plan for micro businesses in Nigeria during COVID-19 Pandemic

First, Nigerian government gave 100 million naira credit support to health sector to fight COVID-19 pandemic (Abioye et. al 2021). In March 2020, the government of Nigeria through the Central Bank introduced a N50 billion Targeted Credit Facility (TCF) as a stimulus package to support MSMEs and households affected by the COVID-19 pandemic. The objectives of the stimulus package were as follows: (i) to alleviate the negative effects of COVID-19 on MSMEs and households, (ii) to support MSMEs and households whose economic activities have been hampered by the COVID-19 pandemic and (iii) to make funds available for MSMEs to expand their productive capacity via R&D and upgrading of equipment. The loan covered businesses in the agricultural, hospitality, health, airline, manufacturing/value addition, trading and income-generating activities (Abioye et al., 2021).

The Scheme which was being financed from the Micro, Small and Medium Enterprises Development Fund (MSMEDF), had a N25 million ceiling for MSMEs based on the activity, cash-flow, and industry/segment size of a beneficiary, and a 3 million credit limit for households. The interest rate under the intervention was set to be 5% per annum from March 2020 to 28th February 2021 and thereafter; the interest on the facility would change to 9% per annum (all-inclusive) as from 1st March 2021 (Abioye et al., 2021). According to (Abioye et al., 2021), the intervention was proposed to end on 31st December 2024. It had the following collateral requirement in addition to other documentation that may be required by NIRSAL MFB: (i) moveable asset(s) duly registered on the National Collateral Registry (NCR), (ii) simple deposit of title documents in perfectible state, (iii) Deed of Debenture (for stocks), in perfectible state, (iv) irrevocable domiciliation of proceeds, (v) two (2) acceptable guarantors, (vi) personal guarantee of the promoter of the business, (vii) life insurance of the Key-Man, with NMF, noted as the First Loss Payee, and (viii) comprehensive insurance over the asset.

Furthermore, to reduce the delays and cost of setting up a business during COVID-19 pandemic in the country, the federal government also launched a reduction in registration fees. The government also assisted E-registration through the National Agency for Food and Drug Administration and Control (NAFDAC), Automated Product Administration and Monitoring System (NAPAMS) for MSMEs (NAFDAC, 2020). On a state level, various states in Nigeria introduced stimulus plan to help micro businesses and households during COVID-19 pandemic. A good example of such was one billion naira MSMEs development scheme in Oyo state in June 2020.

To ascertain if the stimulus package actualised one of its objectives of improving the negative effect of COVID-19 on businesses, this study embarked on a research survey interviewing micro business that got the fund and with their responses, a logistic regression analysis was conducted.

2.3: Business Operation and Workforce in Nigeria during COVID-19 Pandemic

UNDP (2021) reviewed business operation and workforce during COVID-19 pandemic as follows

2.3.1: Business Operation in Nigeria during COVID-19 pPandemic

COVID-19 containment efforts adopted in Nigeria and across the globe caused most business enterprises to close stores. According to UNDP (2021), 61% of businesses operating in at the time of their survey had temporarily closed down during the pandemic but were slowly reopening amid an easing of restrictions and growing confidence in an economic recovery. Differences in closure rates were observed between formal and informal businesses, while 63 percent of those in the formal sector had previously closed, the figure for informal enterprises was lower at 56 percent (UNDP, 2021). A third of informal enterprises continued to operate throughout the pandemic, perhaps indicating a resistance to regulation by the government due to lack of alternative means of subsistence for those engaged in informal work, while for formal businesses, approximately a quarter never closed. Since formal businesses are directly regulated by the federal and local governments, those that remained open were likely designated as essential businesses that were allowed to continue operating through lockdowns, such as pharmacies, grocery stores and food vendors etc. According to UNDP (2021) a significant majority of 66 percent of the businesses reported having closed down as a result of directives related to containment measure. It further added that decline in demand featured as a reason for closure among 13 percent and 15 percent of formal and informal enterprises, respectively. For informal enterprises, closures resulting from restricted access to raw materials were more common than among formal enterprises.

In the aspect of duration of business closure, the duration of the interruption varied across businesses. Overall, however, 64% of businesses closed for the 3 months or less, in line with the second phase of easing of lockdown directives across Nigeria. In the aspect of change in hours of operation, UNDP (2021) revealed that 60% of the businesses experienced a decrease in working hours, while 34% indicated that their hours of operation remained the same throughout the pandemic, and 4% of the enterprises experienced an increase in their hours of operation for the period. It further revealed that the impact on working hours is broadly similar across informal and formal businesses and that among the 60 percent reporting a decrease in working hours, about 68 percent saw a decrease of between 1 to 5 hours in the number of hours of operation. It succinctly reported that decrease of 6 to 10 hours was reported by 22% of the businesses.

In the aspect of change in operational costs, as businesses tried to adapt and react to the shocks brought about by the pandemic and accompanying public health measures, they experienced great changes in overall operational costs. These were due to some major surprising factors, including a rise in the cost of raw materials likely due to disruptions in supply chains, an increase in transportation costs due to the different lockdown measures and restrictions on movement, and running costs that had to be adapted to ensure the survival of businesses in the face of reduced demand (UNDP, 2021). According to (UNDP, 2021) in their survey in Nigeria, businesses were asked to compare operational costs between 2020

quarter 2 to 2020 quarter 4 against the previous year, i.e., 2019 quarter 2 to 2019 quarter 4 and the survey results showed that 59% of businesses reported an increase in operational costs compared to the previous year, while 26 percent experienced a decrease in operational costs, and 16 percent reported no changes in operational costs. Among businesses reporting an increase in operational costs, survey results from UNDP (2021) showed that “price of raw materials” was the greatest contributor at 45%, while “logistics/transportation cost” was responsible for 26%, “power generation” for 12%, and “workers welfare” for 10% of the changes in the cost of business operations in Nigeria.

On closure rates, while the surveys in Nigeria do not include perspectives from business enterprises that permanently closed due to the pandemic, but UNDP (2021) revealed that more than 1 in 3 of the businesses sampled indicated that they knew of businesses that permanently closed due to operational challenges resulting from the pandemic.

2.3.2: Workforce in Nigeria during COVID-19 pandemic

The pandemic period brought with it an increase in the nationwide unemployment rate in Nigeria, which went from 27% to 33% between 2020 quarter 2 and 2020 quarter 4 (UNDP, 2021). Businesses resorted to laying off workers in order to survive, and shutdowns of enterprises severed crucial livelihood lines for households that depended on them for income, coupled with the lack of new business opportunities and reduction in capital investment further limiting new job prospects.

On layoffs and new hire prior to the COVID-19 outbreak, the median fulltime staff strength of formal and informal enterprises stood at 12 and 5 respectively (UNDP, 2021). It further revealed that during the pandemic, these figures declined and stood at 10 and 4 for formal and informal enterprises respectively. It argued that these results in 20% of the initial fulltime work force losing their jobs during this period and that among the formal enterprises, this figure is slightly higher at 21% compared to 15% among informal enterprises. Overall, 58% of businesses were able to maintain their staff strength, while 28% lost up to 50% of their initial work force with the remaining 14% losing more than 50% of their initial work force (UNDP, 2021). The study added that these figures however differ between formal and informal enterprises with 62% of informal enterprises able to maintain their staff strength during the pandemic compared to 56% for formal enterprises. For instance, the accommodation and food services and construction sectors reported a relatively higher proportion of enterprises with losses in employment compared to enterprises in the agriculture or utilities sectors. For 52% of businesses in quarter 4 of 2020, the work force was the same as before the pandemic, and 9% of businesses had hired new employees while 39% had shrunk their total workforce (UNDP, 2021).

2.4: Job losses in UK during COVID-19 pandemic

Governments around the world sought to save lives by slowing down the spread of the COVID-19 virus. The United Kingdom declared a lockdown on March 23, 2020 to control the COVID-19 pandemic. This seems to have helped rein in the public-health crisis but was taking its toll on the economy. According to McKinsey (2020), it was estimated that economic activity (as measured by GDP) was down roughly 30 percent in a typical lockdown week in May 2020 from February 2020 levels. It also added that in the weeks from April 6 to April 19, 2020, about 23% of businesses had temporarily closed or stopped trading with around 60% of businesses that continued to trade reporting a fall in revenues. Reflecting the jobs market during the second English lockdown and as tough restrictions were imposed in

Scotland, Wales and Northern Ireland, the data showed that unemployment reached 5% representing more than 1.7 million people. Unemployment was 4% in February 2020 before the pandemic struck. There were some promising signs, including a slowdown in redundancy rates. Economists believed unemployment would be far higher without furlough, while joblessness on a par with the 1980s of about 12% forecast early in the pandemic has so far been avoided (Guardian, 2021). It further revealed that preventing a sharper rise in unemployment during the pandemic, the government's furlough scheme had topped up the wages of almost 10 million workers of more than 1.2 million companies since the crisis began. The number of people on furlough hit a peak of almost 9 million in May during the first lockdown, and gradually fell as the economy reopened in summer 2020. However, at its intended closure date in October, more than 2 million workers were still receiving support. Their numbers swelled further during renewed lockdowns after the scheme was extended, reaching almost 4 million by the end of 2020. The scheme, now due to run until the end of April 2021, has cost the Treasury almost £50bn so far (Guardian 2021). Billions more has been spent subsidising lost income for self-employed workers, but millions of people have fallen through the cracks and received no emergency Covid support.

It was believed that economic activity will recover as lockdown restrictions were lifted, but the speed and patterns were highly uncertain and differed from sector to sector. In McKinsey (2020) forecast, UK GDP in 2020 was expected to shrink by 9%. Such a rapid fall in output has significant implications for employment. The study found that during lockdown, around 7.6 million jobs were at risk. Job losses during COVID-19 pandemic encompass permanent layoffs, temporary furloughs, and reductions in hours and pay. The risks are highly skewed: people and places with the lowest incomes are the most vulnerable to job loss. According to Guardian (2021) and McKinsey (2020) significant numbers of all the jobs at risk were in occupations earning less than £10 per hour. The median hourly pay in pre-COVID-19 pandemic was £13.30. The proportion of jobs at risk in the 20 lowest-income sub-regions such as Blackpool, Stoke and Torbay, ranged from 23 to 29%, while the range for the 20 highest-income regions is much lower, at 18 to 25%.

The lockdown had a major impact on jobs in UK. It was estimated that from April 6 to 19, 2020, around 22 percent of the United Kingdom's working-age population, nine million people, had been furloughed (McKinsey, 2020). At that time less than 1 percent of businesses reported ceasing to trade permanently or having laid off people. However, the knock on consequences of the lockdown is anticipated to result in significant job losses down the road. Businesses' ability to continue to employ and pay workers might be particularly precarious when government support starts to be withdrawn. In the four weeks from March 16, there were 1.4 million new applications for social assistance through the universal credit system and unemployment rose to 9%, up from 4% in February 2020. In summary, unemployment during the COVID-19 pandemic created significant anxiety among those who retained their jobs. The negative impact on well-being experienced by the whole community was four times the effect on the individual alone and for people still at work, much has changed (McKinsey, 2020). It added that during the COVID-19 intense period around 30% of the United Kingdom's roughly 7 million key workers were concerned about health and safety at work. Only a minority of all UK workers, around 8 million people, were working from home, but almost 20% of them found it difficult and overall, 40% of people said their work had been affected.

The impact of COVID-19 pandemic across sectors in the UK was highly uneven. The statistics on furloughs indicated how very differently specific sectors had fared. For example, in the first half of April, 73% of workers in accommodation and food services and 46% of those in construction had been furloughed (McKinsey, 2020; Guardian, 2021). They further revealed that 14% of those in water utilities and 13% of those in information and communication had experienced the same. Likewise, even though schools, colleges, and universities were closed, the people employed in the education sector had mostly continued to be employed and paid. The analysis of jobs at risk arrives at similar patterns. The retail and wholesale sector had the largest number of jobs at risk indicating 1.7 million, or 22% of the total 7.6 million were in this category (McKinsey, 2020). It further revealed that while demand for labour in grocery and online retail and related wholesale activities had gone up, this was outweighed by the significant number of temporary store closures in nonfood retail. The second-hardest-hit sector in absolute terms was accommodation and food services which showed 1.2 million relatively low-paid workers at risk. Arts and entertainment and construction were also highly vulnerable as are subsectors of transportation, such as airlines.

The most vulnerable workers were mostly at risk during COVID-19 pandemic in UK. Unfortunately, in the COVID-19 crisis, there was a strong correlation between the likelihood of a worker being furloughed or laid off and them having previously been on a low income. According to Guardian (2021) and McKinsey (2020), the median gross hourly pay in hospitality and food-service activities during pre-corona-virus period was around £8.60; in information and communication, it was £19.20. More broadly, the weighted average median pay in the hardest-hit sectors was around £10.60 per hour; for the least affected sectors, it was around £14.60, or nearly 40% higher. But there were even sharper differences between occupations. The proportion of jobs at risk in elementary occupations which employed 3.3 million people in 2019 and included jobs such as cleaners, kitchen assistants, waiters, and bar staff was around 44% (McKinsey, 2020). McKinsey (2020) further revealed that in contrast, the same number for professional occupations such as computer programmers, project managers, and accountants increase was around 5%. The latter category was also much more highly paid, attracting average pay around 2.4 times than that of elementary occupations. The occupational picture in the United Kingdom was similar to findings for Europe as a whole, where the largest job families at risk were those in customer service, sales, and food services.

Jobs that were not based on high educational qualification were prone to job at risk and pay cut during the COVID-19 pandemic. Only around 24% of employees in the hospitality, retail, and construction sectors have a higher-education qualification; more than 50% of workers in each of these sectors do not have qualifications beyond General Certificates of Secondary Education (GCSEs). At the other end of the spectrum, between 55 and 70% of people working in information and communication, financial services, or professional services have a degree or higher-education qualification. This does not mean all highly educated people are insulated from lockdown risk. For example, in the affected sectors such as arts, entertainment, and recreation around 45% of employees completed tertiary education (McKinsey, 2020).

The fallout from rising job losses and a sharp drop in income from work for UK households has been a surge in the numbers of people claiming unemployment-related benefits. The government increased the value of universal credit benefits by £20 a week at the start of the crisis, but this was temporary and was cut again from the end of March 2021 (Guardian,

2021). Charities have warned this would trigger a sharp rise in poverty levels across Britain. Britain's economy had been plunged into the deepest recession for more than 300 years by the crisis. With repeat lockdowns, a lack of clarity about the future and continued Covid restrictions, fewer companies are advertising to hire new staff. There have been reports of hundreds of people applying for single job openings, including almost one thousand for a receptionist job in Manchester dinner (Guardian, 2021). Job vacancies have started to recover, but remain scarcer than before the pandemic

2.5: Theoretical Framework

Prospect Theory

Prospect theory is traced to Tversky and Kahneman (1992) who opined that the theory is useful and relevant for decision making by businesses during uncertainties. Sometimes in an attempt to present things positively than on negative term, it leads to selection of riskier option (Craighead et al., 2020). In a simple language, prospect theory facilitates prediction into the near future about how the head of a business enterprise will react under a pandemic situation like the COVID-19.

Game Theory

Game theory is also known as prediction theory. Game theory adopts a set of rules and guidelines on how those with vested interest respond to issues and information while relating with one another (Von Neumann & Morgenstern, 2007). In a nutshell, game theory assumes that sometimes selfish choices are made during interaction with one another. However, continuous relationship among those with vested interest will lead to co-operation knowing fully well that pursuing their parochial interest will lead to retaliation (Bo, 2005). Game theory has been adopted by those with vested interest in various aspects of economic or business activity. For instance, game theory has been applied to decisions on distribution channel (Zin, Zao & Zhang, 2013). Also it has been applied to production quantities and pricing (Gao et al., 2013), as well as in adoption of new technologies (Zhu & Weyant, 2013). Based on the tacit relationship and co-operation that exist among those with vested interest in game theory, business enterprises with the objectives of competing will co-operate during pandemic because of the implication of high cost for vehement refusal (Craighead et al., 2020).

3.0: Methodology

The study utilised quantitative method with large sample size and it adopted regression analysis. For the impact of COVID-19 on business operation and on workforce in the other, the study population were micro businesses in Lagos State of Nigeria. Similarly, for the impact of government stimulus measure on businesses the same population was used and a sample size of 150 was selected. Out of the 150 selected businesses, only 82 of them were willing to participate in the interview. The sample technique adopted was random sampling which gave each of them equal chance of being selected.

The study investigated the impact of COVID-19 on business operation, workforce, as well as the investigation of the impact of government stimulus measure on production capacity in Nigeria. The data was obtained from primary source via a structured questionnaire by the researcher based on the objective of the study. The data from the questionnaire was used to compute the logistic regressions was analysed through inferential statistics on SPSS software. This was followed by multicollinearity test to ascertain if the logistic regression results are

spurious. Logistic regression model was utilised to investigate the impact of COVID-19 on business operation among businesses in the sample size. The logistic regression is stated as:

$$BO_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n \quad (1)$$

BO_i stands for a binary variable which is 0 if respondents are in business operation and 1 if respondents are not in business operation. β_0 is the intercept and is constant. $\beta_1, \beta_2, \dots, \beta_n$ stand for the regression coefficients of the independent variables, while X_1, X_2, X_n represent the variables used in the model.

$X_1 = \text{COVID-19}$

The above independent variable was also used in the investigation of the impact of COVID-19 on workforce (WF) in Nigeria. On the investigation of the impact of government stimulus measure (GSM) on production capacity (PC), the independent variables are government stimulus measure (GSM) and private loans (PL).

Table 1: Logistic regression result

Bus. Operation	Coefficient	Std. error	Z	P>/Z	Marginal efficiency	Tolerance
COVID-19	-4.133615	2.115778	-2.02	0.032	-2.25e-04	0.5265
Constant	1.631203	4407.11	0.00	1.000		
Observation	82					
LR Chi ² (12)	75.45					
Prob > chi ²	0.0000					
Pseudo R ²	0.8106					
Log likelihood	-8.1363253					

Source: Author's computation from survey

Table 1 showed that COVID-19 was negative and significant to business operation in Nigeria. This suggests that COVID-19 pandemic negatively affected business operation in Nigeria. In summary, the results showed that COVID-19 negatively impacted on business operation. This result is in line with the result of Abideen (2020) which revealed that COVID-19 pandemic had significant negative impact on business.

Table 2: Logistic Regression Result

Workforce	Coefficient	Std. error	Z	P>/Z	Marginal efficiency	Tolerance
COVID-19	-4.669448	2.448991	-2.06	0.033	-2.58e-07	0.8598
Constant	1.954505	4709.23	0.00	1.000		
Observation	82					
LR Chi ² (12)	78.78					
Prob > chi ²	0.0000					
Pseudo R ²	0.8408					
Log likelihood	-8.1797284					

Source: Author's computation from survey

Table 2 above showed that COVID-19 was negative and significant to workforce in Nigeria. This suggests that COVID-19 pandemic negatively affected workforce in Nigeria. This further suggests that the aforementioned variables are significant to workforce at 5 percent. In summary, the result showed that Covid -19 negatively impacted on workforce. This result is in line with the result of Apuva and Shararen (2021) which revealed that COVID-19 pandemic had significant negative impact on workforce of construction industry.

Table 3: Impact of Government Covi-19 business stimulus on businesses

Variables	B	S.E	Wald	Sig.
Gov. COVID-19 bus. stimulus (X1)	2.213	.101	49.101	.000***
Private loans (X2)	1.554	.382	11.562	.006
Constant	1.212	.310	6.308	.018

Source: Author's computation from survey

Government COVID-19 business stimulus on businesses was 1.213 and is significant at 0.000 (1%). This suggests that government COVID-19 business stimulus improved businesses in Nigeria and reduce the rate of business collapse during the COVID-19 pandemic in Nigeria. Private loans are also significant but at 0.006. Thus, government should continue and increase the number of businesses to receive COVID-19 business stimulus to reduce business collapse caused by COVID-19 pandemic in Nigeria.

Conclusion

This research set up an empirical investigation to analyse the impact of COVID-19 on business operation and workforce as well as the influence of government COVID-19 business stimulus on businesses. This paper adopted logistic regression analysis method for a sample survey of 150 respondents. Analysis first revealed that, COVID-19 significantly and negatively influenced business operation in Nigeria. Result further revealed that COVID-19 significantly and negatively influenced workforce and that government COVID-19 business stimulus exerted positive impact on businesses which helped in reducing business collapse.

This study therefore concludes that in order to curb the spread of COVID-19 as well as its harmful effects on businesses, the following recommendations should be adhered to;

1. In the case of workforce, efforts should be geared to attending global mobility concerns, such as reviewing travel rules and first aid plans.
2. In the case of business operation, efforts should be made to assist workers in working remotely and to address business information technology and communication infrastructure in order to support remote working during the COVID-19 pandemic.
3. In the case of supply chain, businesses need to consider how much of their supply chain should be international versus domestic, in an effort to address environmental issues, future production and supply chain problems.
4. Government should increase COVID-19 stimulus package for businesses to enable them recover from the effect of the pandemic. This will also help in reducing job losses caused by the pandemic as witnessed in united Kingdom
5. Businesses should ensure a safe distance between workers, using nose mask, providing sanitizers and washing stations to check the spread of COVID-19 pandemic.

Research limitation

The potential limitation of this study is that most of the selected respondents were unable to respond to questions in the questionnaire. Out of 150 respondents covered, only 82 were able to respond to questions, thereby made the sample size covered in this study low

Practical and social implication of the study

The implication of the study is that policy makers will shift in line with the findings by putting in place good policies that provide financial assistance as well good health facilities to reduce the business closure and the spread of COVID-19. If these are provided most businesses will still be in operation carrying out their social responsibility to the host communities

Originality and value of the study

The originality of this research work consist in computing the impact of COVID-19 on business operation and workforce as well as the effect of government COVID-19 business stimulus on businesses thereby provided an empirical solution to incessant business collapse during the peak period of COVID-19 pandemic. Unlike previous studies, it revealed how businesses or stakeholders can react during pandemic (prospect theory) and co-operate during pandemic (game theory) and provide solution by adopting COVID-19 business stimulus, and the use of sanitizers among others which impacted positively on businesses and reduce the spread of the COVID-19 virus respectively.

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