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Impact of COVID-19 on the performance of micro, small and medium enterprises in northeast Nigeria

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Abstract
This study examines the impact of covid-19 pandemic on the performance of micro, small and medium enterprises in Northeast Nigeria. The research employed primary method of data collection using 90 selected Micro, Small and Medium Enterprises (MSME) in Bauchi state as sample. The study employed multiple regression analysis to answer the research question and to test the study's hypotheses. The result from the analysis indicates that, both the health and economic impact of covid-19 pandemic has significant negative effect on MSMEs performance in Northeast Nigeria. Accordingly, the study recommends that Nigerian policy makers should introduce economic reforms to diversify the economy and reduce Nigeria's dependence on revenue from crude oil export. Also, the policymakers in Nigeria should invest in health care infrastructure to improve the ability of the national health system to withstand the outbreak of contagious diseases. Finally, there is also a need to build appropriate digital infrastructure to facilitate the transition from 'face-to-face' business activities to a 'digital or online' business activities, which can help to grow the digital economy.

Keywords: COVID-19 pandemic, MSME performance, Northeast Nigeria.

1. Introduction

Corona virus outbreak is ravaging human health, disrupting the livelihood of thousands of people, and impacting negatively on the global economy (Amare et al., 2020). Confirmed cases of the novel corona virus named Covid-19 was first reported in December 2019 in the Chinese province of Hubei. It was declared a pandemic by the World Health Organization (WHO) in March 2020 with over 50 million cases worldwide as at 31st December, 2020 (Shen, 2020). The presence of the virus in Nigeria was first reported on February 27, 2020, when an Italian citizen visiting Nigeria tested positive for the virus (Oyewale, et al 2020). The rapid spread of the COVID-19 virus led the country into a health crisis. In addition to the human impact, there are also substantial economic, business and commercial impacts being felt all over the country. As the virus know no borders, the impacts continued to spread (KPMG, 2020). The virus has negatively affected businesses as revealed that 94 percent of global and local businesses in Nigeria have been impacted and are already seeing COVID-19 pandemic disruptions (Oyewale, et al 2020). At the moment, Nigeria is dealing with the reality of the Corona-virus (COVID-19) pandemic, which has led to a huge economic loss for thousands of businesses across the country. This loss is out rightly attributed to the government's order of shutting down business operations (Tashanova, et al, 2020). The major economic heart states

were on lockdown as a result of the upsurge of the virus. This lockdown features the restriction on transportation of people and goods which significantly disrupt outputs and exports. The lockdown order has also hindered the growth of the private business by undercuts in the investments due to the loss of investors' confidence in the market (Shen, 2020).

Micro, Small and Medium Enterprises (MSME) experienced a larger decline in business activity compared to large firms (Lakuma et al., 2020). This may be because a number of the MSMEs in the country stopped operations for a while due to their helplessness to undertake preventive health measures like ensuring physical distancing, providing sanitizers, water, and soap for customers' use (Lakuma et al., 2020). The ripple economic effect from the COVID-19 pandemic also include a fall in oil prices in the world market, which not only led to a fall in the demand for oil products but also stopped economic activities from taking place when social distancing policies were enforced (Ozili, 2020). The enforcement of the lockdown policy has severely halted economic development, business activities, financial and non-financial performance of MSMEs. A sharp decline in MSMEs sales subsequently led to insufficient cash flow in carrying out various operations including financing and investing activities (Oyewale, et al 2020). Inventories became obsolete and lead to a loss in economic value. The financial implications as a result of the decrease in the sale ultimately resulted in private businesses downsizing and folding which causes a lot of job losses and increase in unemployment (Peterson, 2021).

Besides, several studies were conducted on the issue of Covid-19 pandemic and its effects on the performance and growth of businesses enterprises as well as the overall economic development. Among others, FATE Foundation and BudgIT (2020) studied the impact of Covid-19 on 1943 Micro, Small and Medium Enterprises (MSMEs) across the 36 states in Nigeria including the FCT. The result from the study revealed that, 94.5 percent of respondent businesses recorded negative results during the pandemic principally in the areas of cash flow, sales, and revenue. Similarly, the African Development Bank (AfDB) African Economic Outlook 2020 report also revealed that real GDP in Africa will contract by 1.7 percent in 2020, plummeting by 5.6 percentage points from January 2020. The report further affirms that, if the spread of the virus continues till after the second quarter of 2020, a deeper GDP contraction of 3.4 percent is projected, down by 7.4 percent from the growth projected before the outbreak of Covid-19 (AfDB, 2020).

Therefore, for countries like Nigeria that heavily rely on imports of major inputs used in most of its sectors (agriculture and non-agriculture), the effect of the pandemic is anticipated to have a strong and massive negative impact on the survival of its Micro, Small and Medium Scale Enterprise (World Bank, 2020). The negative effect is expected to be more severe in the Northeastern part of Nigeria due to the weak health system occasioned by prolong insurgency. Based on the forgoing, this study is set to empirically examine the effect of COVID-19 pandemic on the performance of MSMEs in Northeastern region of Nigeria. To the best of researchers' knowledge, none of the existing studies looked at the area of MSME in Northeastern region of Nigeria. Accordingly, this paper is structured as follows: section two contains a review of the prior literature which includes a conceptual review of MSME in Nigeria, COVID-19 pandemic, then followed by an empirical review on the relationship between COVID-19 pandemic and MSMEs financial performance. Section three discusses the methodology adopted by the study and section four present results and discussions of finding. Conclusion and

recommendations are delineated in section five.

2. Literature Review

2.1 MSME in Nigeria

MSMEs is a concept that is difficult to define due to price changes, technological advances or other improvement factors. Even in the same country, different institutions may use diverse definitions depending on their policy focus (Ozili, 2020). In Nigeria, Micro-enterprises are small businesses with less than 10 employees and have less than 5 million Naira in assets excluding lands and buildings (Oyewale et al, 2020). Unsurprisingly, a large majority of micro-businesses are sole proprietorships. MSMEs, however, have more distributed ownerships with 65 as sole proprietorships, 21 percent as private limited liability companies, 6 percent as faith-based ownerships, and 5 percent as partnerships (NBS, 2017). With the larger number of enterprises in Nigeria being micro-enterprises, any business and economic shocks will unavoidably affect various sectors and livelihoods of many citizens. While MSMEs are described as those able to employ ten to forty-nine people with an asset base equals to N49 million, with the exception of land and construction (National Policy on MSMEs report, 2010). MSMEs contribute 48 percent to national GDP, accounting for 96 percent of businesses, and 84 percent of employment (Oyewale, et al, 2020).

Nigeria has been severely hit by the spread of COVID-19 and the associated sharp decline in oil prices (IMF, 2020). According to World Bank 2020), the swift and massive shock of the coronavirus pandemic and shutdown measures to contain it have plunged the global economy into a severe economic contraction and the global economy is expected to shrink by 5.2 percent in 2020. While economic activity among advanced economies is anticipated to shrink 7 percent in 2020 as domestic demand and supply, trade, and finance have been severely disrupted, emerging market and developing economies (EMDEs) are expected to shrink by 2.5 percent in the same year (World bank 2020). For Nigeria, it is forecasted that the economy will shrink by 3.2 percent but is expected to recover in 2021 to 1.7 percent (World bank, 2020). These closures, while essential, are having negative ripple effects across all sectors and segments of the country (Obiakor, 2020). Micro and small businesses experienced a larger decline in business activity compared to medium and large firms (Lakuma et al., 2020). This may be because a number of the micro and small businesses in the country stopped operations for a while due to their helplessness to undertake preventive health measures like ensuring physical distancing, providing sanitizers, water, and soap for customers' use. (Lakuma et al., 2020).

The economic deceleration in Nigeria was caused by a mixture of falling oil prices in the world market and the ripple economic effect from the COVID-19 pandemic, which not only led to a fall in the demand for oil products but also stopped economic activities from taking place when social distancing policies were enforced (Ozili, 2020). According to Adenomon et al. (2020), which studied the effects of the COVID-19 outbreak on the Nigerian Stock Exchange's performance using Evidence from GARCH Models covering the period of 2nd January 2020 to 16th April 2020. The result revealed that profits nosedived during the COVID-19 period under study in Nigeria as against the normal pre-COVID-19 results. The work of Chukwuka and Mma (2020) on the impact of the COVID-19 outbreak on the Nigerian economy, shows that Nigeria economy that was projected to experience 2.5% GDP growth, has been truncated by the pandemic leading to a higher increase of the nation's debt servicing to revenue ratio at 60% amid the falling prices of oil.

2.2 Concept of COVID-19

Coronavirus disease popularly known as COVID-19 is an infectious disease that is popularly known as Covid-19 (Ohia et al., 2020). The disease is caused by severe acute respiratory syndrome otherwise known as SARS- CoV-2 (Poudel et al., 2020). Its symptoms include fever, cough, shortness of breath, sore throat, runny nose, sneezing, among others (Ohia et al., 2020; Unhale et al., 2020). It is a highly communicable disease and its mode of transmission is from person-to-person (Unhale et al., 2020). Transmission occurs among close contacts mostly through respiratory droplets released when the infected person sneezes or coughs (Harapan et al., 2020). While measures such as lockdown, social distancing, self-isolation or self-quarantine and observation of simple hygiene habits such as regular washing of hands, wearing of facemasks and covering the mouth with a handkerchief when coughing or sneezing have been recommended to contain the spread of the disease among people (Ohia et al., 2020), it is important to note that there is no any known cure or vaccine for the Covid-19 pandemic presently (Adnan et al., 2020).

Nevertheless, different countries in the world (Nigeria inclusive) and international organizations have endorsed and received the Covid-19 disease vaccine provided by the world health organization. Therefore, despite the production of the vaccine, this virus has spread across 210 countries and territories around the world and 2 international conveyances (Worldometers, 2020). The virus has recorded new epicenters for its outbreak, the United States of America, Spain, Italy, France and Germany, having confirmed cases of over a hundred thousand (Worldometers, 2020). Amidst the risk posed by this virus on public health, the World Health Organization (WHO) has declared it as a global pandemic and calls for health sectors of the world and government to take it seriously (McKibbin & Fernando, 2020). The spread of the infectious disease is still on the rise despite many efforts people and government of nations to contain it, such as containment, an individual measure of protection, the authorization of the use hydro chloroquine and other drugs that have not been clinically tested (Addi et al, 2020). There are uncertainties as to how the COVID-19 is transmitted, although most medical researcher and centers for disease control have noted that it is transmitted via a fluid contact with an infected person (Kim, 2020; NCDC, 2020). They further noted that symptoms of the disease on an individual includes, sore throat, dry cough, fever, shortness of breath, and in the worse stage acute pneumonia and death. According to NCDC (2020), the incubation period for COVID-19 is between 2-14 days. Addi et al (2020) asserted that the reason for the high level of the spread of the virus on individuals across the globe as a result of the symptomatic and asymptomatic nature. Failure to identify and properly manage both symptomatic and asymptomatic COVID-19 cases by mass/wide COVID-19 testing or screening of the population puts the race at risk (Addi et al, 2020). In addition, this would significantly affect the way of life of people, as well as businesses across the globe. In Nigeria, the same feat befalls the private sector (businesses) and government. As at 9:30 pm 11th June, 2021, there were 167,027 confirmed cases, 163,413 discharged and 2117 deaths across all 36 states of the federation including federal capital territory (NCDC, 2021). This has led to the federal government taking radical steps like the issuing of an executive order to lock down the major economic hub of the country with a view of the virus.

2.3 Empirical Review

This section presents the empirical review of prior studies made by the researcher in the course of conducting the study. Notable among them is the work of Oyewale et al (2020) which examines the effect of COVID-19 related cases and lockdown measures on Small and Medium Scale

Enterprise in Nigeria. Using an electronic data collection approach, the study analyzes the data using the linear probability model to estimate the effect of the pandemic on the entrepreneurs and model the factors influencing coping strategies using a multivariate probit model. The study found that majority of the entrepreneurs have been affected (both slightly and severely) by the COVID-19 pandemics through the partial and total lockdown and movement restrictions. The study also found that, the COVID-19 pandemic's effect differs by sector of the economy (agriculture versus non-agriculture). For instance, partial lockdown measures had an increasing likelihood effect on low sales among the enterprises especially for the non-agricultural sector but there is a contrary result in the context of the food and agriculture sector. In addition, partial lockdown increases the likelihood of switching approaches of business (coping strategies) whereas total lockdown has a negative influence on the coping strategies. One of the policy implications of the study is the need to address social protection approaches (such as palliative measures) which can help to cushion the effect of the pandemic on the Small and Medium Scale Enterprise in Nigeria. The study makes use of different sectors of the economy (agriculture versus non-agriculture), that have different characteristics on how they operate, which may cause variation in the result of the study. The study should have used a single sector as a reference so that the result will be sector specific to avoid any form of ambiguity in the conclusion as well as the recommendation of the study. Hence, this study will be conducted on a sector-specification in order to come up, with unambiguous result on a single sector.

Similarly, Otache (2020) examined the effects of the Covid-19 pandemic on the Nigeria's economy and possible coping strategies. The paper undertook a review of the related literature regarding the Covid-19 pandemic and how Nigerians and the Nigerian government can cope with the effects of the pandemic. The review reveals that the effects of the Covid-19 pandemic in Nigeria include jobs losses, a sharp drop in income of the informal workers and the poor, food insecurity, business and school closures, a steep decline in oil revenues and economic uncertainties. The paper has recommended some measures to be adopted by Nigerians and the Nigerian government in order to cope with the devastating effects of the Covid-19 pandemic and similar pandemics in future. The measures include monetary and fiscal policy measures, diversification of the economy through agriculture, revamping of the manufacturing sector, acquisition of relevant ICT skills, adoption of e-learning model by schools, adoption of e-business model by business organizations and the need to have multiple sources of income. However, it should be noted that, the study was organized conceptually, where the data was not collected and computed to bring the result that can back the conclusion as well the recommendation of the study. Also, the paper fails to select and review any theory that the study will underpin to guide the study in achieving its main goal. Hence, this study will examine the effects of OVID-19 empirically as well selecting and reviewing a theory to guide the study.

Ozili (2020) investigated the COVID-19 situation in Nigeria, its effect on the economy and the structural causes that worsen the crisis. The findings reveal that the economic downturn in Nigeria was triggered by a combination of declining oil price and spillovers from the COVID-19 outbreak, which not only led to a fall in the demand for oil products, but also stopped economic activities from taking place when social distancing policies were enforced. The government responded to the crisis by providing financial assistance to businesses and a small number of households that were affected by the pandemic's outbreak. The monetary authority adopted accommodative monetary policies and

offered a targeted ₦3.5trillion loan support to some sectors. These efforts should have prevented the economic crisis from occurring. Economic agents could not freely engage in economic activities for fear of contracting the COVID-19 disease that was spreading very fast at the time. Despite the adequacy of the paper, it fails to empirically collect data and analyze it to back the conclusion and support the recommendations made by the paper. Hence, the paper was conceptually developed. Since the study rely on the findings of others it may not show the true position of the affairs as at that time. Therefore, the current study will examine the phenomenon and empirically come up with a result and support the study's claim.

Omodara et al. (2020) examined the impacts and responses of global pandemic on business performance. The study introduced a framework that captures the impacts and potential responses to the ongoing pandemic. The study conducted telephone interviews with ten entrepreneurs who operate enterprises within Nigeria. Data collected for analysis were transcribed, chronologically arranged, coded, and thematically analyzed using NVivo. The findings revealed that, during the pandemic, businesses experienced limited opening hours, a decline in their clients' patronage, lower turnover, and employee de-motivation. Accordingly, the study recommends that, business owners should consider re-strategizing their business activities, maintaining connections with clients, and exploiting available support measures. Besides, Gabriel et al. (2020) examined the impact of Covid-19 and the response strategies employed by businesses. Five different economic sectors were considered. The selected firms and sectors are: Hospitality (Hotel presidential), Health care (New Yale Haven Hospital), Manufacturing (Innoson Vehicle Manufacturing), Finance (Radix Pension Managers) and Oil and gas industries (Seplat Petroleum). The study adopted the cross-sectional survey method and data were generated through desk review of secondary materials, telephonic interviews, and social media chats. The population of the study comprised fifteen (15) top echelon members of the focused organizations. The findings were reported thematically with literary discussions. It was revealed that COVID-19 negatively affected business operations in most of these organizations, resulting in loss of substantial revenue to the firms. The study further revealed that the predominant response strategies of most organizations included improved communication, diversification and innovativeness. The study therefore, recommended that there is need for firms to develop and sustain effective response strategies that will enable them mitigate the impact of Covid-19 and its associated uncertainties. The paper makes use of different sectors of the economy which may bring inconsistency in the result. Hence this study will be conducted in more sector-specific.

A study conducted on Chinese economy by Shen et al. (2020) examined the impact of COVID-19 on corporate performance. Using the financial data of listed Chinese companies, the study found that, COVID-19 has a negative impact on firm performance. The negative impact of COVID-19 on firm performance is more pronounced when a firm's investment scale or sales revenue is smaller. The findings from the study further shows that, a negative impact of COVID-19 on firm performance is more pronounced in serious-impact areas and industries. These findings are among the first empirical evidence to examine the association between COVID-19 pandemic and firm performance. The study was conducted in the very developed economy (China), where the economic indices will be different from that of Nigeria. Therefore, the current study will be conducted in Nigeria in order to address the contextual gap identified.

Obrenovic (2020) explores key factors impacting enterprise operational sustainability and the ability to transcend adversity during different stages of a crisis, such as the COVID-19 pandemic. The study was conducted in Crotia and also draws from the Theory of Crisis Management Teams, the Stakeholder Theory, and the Distributed Cognition Theory to build an "Enterprise Effectiveness and Sustainability Model during Pandemic." Existing theoretical background joint with contemporary success case studies helped to identify the essential aspects and strategies enterprises should employ to survive and thrive during crisis and post-crisis. The study also conceptualized an innovative approach to COVID-19 from the perspective of organizational characteristics, operations, digital transformation, and financial planning. The findings suggest that enterprises having distributed leadership, workforce and adaptive culture sustain business operations during a pandemic. The current study tends to bridge contextual gap from Croatia to Nigeria.

2.4 Research Framework

Figure 1 depicts the relationship between the independent and the dependent variables for the study. COVID-19 is the independent variable comprising of health impact and economic impact of COVID-19. MSMEs performance is the dependent variable. Therefore, this study will examine the effect of covid-19 on the performance of micro, SMEs in Northeast Nigeria.

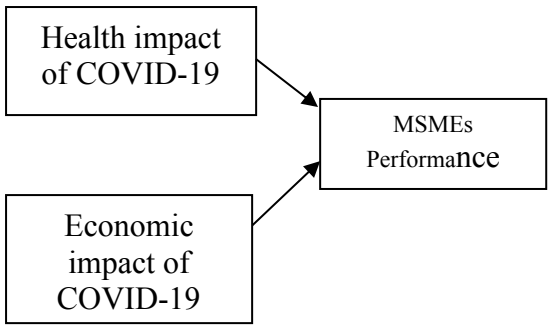

Figure 1: Conceptual framework

3. Methodology

3.1 Sample and Data Collection

This research adopted a survey research design which involves the use of questionnaires administered to the targeted respondents to obtain their views on "the effect of COVID-19 pandemic on MSME performance in Northeast Nigeria". The population of this research comprises of the one hundred and thirteen (113) Micro, Small and Medium Enterprises (MSMEs) in Bauchi metropolis. However, ninety (90) MSMEs made up the sample. Convenient sampling technique was used to arrive at the sample size. Convenience sampling is a type of non-probability sampling in which items are sampled simply because they are "convenient" sources of data for researcher. In convenient sampling, each element in the population has a non-zero chance of being selected through the use of a random selection procedure. This study conveniently collected data based on the willingness and ability to respond to the instrument by the enterprises. The data is collected from the selected MSMEs through the use of structured questionnaire that is administered to the respondents. Among the administered questionnaires, a total of 83 were filled and returned by the respondents. Accordingly, the analysis conducted for the study was based on the data solicited from the respondents via the questionnaires.

3.2 Techniques for Data Analysis

The study conducted both descriptive and inferential analysis. A descriptive analysis is conducted to show the distribution of the data. For the inferential analysis, correlation and regression analysis were conducted. Correlation analysis was conducted to determine the strength and the direction of the relationship between the dependent and independent variables. For the regression analysis, multiple linear regression analysis was conducted to determine the relationship between variables. This study adopts multiple linear regression because it allows adjusted coefficient of determination (adj. R2) as a unit to determine and measure the

relationship between independent variables (health impact and economic impact) and the dependent variables (financial performance). The data was analyzed using Statistical Package for Social Sciences (SPSS version 23). The justification for using this statistical tool of analysis is to make a reliably error free data analysis and presentation of results.

3.3 Model Specification

The basis for this model specification is hinged on the theoretical framework which sought to explain the relationship between covid-19 pandemic and financial performance of micro, small and medium enterprises in Northeast Nigeria. The study used multiple linear regression where financial performance was regressed against health and economic impact of covid-19 pandemic. The model is mathematically represented as follows:

$FP = \beta_0 + \beta_1 HIMP_i + \beta_2 EIMP_i + \mathcal{C}$

Where:

β0 = Constant term
FP = Financial Performance
HIMP = Health Impact
EIMP = Economic Impact
$\mathcal{C}$ = error term

4. Results and Discussions

This section presents and discusses the result of the study. This includes presentation of the result of descriptive analysis for the variables adopted for the study. The results of correlation and regression analysis were also provided. This analysis determined the direction of the relationship between the independent variable and dependent variable in the study.

4.1 Descriptive Analysis

Response Rate

A total number of 90 questionnaires were distributed to the selected respondents in the sampled enterprises. However, as shown in Table 4.1, out of 90 distributed questionnaires, 83 were returned for the analysis which represents the response rate of 92.3 percent. Furthermore, from the 83 returned questionnaires, additional 3 other questionnaires which represent 3.3 percent of the total questionnaires were rejected due to the incomplete information given by the respondents, which makes the valid and useful questionnaires to be 80 representing 88.9 percent for the analysis. Hence, the valid retained and useful questionnaires are 80 representing 88.9 percent of the total questionnaire distributed. The respond rate is considered appropriate by the opinion of Sekaran (2003) who argued that, 30 percent of the response is acceptable for surveys. Likewise, the present response rate is considered sufficient based on the recommendation that a sample size in a given study should be between 5 and 10 times the number of study variables (Barlett, et al, 2011). Since the present study has only 3 variables, so, a sample number of 30 could be appropriate for the analysis. Consequently, a total number of 80 questionnaires are appropriate and suitable for this study's analysis.

Table 4.1 Response Rate

Items	Frequency	Percentage
Distributed	90	100.0
Returned	83	92.2
Rejected	3	3.33
Valid	80	88.9

Source: field survey 2021

4.2 Demographic Information of the Respondents

This section presents and discussed the demographic information of the respondents comprising; gender, age, educational qualification, type of business and years of business, experience of the respondents. Accordingly, Table 4.2 shows all the demographic information of the respondents. From Table 4.2, the result shows that 52 respondents representing 65 percent are male while 28 respondents representing 35 percent are female. This indicates that the majority of respondents in the selected enterprises are men. For the age category, age group of between 25 to 35 years dominate the sample with the total of 27 (representing 33.8 percent) followed by

the age group of 35 to 45 years with 24 (representing 30 percent), then the age group of less than 25 years with the total of 21 respondents (representing 26.2 percent). The respondents that are 45 years and above are 8 representing 10 percent. This inferred that, age group of 25 to 35 years dominate the sample and it is believed they are matured enough to provide accurate and reliable information for this study. In terms of educational qualification, it was found that holders of NCE or ND certificate dominate the sample with total of 39 respondents representing 48.8 percent, followed by BSc holders with 21 respondents representing 26.2 percent, then SSCE certificate holders with 17 respondents representing 21.3 percent. For masters, 3 respondents representing 3.7 percent are found, while there is no PhD holder as a respondent in this study. This implies that, the respondents are knowledgeable enough to respond to the instrument of this study and provide reliable information.

For the type of business category, schools were found to have the majority respondents with 23 respondents representing 28.7 percent. Both hotels and services were found to have 20 respondents representing 25 percent each. Finally, manufacturing businesses with 17 respondents representing 21.3 percent of the total responses. The last in the demographic characteristics of the respondents is the years of business experience, where the study found that, 12 respondents representing 15 percent have been in the business for less than five years, while 46 respondents representing 57.5 percent were in the business for more than five years but less than ten years. However, 18 respondents representing 22.5 percent are in the business for more than 10 years but less than 15 years and finally, 4 respondents representing 5 percent were in the business for more than 15 years. This implies that, majority of the respondents are in the business for a longer period of time and they are knowledgeable enough in the business to provide reliable information.

Table 4.2 ***Demographic Information of the Respondents***

Demographic Variables	Frequency	Percentage%
Gender		
Male	52	65.0
Female	28	35.0
Age range		
Less than 25 years	21	26.2
25 – 35 years	27	33.8
36 – 45 years	24	30.0
45 years and above	8	10.0
Educational qualification		
SSCE	17	21.3
ND/NCE	39	48.8
BSc.	21	26.2
Masters	3	3.7
PhD	-	-
Type of business		
Manufacturing	17	21.3
Services	20	25.0
Hotels	20	25.0
Schools	23	28.7
Year of business experience		
Less than 5 years	12	15.0
4 – 10 years	46	57.5
11 – 15 years	18	22.5
15 years and more	4	5.0

Source: field survey 2021

4.3 Data Screening

Data screening is a process undertaken to ensure the accuracy of the keyed data and to make sure that the data do not produce distorted correlation (Tabachnik & Fidel, 2007). Cleaning of data is vital in carrying out any multivariate analysis. This is because, the data screening help in providing quality and meaningful outcome (Pallant, 2011). Besides, Hair (2007) argued that initial data screening helps researchers to identify any possible violation of the main assumption regarding the use of multivariate analysis. In this study, the data was clean to ensure that is meaningful for analysis. The following preliminary data screening were conducted (i) analysis of missing data (ii) assessment of outlier and (iii) multicollinearity test.

4.3.1 Detection of Missing Data

Checking for missing data is one of the steps usually taken by researchers to ensure the collected data is suitable for analyses. This is necessary because, conducting analysis with missing data could lead to inaccurate findings (Hair et al., 2010). Missing data normally happen during data collection when the respondents mistakenly or deliberately fail to respond to one or more questions. For this study, proper screening was done in original SPSS data set to check possible missing values. The result shows that out of 960 data points 12 (1.25 percent) were missed. To be precise; health impact, economic impact and MSMEs performance have 5, 3 and 4 missing data respectively. While there is no logical standard on the percentage of missing value in data making a valid statistical inference, some researchers such as Tabachnik and Fidel (2007) argued that a rate of 5 percent or less missing value in a given data set is non-significant. Since the percentage of missing data in the current study is less than 5 percent, then the mean substitution method was applied to replace the missing values as suggested by many researchers including Hair et al. (2010). Accordingly, Table 4.3 demonstrates the randomly missing values in the current study.

Table 4.3: Total percentage of missing value

Latent variables	Number of missing values
Health impact	5
Economic impact	3
Performance	4
Total	12
Percentage	1.25%

Source: field survey, 2021

4.4 Multicollinearity

Multicollinearity occur when there is high correlation between two or more independent variables (Hair et al., 2006). According to Sekaran and Bougie (2010), multicollinearity is a situation in which the association between independent variables in multiple regression model are so high. One of the assumptions of multicollinearity is that, the association between independent variables should not be perfect or extremely high (Tabachick & Fidell 2007). This means that, the association between independent variables must exist but multicollinearity will set in where the relationship is so high. There are two basic ways of detecting multicollinearity in a data set. The first is the use of correlation matrix (Sekaran & Bougie, 2010; Hair et al., 2006) and second is the use of Variance Inflation Factor (VIF) (Pallant 2007). Sekaran and Bougie (2010) argued that a correlation of 0.7 and above is high; while to some researchers such as Burns and Bush (2000), A score of 0.80 is indication of multicollinearity. Besides, Hair et al. (2006) recommended that multicollinearity among the independent variables occurs only when the value of correlation reach 0.9. Against this background, the present study conducted a person correlation among all the variables. The result is as depicted in Table 4.4

4.4.1 Correlation Matrix

Table 4.4 presents the correlation matrix among the exogenous Latent Construct.

The result shows that no multicollinearity exist as all the independent variables scores are less than the cut-off values of 0.9 (Hair et al., 2010). On the other hand, the test of VIF and tolerance were also conducted to check multicollinearity in the data set. In line with Kline (2005), which affirms that data will be free of multicollinearity when the value of VIF is less than 10 and tolerance value is more 0.10.

Table 4.4 ***Correlation Matrix of the Exogenous Latent Construct***

No	Latent Construct	Health impact	Economic impact	Performance
1	Health impact	1		
2	Economic impact	.134	1	
3	Performance	.213	.167	1

Note: *. Correlation is significant at the 0.05 level (2-tailed).

Table 4.5 shows the value of VIF and tolerance of the present study. As depicted in Table 4.5, the results of the VIF and Tolerance value shows the absence of multicollinearity between the exogenous Latent Construct as all the VIF values were less than 7 and tolerance values exceeded 0.20 as suggested by Hair et al. (2011). Therefore, it can be concluded that, there is no present of multicollinearity in the data set.

Table 4.5 ***Tolerance and Variance Inflation Factor (VIF)***

Independent variables	Collinearity Statistics	
	Tolerance	**VIF**
Health impact	.742	1.214
Economic impact	.874	1.711

Field survey 2021

4.5 Regression Analysis

This section presents the regression analysis of the study. The regression results as depicted in Table 4.6 shows an R-square value of 0.639, which means that 63.9 percent changes in MSMEs performance can be explain by health impact and economic impact. The value further reduced to 63.6 percent when the adjusted R-square value of 0.636 is considered, leaving the rest to other factors not covered in the model. The significant value of .000 is far less than the 0.05 level of significance, which indicates the fitness of the model.

Table 4.6 ***Regression Analysis***

Model	Unstandardized Coefficients		Standardized Coefficient	t	Sig.	Collinearity Statistics	
	B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
(Constant)	2.762	.422		4.047	.000		
HIMP	-.129	.062	-.093	-.253	.000	.742	1.214
EIMP	-.061	.088	-.038	-.519	.000	.874	1.711
R-Coefficient							**-0.216**
R-Square							**0.639**
Adjusted R^2							**0.636**
F-Value							**0.000**

Dependent Variable: MSMEs performance

Besides, Table 4.6 also present the regression coefficient of health impact of covid-19 pandemic and MSME performance. The regression result is reflected by a negative coefficient value -.129 (t = -.253 p = 0.000) significant at 1 percent. This result suggests that, there is significant but negative relationship between health impact of covid-19 pandemic and MSMEs performance in Northeast Nigeria. Therefore, the higher the level of the health impact of the pandemic, the lower the performance of MSMEs in Northeast Nigeria and vice versa. Accordingly, the first null hypothesis which stated that health impact of covid-19 pandemic does not have significant effect on MSMEs performance in Northeast Nigeria is rejected and the alternate hypothesis which stated that that health impact of covid-19 pandemic has significant effect on MSMEs performance in Bauchi state is accepted (P = 0.000< 0.05). This study therefore concludes that; health impact of covid-19 pandemic has significant effect on MSMEs performance in Northeast Nigeria.

Similarly, the regression coefficient of economic impact of covid-19 pandemic as depicted in Table 4.6 negative and statistically significant at 1 percent -0.061 (t = -.519 p = 0.000). This result implies that, there is significant but negative relationship between economic impact of covid-19 pandemic and MSMEs performance in Northeast Nigeria. This suggest that, the higher the level of the economic impact of the pandemic, the lower the performance of MSMEs in Northeast Nigeria and vice versa. Accordingly, the second null hypothesis which stated that economic impact of covid-19 pandemic does not have significant effect on MSMEs performance in Northeast Nigeria is rejected and the alternate hypothesis which stated that that economic impact of covid-19 pandemic has significant effect on MSMEs performance in Northeast Nigeria is accepted. Hence, this study concludes that, economic impact of covid-19 pandemic has significant negative effect on MSMEs performance in Northeast Nigeria.

5. Conclusion and Recommendations

5.1 Conclusion

The objective of this study is to examine the impact of COVID-19 pandemic on MSMEs performance in Northeast Nigeria. The area covered by the study is Bauchi state. The study found that COVID-19 outbreak has a significant negative impact on the performance of Micro, Small and Medium Enterprises. The study found that covid-19 pandemic has led to decrease in investment and reduced the total revenue. Accordingly, the study suggests that, government should come up with a response plan for business-owners to adopt in order to mitigate the impact of the pandemic on the performance of MSMEs in Northeast Nigeria. Also, the study observed that, industries in hospitality business were severely affected by the pandemic, such as tourism, catering and transportation. Hence, they experience a significant decline in their activities during the era of Covid-19. Besides, the pandemic has a negative impact on production, operation, and sales of manufacturing industries as well, which is eventually reflected in the negative return rate. For service industries, the negative impact is much more pronounced in high-affected areas as strict quarantine measures limit consumptions and productions, sending a negative signal to managers and their stakeholders. From the perspective of COVID-19 pandemic prevention, the quarantine measures across the studied area effectively reduced the spread of the pandemic. However, the production by different levels of enterprises and consumptions by the citizens are limited at the same time, leading to a sluggish market and declining performance of the enterprises in the state level and the region at large. The pandemic exerted great downward pressure on the region's macro economy. Fortunately, the impact has a large scope but with a short duration. If the

pandemic can be effectively controlled, the severe negative effect will continue to go down and will one day become a history to remember.

5.2 Recommendations

The outbreak of this pandemic has underscored the need for multiple sources of income not only for the entrepreneurs but also for all the citizens. Many people have lost their jobs due to the pandemic and some people who depend on one business as a source of livelihood have lost their business. One of the lessons learnt from this pandemic is that, relying on one source of income is the same thing as putting all your eggs in one basket and this could be disastrous when that source of income is lost. Therefore, having multiple sources of income is important because when one source of income is affected, there would be other source(s) to fall back on. For paid-employees, it is advisable to build other sources of income that can be combined with their main jobs.

The next stage recommendation of this study is focused on policy makers. Therefore, Nigerian policy makers should pay attention to three areas of the economy for economic and structural reform. Firstly, as a nation, policy makers should introduce economic reforms to diversify the economy and reduce Nigeria's dependence on revenue from crude oil export. Secondly, policymakers in Nigeria should invest in health care infrastructure to improve the ability of the national health system to withstand the outbreak of contagious diseases. Thirdly, there is also a need to build appropriate digital infrastructure to facilitate the transition from 'face-to-face' business activities to a 'digital or online' business activities, which can help to grow the digital economy. Above all, policy makers should use legislation to create a robust social welfare safety net for all citizens particularly for unemployed citizens and poor households.

5.3 Limitation and Frontier for Future Studies

The limitation of this study arises from the use of a small sample size of Micro, small and medium enterprises in Bauchi metropolis. Future studies are encouraged to include MSMEs from other states of the Northeast region with the view a more representative sample. Besides, comparative study needs to be conducted in order to know whether there is any improvement compare to the previous year when the pandemic is at epitome stage. This also restrains the study from making statistical generalizations to the population of the entire MSMEs in Bauchi state. However, that gap is useful as it will allow other scholars to extend and evaluate the findings of this study using large samples that are representatives of the proposed population. Furthermore, scholars could also explore the way COVID-19 pandemic affected businesses in other regions within the country or any other developing countries that possess a similar social, spatial and institutional context to that of Nigeria.

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