

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

As recorded by World Health Organization (WHO), coronavirus (COVID-19) was reported first in the city of Wuhan, China, in December 2019 (Adhikari et al., 2020; Adnan, Khan, Kazmi, Bashir, & Siddique, 2020; Unhale, Ansar, Sanap, Thakhre, & Wadatkar, 2020) afterwards, Nigeria recorded its first case of COVID-19 on February 27, 2020, and has subsequently suffered three distinct waves of infection, peaking in June 2020, January 2021, and August 2021 respectively (Lain, & Vishwanath, 2021). The COVID-19 pandemic arrived in Nigeria at a time of growing optimism about the country's future prospects. Nigeria has faced similar epidemic before, with Ebola, and other dreadful infectious diseases, comparatively the structural imperative for COVID-19 presents a huge challenge, particularly to the economic development, but the fundamental sense of confidence remains. Like every developing country, combating a pandemic poses a huge threat to the development plan. However, contending COVID-19 outbreak was a paramount task for Nigeria to secure the lives of her citizens.

In alignment to the safety measures recommended by World Health Organization, Nigeria had to adopt and implement various preventive public health measures, to curb the sporadic spread of COVID-19. Some of these measures include but are not limited to individual practices, such as regular hand washing with soap and disinfectant, wearing of face masks in public places, utilization of hand sanitizers, and enforcing social distancing especially in public crowded places. Further public measures such as, widespread testing, isolation of patients, contact tracing, and quarantine were instituted. This came alongside community-wide containment which

include partial or complete lockdowns of the economy, restrictions on travel and movement, and banning or limiting public gatherings (Andam et al., 2020; Wilder-Smith et al., 2020).

In response to this critical demand that comes with the implementation of COVID-19 safety measures, funds were gathered from both public and private sources to navigate the pandemic at both the national and subnational levels in Nigeria, most of which were externally sourced with limited domestic funding. Peculiar funding means were the Nigerian government, which approved US\$2.3 million for the management of the COVID-19 pandemic as its fiscal stimulus package in April 2020 (Adejumo, 2020; Ibrahim & Olasinde, 2020); N10 billion (US\$26.32 million) was also granted to the Lagos State Government (Omilana, 2020) and in same vein, N6.5 billion (US\$17.11 million) emergency intervention fund was availed to the Nigeria Centre for Disease Control (NCDC) (Iroanusi, 2020), for prompt COVID-19 response. For a fact, some of these funds were either reserves or budgets appropriated for various other economic sustainability projects, while loans were borrowed to commiserate a large percentage of the funding; this was due to the poor infrastructural development of the public health system and social service. Nigeria barely had the enablement to curb COVID-19 at their disposal without the incessant funding.

In commemorating the partial or complete (in some states of the federation) economic lockdown due to the public health measures enforced, most businesses ranging from MSMEs (Micro, Small and Medium-sized Enterprises), to large enterprises, local, international and global corporations in Nigeria, had to halt all activities and services to their respective customers that breach the COVID-19 safety health measures. Businesses with less physical or no essential activities adapted to remote system of work and services, while those who couldn't, were short lived of their operating capital since the source of revenue has been held bound by the pandemic. Causalities of the undeniable consequence of the limited physical transactions emanating from the COVID-19 outbreak were laid bare by the obvious factors. Hence, leading to the lay off and dismissal of employees from different sectors of the economy; micro and small businesses

experienced a larger decline in business activities compared to medium and large firms, hence lots of 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). Since production were limited, concurrent supply failed the increasing demand of commodities. This heavily jeopardized economic growth and development; (NBS, 2017) SMEs contribute 48% of national GDP, account for 96% of businesses, and 84% of employment in the country.

The surge in unemployment increased and the economic downturn became so obvious as the percentage change in inflation rate increased from January to March, and from April to June, which indicates a worsening economic situation. While there were high stakes of a severe economic depression, the pandemic brought about various disruptive technologies, reforming the odds of technology trends and modifying the adoption, accessibility, and availability of digital technologies. The advancement of digital technology became a censorious aspect in enabling, facilitating and continuing the connectivity of our regular lives and our relationship with people more than ever before.

Ergo, the need to access a reliable digital infrastructure has become increasingly important, and certain aspects of ICTs (Information Communication Technologies) are critical in a period of isolation, such as increased ICT opportunities from telework, telemedicine, food delivery and logistics, online purchases and transactions, cash payments, remote learning and entertainment. Hence, if these demands were to be met and the requirements diversified, then, reliable conglomerate innovations have to precede the global epidemic, COVID-19.

1.2 Statement of the Problem

With the unexpected emergence of COVID-19, Nigeria had an economic crises which still leaves the nation's economy in a deep shock, yet to recover. Symmetrically in the global interface,

innovations that significantly alters the way that consumers, industries, and businesses operate recognizably became superior over the conventional process and methods. These disruptive technologies were less evident and functional in Nigeria prior to the pandemic. The implications of COVID-19 to the economic development in Nigeria, proves to a great extent the standard of Nigeria's attribute, policy and approach to her structural and economic components.

The dilemma which trailed this study, is the inefficiency of Nigeria's economic system, strategies and approach to the development of her economy which is characterized by the gross influence of COVID-19 and disruptive technology as defined by their implications. Despite how disruptive technology is changing the way various sectors of the economy functions which is essential for a prospective development of Nigeria's economy amidst the current economic crisis, Nigeria is yet to wholesomely adopt these technologies. The implications of these two factors vis-à-vis this study, will determine the significance of Nigeria's economic development approach; to developing the economy, presently and in the future.

1.3 Objectives of the Study

To discover the implications of COVID-19 and disruptive technology to the economic development in Nigeria.

To understand how the implications (factors) defines, and affects the economic development in Nigeria.

To analyse fundamental strategies apropos of the implications of COVID-19 and disruptive technology, vital for economic development in Nigeria.

1.4 Research Questions

What are the implications of COVID-19 and disruptive technology for economic development in Nigeria?

Considering the variants of essential economic development pertinent to this study, how did COVID-19 outbreak and disruptive technology influenced the development in Nigeria economy?

What are the effects of these implications to the development of Nigeria's economy?

1.5 Scope of the Study

This study will focus on the implications of COVID-19 and disruptive technology for economic development in Nigeria. Stressing mainly on the influence of COVID-19 and disruptive technology for economic development and how it affects Nigeria's economy distinctively.

1.6 Significance of the Study

Specifically, this research will benefit micro, small, and medium enterprises in understanding the effect of disruptive technology and help them in deciding how best they should employ these innovations to develop the economy. Large, international and global enterprises may also consider the result of this research to review their current technological innovation, and how efficient there are; this should assist in guiding their decision to the adoption of disruptive technology for better advancement of the economy. It is also relevant to the Nigeria Government as it will enlighten and enrich their knowledge on the efficiency of the economic development system and how best to adjust the policy guiding economic development to relatively tally with the adoption of disruptive technology.

In this regard, this study will give awareness to Nigerians on how COVID-19 and disruptive technology currently influences economic development. Moreover, through the analysis made by

this study, Government, businesses and various active sectors of the economy will have a new approach and perspective on how to navigate the influence of these implications.

1.7 Operational Definition of Terms

Pandemic: A disease outbreak, or epidemic of a disease that spreads across countries and even continents. It affects many people and takes lots of lives.

Disruptive Technology: This is an innovation of a technology which sweeps away older process, product, or habit. It usually has superior attributes that are immediately obvious.

SMEs: Small and medium-sized enterprises (SMEs) are non-subsidary, independent firms which employ fewer than a given number of employees; these are businesses whose personnel and revenue numbers fall below certain limits.

GDP: Gross domestic product (GDP) is a measure of overall domestic production, it works as a comprehensive scorecard of a given country's economic health. This defines the total monetary or market value of all the finished goods and services produced within a country in a specified period of time.

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 COVID-19 In Nigeria

Coronavirus disease 2019 (COVID-19) is characterized as an epidemic which is brought about by a novel coronavirus currently called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; previously called 2019-nCoV), a gradual to serious respiratory infection that is brought about by a coronavirus (Severe acute respiratory syndrome coronavirus 2 of the genus Betacoronavirus), is sent essentially by contact with irresistible material (like respiratory drops), and is portrayed particularly by fever, cough, and windedness and may advance to pneumonia and respiratory issues.

As reported by the Nigeria Centre for Disease Control (2020), Nigeria recorded its first case of COVID-19 on 27th February 2020. This case was announced in Lagos, which eventually became the virus's epicentre in Nigeria. As of 25th May 2021, 166,098 cases have been confirmed and 2,071 deaths have been recorded nationwide. In line with the increasing risk of a surge in cases, the Presidential Steering Committee (PSC) re-instituted the enforcement of the COVID-19 Health Protection Regulations (Phase 4). Effective from 11th May 2021, event centres, bars and nightclubs must remain closed until further notice and restaurants are to provide eat-in dining at 50% capacity and provide takeaways, drive-throughs and home delivery. Further restrictions were enforced, specifically on mass gatherings outside workplace settings, with a maximum number of 50 people in enclosed spaces such as wedding ceremonies, party, funerals and every other gathering attributed to that aspect. Extensively, policies such as regular temperature checks and the "No-Mask, No-Entry" were instituted in all public gatherings, all inclusive of office settings, businesses environments, places of worship, relaxation and recreational provisions,

super markets and motor parks. These measures are to curb sporadic spread of the disease since spike in new cases were dreaded while the nationwide vaccination progresses.

2.1.2 Disruptive Technology

According to Corporate Finance Institute (CFI) (2022), the term disruptive technology was invented and instituted by a professor at Harvard Business School, Clayton M. Christensen. Disruptive technology is a technology innovation that affects the way businesses, consumers, or industries function. This enhances the standard and functionality of activities executed by various economic sectors to anchor better services and development to both consumers and economic growth. Disruptive technology often attracts a limited audience, performance issues, and unproven practical application. These innovations do not occur frequently; nonetheless, they are better reliable for long-term use. Innovations such as artificial intelligence, augmented reality, internet of things, blockchain technology, telemedicine, virtual education and e-commerce are some amazing disruptive technologies significantly influencing the future.

Disruptive technology is also referred to as a disruptive innovation, hence it helps create a new market and value network, and eventually goes on to disrupt an existing market and value network.

2.1.3 Correlative Index Between COVID-19 and Disruptive Technology

New innovations can possibly create an extreme change in the manner public organizations procure. During the COVID-19 outbreak, organizations which were utilizing digital technology had the option to respond better and navigate the effect of the epidemic on economic operations.

Emphasis from the calculations made in accordance to analytics and statistics from GSMA Intelligence (2020), quarterly growth rates during 2019 indicates that prior to the COVID-19 pandemic, individuals, businesses, and governments increasingly relied on disruptive technologies, especially digital platforms, for a variety of activities including financial transactions, commerce, logistics, education, and health care. COVID-19 outbreak exposed a huge division between high-income, upper-middle income and low income countries in digital availability and utilization of technological innovations to help the response to the COVID-19 pandemic. Irrespective of the bridge, disruptive technologies are enabling various responses to the COVID-19 pandemic in emerging markets.

The contribution of technology companies to COVID-19 responses varies across sectors and is dependent on the presence of relatively developed digital ecosystems. In addition, their contribution is linked to their ability to quickly pivot toward new services and models, and their ability to expand into adjacent markets and to reach the underserved in a more cost-effective manner than conventional businesses.

Analysis from the International Finance Corporation (2022), shows that technology companies in emerging markets are attracting investor interest even at times of capital outflows from emerging markets. For instance, 54Gene, a company with speciality in the collection of genetic samples in Nigeria, raised series A equity in mid-April worth \$15 million in their 2years of existence. Despite uncertainties surrounding the economic outlook after the COVID-19 pandemic, emerging markets are expected to encounter an acceleration in the adoption of disruptive technologies and a proliferation of online business models and platforms. In 2019, mobile internet traffic per user, a proxy for the usage of digital platforms, was growing at a quarterly rate of 12 percent in high-income countries and 10 percent in middle-income countries. Governments have nominated digital platforms, big data analytics, and artificial intelligence to provide social welfare programs, which are often paid out using mobile money.

Worthy to note, with respect to offering solutions to the effects and limitations influenced by COVID-19, disruptive technologies adopted were online health care; advanced technology to deliver food and medications; artificial intelligence that screen people's temperatures; blockchain-based epidemic monitoring platforms; online education platforms and remote working solutions; robotics and 3D-printing technologies to manage social distancing in manufacturing plants.

Notwithstanding the emergence of the COVID-19 outbreak, the first few months of 2020, however, experienced an increased in the usage of innovative technologies. In comparison with the significance of disruptive technology in the first quarter of 2019, the usage of mobile internet grew faster in the first quarter of 2020 as citizens, governments, and businesses experienced dramatic changes in how they communicate and relate as a regards to the lockdowns and limitations in the number of gatherings.

2.1.4 Economical Development

Justin (2017) describes the phenomenon of economic development as anchorage of technological innovation upholding economic productivity specially on infrastructural improvements.

Economical development still remains a keen process of structural transformation with continuous technological innovation and industrial upgrading, thus, increasing labor productivity, and accompanied improvements in infrastructure and institution, which enables the reduction of transaction costs. The general aspect and concept of economic development relies on programs, policies, and activities that seek to improve the economic well-being and quality of life for a community or a distinct society. Industrial policy is fundamental for the public authority of a middle-income nation to focus on the utilization of its limited resources to facilitate technological innovation and industrial upgrading by overcoming inherent externality and coordination issues in structural transformation.

Shalom (2014) emphasized on the dual impact of economic development; stressing on the basic essence in reduction of dependent individuals on the extended family (group), and the increase in individual resources. This envelops people opportunities and sources to make decisions enabling them to autonomy and take personal responsibility. Societies require diverse skills, knowledge, interests, and innovativeness to cope successfully with the various tasks, new difficulties, and speed of progress that comes with development.

The industries in a middle-income country like Nigeria may be classified into five different types, depending on their distance to the global technology frontier: catching-up industries, leading-edge industries, comparative advantage-losing industries, short innovation cycle industries, comparative-advantage-defying strategic industries. This should influence the design of industrial policy simultaneously. From a societal point of view, economic development makes it desirable to cultivate individual uniqueness and responsibility. Hence, economic development fosters cultural autonomy and egalitarianism and curbs embeddedness and hierarchy.

2.1.5 Nigeria's Economy apropos of Micro, Small and Medium Enterprises

With the most recent legal data, in Nigeria, there are 41, 543, 028 ventures regarded as Micro, Small and Medium Enterprises (MSMEs) representing 99.8%, 0.17%, and 0.004% respectively; with Lagos state, Osun state, and Oyo state accounting for the most number of SMEs as stated by the National Bureau of Statistics (2017). Reports from National Bureau of Statistics (2017) shows that SMEs contribute 48% of Nigeria's gross domestic product, representing 96% of organizations, and 84% of employment. Micro enterprises are little organizations with fewer than 10 workers and have under 5 million Naira in resources barring lands and structures. Obviously, a greater part of micro businesses are sole proprietorship. SMEs, in any case, have more dispersed possessions with 65% as sole ownerships, 21% as private limited liability companies, 6% as religious proprietorships, and 5% as partnership. With the bigger number of businesses in Nigeria being micro enterprises, any slight depression or economic crisis will inescapably affect various sectors and living standards of numerous citizens.

2.2 Empirical Studies

The empirical review is categorised into; economic activities, before, during and after COVID-19 pandemic and circular flow of income as well as economic activities in utilization of disruptive technology, with a basic focus on digital technology.

2.2.1 Pre-COVID-19 Pandemic (Economic Activities and Developments)

The Nigerian economy stalled in the first quarter of 2019 as actual GDP growth rate drop to 2.1%¹, from 2.38% in 2018Q4. Aggregate inconsequential GDP drop by 9.75% to ₦32 trillion in the review quarter, and growth ratios in both oil and non-oil sectors slowed. Real GDP improvement in the oil sector was -2.40% in Q1 2019 implying a reduction by -0.79% points relative to the rate reported in the preceding quarter of 2018. Likewise, at 2.47% growth rate in real periods, the non-oil sector constrained narrowly from the 2.7% reported in 2018Q4. The comprehensive economic performance in 2019Q1 drop low of the CBN's 3% growth projection, and reflects decelerated economic activities potentially orchestrated by the uncertainties and lacklustre enactment of policies during the election time in 2019Q1. Additional projections from the IMF, shows to an extent that growth is expected to stabilize at around 2% in 2019. The consumer price index (CPI) which measures inflation heightened to 11.37% (year-on-year) in April 2019, overturning three successive months of reduction.

This is a marginal 0.12% increase than the rate reported in March 2019 (11.25%). Nonetheless, while the inflation on food was increasing, there was a core moderated inflation. The inflation on food went from 13.45% to 13.7%, which was caused by the rise in the cost of basic food stuffs such as fish, oil, bread, meat, fat, bread, cereals, milk, fruits, vegetables, cheese, egg, potatoes, yam and other tubers. There was a moderation of core inflation to 9.3% during the month. In totality, the headline inflation rate was driven mainly by the shortages of food items most especially during the Easter festivities, commencement of the the 4th planting season.

Considering the nature of deep food insecurity in the food-producing states such as Adamawa, Borno and Yobe, the food inflation persisted.

An MPC meeting held by the Central Bank of Nigeria in 2019, maintained the benchmark interest rate, the Monetary Policy Rate (MPR), at 13.5%. All of the other parameters were also retained around the MPR: the asymmetric corridor of +200/-500 basis points in addition to the cash reserve and liquidity ratios at 22.5% and 30% accordingly. Reports from Apex bank, despite the current slight inflation increased an upward review calls of the rate, with a primary focus of increasing credit to essential and precedential sectors of the economy which would be limited thus, jeopardizing the fragile state of the economy. In same vein, a cascading review (loosening) could worsen inflationary pressures resulting to exchange rate pressures. Thus, the best state to hold rates showed the Apex bank's outlook on evaluating potential impression of its intervention policies before deciding on any possible modifications to rates.

2.2.2 Nigeria Economy in the Peak of COVID-19 (Outlook on the basic sectors of Nigeria's economy)

Prior to the COVID-19 outbreak in Nigeria, the economy of Nigeria was already unstable, as the country was antecedently dealing with non-COVID-19 related issues which were heavily influencing the economical development. These include insecurity, falling oil prices, trade restrictions, and public deficit issues, adding to the long-standing development challenges like inadequate fiscal economic policies, unemployment, and inflation. The government's regulatory attempts to prevent the spread of the COVID-19 epidemic exacerbated the country's earlier precarious economic situation. As a such, the GDP growth rate fell below 4% in early 2020, to 1.87 and -6.10% in the first and second quarters respectively, indicating a decline by 0.23 and 8.22% points below the 2.10 and 2.12% recorded in 2019, Q1 and Q2. The economy eventually bounced back during the third quarter of 2020, however, it was quickly rolled into a tailspin by

the end of the fourth quarter, this was when the country was hit by the second wave of the COVID-19 pandemic, which showed beyond doubt to be more fatal than the first.

In 2020, the total GDP was recorded at 432.29 billion from 448.12 billion in 2019. In the first quarter of 2021, GDP was recorded at 0.51%, the Q1 2021 growth was slower than the 1.87% growth rate recorded in Q1 2020 but higher than 0.11% which was recorded in Q4 2020, indicating a gradual but steady growth. Based on the premise of projected recovery in crude oil output and price levels, real GDP growth in 2021 was expected to increase to 2.5 percent and forecasted by the International Monetary Fund to only return to its pre-pandemic level in 2022.

Economic developments and events of 2019 have altered the present and future landscape of the local business environment. Aimee and Akaoma (2021), explored the impact of the pandemic on some vital sectors of the economy such as the oil and gas industry, manufacturing sector, tourism services; transportation, and aviation. ict; information technology, telecommunications, media, and financial technology, financial services, and agricultural industry.

The Oil and Gas industry has been the treasure box of the Nigerian economy, since the country exclusively rely on the sector for revenue from the sales of crude oil, which accounts for almost 10% of the country's GDP, more than 83% of the country's foreign exchange revenue and approximately 70% of government earnings. The Oil and Gas sector just before the COVID-19 pandemic was besieged by a global oil price war between Russia and Saudi Arabia, as well as insecurity caused by vandalization and terrorist activities. The combined effect of the COVID-19 pandemic hit the industry so hard, leading to a consequential reduction in demand for products, as well as plummeting income and prices. In Q4 2020, the industry contributed 5.87 percent to total real GDP, down 19.81 percent from the previous quarter's contribution of 7.32 percent. The contribution of the oil sector to Nigeria's GDP has decreased progressively from Q1 2020 to Q4 2020, at 9.50, 8.93, and 8.73 percent, respectively. To crown it all, in Q1 2021, the contribution of the oil sector to the country's GDP increased to 9.25%.

During this time, crude oil prices plummeted. In the first quarter of 2020, the average price of a barrel of crude oil was 33.91 US dollars. The decline in income caused by the flooring of crude oil prices finally resulted in a reduction in federation revenue for all units, including the federal, state, and local governments. This had a direct impact on the government's ability to fulfil its obligations while simultaneously pursuing growth and development objectives.

The average price of crude oil 42.47Bbl in Q4 2020 increased by 25.22% compared to the average price in Q1 2020. In January 2021, Crude Oil prices improved to 52.20bbl, up 17.82% from the December 2020 price of 48.52 Bbl. Prices soared to about double the average monthly of the previous year to 73.47 Bbl in June 2021, amidst discussions between OPEC and its partners, known as OPEC+, as the energy alliance tried to create an output strategy for the remainder of the year. Crude oil production equally decreased by 11.59%, from 1,579 trillion barrels per day in 2020, compared to 1,786 trillion barrels per day in 2019, lesser than the daily average production of 2.07mbpd prior to the COVID-19 pandemic. Production in the Q1 of 2021 was 1.410 trillion barrels per day comparatively to the 1,434 trillion barrels produced per day as recorded in the Q4 of 2020.

One of the most cogent impact of COVID-19 on the Oil and Gas sector has been to persuade the government of the need to diversify the economy and revenue sources. This realization has prompted the government to take proactive measures to develop policies aimed at improving a variety of other economic sectors, including agriculture, information technology and innovation, social infrastructure, and so on, which has now become the focus of the majority of Nigeria's government-run institutions.

The extent and duration of time which the industry will need to fully recover from the effects of the pandemic is unknown. The fact however, is that if the industry continues on its current trajectory, then it is very well on its way to a strong recovery. Recent trends show that the industry will be faced with intense competition from newly emerging markets, technology, new products, and growing public and government pressure on climate and environmental impacts.

Nonetheless, given its importance in relation to other closely related businesses in the energy sector, it is not expected that the Oil and Gas sector will lose relevance. It is therefore pertinent for the industry to ask questions on how to create value for the new normal that is to come instead of focusing on how to return to its past glory. The latter might be very hard to actualize.

On another hand, prior to the COVID-19 pandemic, Nigeria's agriculture industry contributed approximately 26.95 percent (22.6 trillion) to the country's GDP of 104 trillion dollars at the end of the fourth quarter of 2020. Unfortunately, the pandemic prevented this contribution from having any effect on the economy, as hunger and inflation rates remained high. To address this, the government implemented feeding palliative measures, which were ineffective due to the length of time between pronouncement and execution. Subsequently, in October 2020, when the warehouses containing these palliatives were found, citizens scrambled for their share of the national cake, causing widespread panic, death, and damage to property.

In March 2020, a small bulb of onion was selling for a thousand naira. While Nigerians found it humorous as skits and memes circulated on social media, the food inflation crisis was only getting started. Only time will tell what challenges will be faced in the long term. More demand than supply could push up prices further, and recovery could take more than a few years.

The sector accounted for 22.35 percent of total GDP in Q1 2021, up from 21.96 percent in the first quarter of 2020 but down from 26.95 percent in the fourth quarter of 2020. In real terms, the agricultural sector increased by 2.28 percent in the first quarter of 2021, a gain of 0.07 percent points over the same time in 2020, but a decline of -1.14 percent points over the previous quarter, when it grew by 3.42 percent. The agriculture industry increased at a rate of -28.61 percent Quarter-on-quarter⁵.

Coming to the Financial service industry; during the early phases of the pandemic, there was a clear correlation between the scale of the pandemic and financial and stock market volatility. The bigger consequences of this volatility affected credit markets, banks, and other financial

institutions, and may have resulted in more severe economic downturns if the CBN had not pursued monetary stimulus so aggressively. The CBN maintained its liberal policy to promote credit flow to crucial sectors of the economy in the first half of 2020. The Monetary Policy Committee (MPC) decided to lower the Monetary Policy Rate (MPR) to 12.50 percent from 13.50 percent in May 2020, and also cut the interest rate on its intervention facilities from 9 to 5 percent while at the same time introducing a one-year moratorium on CBN intervention facilities. These measures indicate an approach to strike a balance between encouraging production growth and preserving price stability.

The drop in market indices was primarily due to the pandemic, which had a significant impact on businesses and financial markets, culminating in an unanticipated economic crisis and a flight to safety, and the banking industry, despite being only indirectly affected, saw a significant impact on its operations and revenue-generating activities. Regardless of the fact that banking services can be provided remotely and without direct customer interaction, the sector's role as a provider of payment, savings, credit, and risk management services extends the negative impact of the Covid-19 crisis to banks and other financial institutions. Increased loan demand, lower non-interest incomes, and a decline in the value of bonds and other traded financial instruments are just a few of the effects, all of which resulted in increased bank losses.

The Financial and Insurance Services sector grew by -0.46% , or -21.26% points lower from the rate recorded in the first quarter of 2020, but 3.16% points higher than the rate recorded in the preceding quarter. Quarter-on-quarter growth in real terms stood at 5.78% . The sector's contribution to real GDP was 3.77% , lower than the contribution of 3.81% recorded in the first quarter of 2020 by -0.04% points, but higher than 3.07% recorded in Q4 2020 by 0.70% points. Financial Institutions under Financial and Insurance Sector grew by 0.15% in Q1 2021 from -2.48% in Q4 2020 and 24.00% in Q1 2020.

The financial services industry's road towards precocious development has begun with the traction seen in the technologically sophisticated subsector. For example, in October, local

fintech start-up Paystack was bought by US-based company Stripe in a transaction worth more than \$200 million, making it one of the top news stories of 2020. While the financial services industry was able to weather the COVID storm and continue operations in 2020, it has become obvious that more progress is needed to develop the present arrangements. Financial institutions are increasingly strategizing about their technical setup and debating whether the tools they have depended on in the past are the best instruments to employ in the future.

The manufacturing industry wasn't left out, despite all odds, manufacturing activities in Nigeria was halted in response to the government's shutdown directives, affecting a variety of businesses that are directly or indirectly related to manufacturing, such as the cement, steel, metal, plastic, and glass production industries. Many of these enterprises suffered from low income due to employee-related issues like premature death, absenteeism, and productivity losses, which resulted in a negative supply shock caused by global supply chain disruptions and factory closures. Likewise, the October 2020 end SARS protest did nothing to boost economic operations, as the riots that followed enforced movement limitations to a greater extent than did the pandemic. In February, manufacturing employment stood at 56.4 percent. However, by June 2020, employment levels had dropped by 33.69 percent, to 37.4 points, and decreasing. Aside from the effects on production and employment, business activities in the sector fell for the sixth consecutive month in October, dropping to 46.0 points from 56.4 points in February 2020, a decline of 18.44 percent³.

Irrespective of the events of the previous year, the Manufacturing sector's real GDP turned positive at 3.4%, leading overall growth of the non-oil sector by 0.79 percent in Q1 2021 following three consecutive quarters of negative growth since the last growth in Q1 2020 at 0.4%, marking the highest growth recorded since Q1 2018⁴. The improvement in 2021 reflects the sector's steady recovery from the COVID-19 pandemic, aided in part by the government's lifting of the country's mobility and travel restrictions, allowing for the resumption of commercial operations. In addition, the many policy initiatives enacted by the government to

support economic recovery also assisted the sector's revival. Furthermore, gains from export via open borders and increased credit supply to businesses operating in the sector also relieved some of the harsh effects of the pandemic. Consequently, in February 2021, manufacturing PMI increased to 48.7 points from 44.9 points in January 2021 albeit still lower than pre-COVID levels.

Tourism was hit the worst by the COVID-19 pandemic, hence it had the most direct contact with humans, resultantly, it was shut down even before other businesses in Nigeria. Travel restrictions on both international and domestic flights significantly impacted the operation of the tourism industry, with about 96% of tourist destinations throughout the world applying travel restrictions. All regions of the world recorded a huge drop in air travels. Airlines, on the other hand, continued to report significant capital expenditures as well as operating costs for aircraft maintenance and servicing. Any plan to revive the tourism industry must incorporate the aviation and transport sectors as critical sectors to ensure continuous movement across the globe.

The movement limitations further influenced most ground transportation including public bus services, passenger train services, and digital cab-hire services. Transportation was restricted to essential trips for food, medication, or medical care. Although port cargo handling, air cargo, and related services such as storage and warehousing remained operational, insecurity and fear of harassment on transportation routes slowed operations for essential services.

The transportation sector experienced the worst contraction at 21.89% in the first quarter of 2021. Partially from the factor of the work from home (WFH) policy adopted by several businesses in Nigeria as regards to the COVID-19 pandemic intervention and mostly from the growing insecurity on Nigerian roads. Year after year, the industry contributed only 1.18% to real GDP in 2020. The need for public transportation skyrocketed in Q1 2021, as the citizens went back to the streets from the first day of the easing of the lockdown regulations. Consequently, traffic has increased 3 times more than what it was before the lockdown.

A simple outlook on the effects of COVID-19 on the aviation sector shows that activities have been disrupted and income generation has been halted. Reports from the Nigerian Civil Aviation Authority (NCAA), explains that Nigerian economy lost over \$800bn revenue from the aviation industry. The government tried to curb the impact of the COVID-19 pandemic in August 2020, by adopting a bilateral air transport deal between Nigeria and the United States. The reason behind this agreement was to secure Nigeria's economic interest by boosting commercial cargo flights from Nigeria to the U.S. from the opportunities availed by the African Growth Opportunity Act (AGOA) of 2000. Other incentives that comes with the agreement include strengthening and enabling the economic and socio-cultural relation between the both countries by making sure there is growth of international air transportation as well as fostering healthy airline competition between both countries. The aviation industry brought in 5.68% of revenue to GDP in Q1 2020 as against -11.78% in Q1 2021, and a whopping 36.98% in Q4 2020. The outcome is a evidence prove that the sector is gradually easing into a recovery.

The impact of taxation as a revenue generating source for the government can never be undermined, most implicative, at a time the economy is struggling to regain its capacity. An analysis of the tax collection efforts by FIRS conveys the fact that the service is on a mission to close out the revenue gap caused by the COVID-19 pandemic. Numerous measures have been adopted by the FIRS to ensure that all taxes due are collected as at when due. Some of these measures put in place are the creation of e-filing platforms and aggressive auditing of taxpayers. Furthermore, this is a means of ensuring the taxpayer database is up to date to make sure that tax evaders can be traced easily.

Statistics from the Federal Inland Revenue Service' (FIRS') publication shows that the country's total tax collection in 2019 was ₦5.26 trillion naira, from both oil and non-oil taxes. This amount was 40.22% less than the targeted ₦8.80 trillion annual projection and ₦2.20 quarterly target set. Remarkably, the total tax collection in 2020 was ₦4.95 trillion, which was the year the pandemic befell the country at its peak, a reduction of ₦125 billion from the budgeted ₦5.08trillion. More

analysis from the FIRS revealed that tax collection from the oil and gas sector performed awesomely better than the budget. For the petroleum sector, the annual budget stood at ₦284 billion while actual collection was at ₦1.52 trillion, representing a 434% increment in collection. This is not an anomaly, hence the industry has followed a similar trajectory for the past three years, which probably could be attributed to the devaluation of the Naira.

Non-oil tax collections, on the other hand, fell short of expectations in 2020, totalling ₦3.43 trillion vs the anticipated ₦4.79 trillion. The virus dampened the underlying GDP growth assumption as well as the predicted efficiency benefits. Non-oil tax revenue has risen consistently, reaching ₦2.15 trillion in 2016, ₦2.51 trillion in 2017, ₦2.85 trillion in 2018, and ₦3.15 trillion in 2019. The COVID-19 pandemic has undoubtedly had an impact on the amount of taxes collected from businesses, making tax authorities to go in quest of alternative means to raise money. Hence, many companies in the industry have attested to incurring losses, continued or harsh taxes might lead to collapse of these organizations, which would further harm the country's economy.

Worthy to note, tax administration in the country is carried out by the three arms of government, in accordance with the federal system of governance operated in Nigeria. At the federal level, the Federal Inland Revenue Service (FIRS) administers taxes and is crowned with the responsibility of collecting, accounting, and accessing revenues accruing to the government of the federation. The States Boards of Internal Revenue (SBIR) and the Local Government Revenue Committees (LGRC) executes similar duties at the state and local government levels sequentially. In an attempt to increase domestic tax revenue and make sure that tax laws are in compliance with global best practices, the government ruled a Finance Act in 2019 and another one in 2020 which brought about various changes to different provisions of the Nigerian tax legislations including the Value Added Tax Act, Customs and Excise Tariff, Capital Gains Tax Act, Personal Income Tax Act, Companies Income Tax Act, (Consolidation) Act, Stamp Duties Act, Petroleum Profits Tax Act to mention but few. In compliance with the Finance Act of 2019, the government issued

the Companies Income Tax (Significant Economic Presence) Order, 2020 (SEP Order) which avails more guidance on the terms for deciding a significant economic presence for the ensure taxation of the digital economy. The amendments introduced by the Finance Act of 2019 and the Finance Act of 2020 was aimed at motivating investments in infrastructure and capital markets, support sustainable boost in government revenue and certainly make tax provisions consistent with the national tax policy objectives of the government.

Meanwhile, the first stage of a Strategic Revenue Growth Initiative (SRGI) was unveiled in 2019 for the purpose of mobilizing fiscal resources by the FIRS and other agencies of the government. The initiative was focused on achieving sustainable revenue generation, identifying new sources of revenue, and grooming the enactment of revenue collection on existing revenue sources with the purpose of ensuring cohesion between revenue generating entities, as well as equipping them with the requisite expertise and tools needed to effectively mobilize tax funds. A second phase of the initiative (SRGI 2.0) was launched subsequently which was targeted to adjust the focus from revenue collection to tax compliance and supportively grow tax revenues from the current 6% tax-to-GDP ratio to 15% by 2023.

At the federal level, the FIRS has over the years implemented some technology initiatives with a view of strengthening tax collection and plugging revenue leakages, while increasing the effectiveness of tax control and providing the opportunity for Nigerian taxpayers to better comply with their tax obligations. In 2013, the FIRS launched the Integrated Tax Administration System (ITAS) to enable taxpayers electronically file tax returns, pay taxes online, etc. Even more recently was the introduction of Tax-Pro max which is intended for the electronic filing of Corporate Income Tax returns, effective June 2021. Furthermore, the FIRS upgraded its web platform and introduced six electronic tax services in 2017 and they include: e-Registration which allows for the registration of new taxpayers with FIRS for the various federal taxes; e-Stamp Duty which is used for payment of stamp duties on applicable documents; e-Tax Payment which is used for payment of all federal taxes and levies through approved collection

platforms like Remita, Interswitch and Nigeria Inter-Bank Settlement System (NIBSS); e-Receipt which is used for receiving and verifying online receipts generated for taxes paid through the new e-Tax Payment; e-Filing which allows taxpayers file their tax returns through the ITAS and; e-TCC which enables taxpayers process their online tax clearance certificates. Recently, the FIRS issued a public notice announcing its intention to commence the deployment of its Automated Tax Administration System (ATAS) in line with the provisions of Section 25(4) of the Federal Inland Revenue Service Establishment Act 2007 as amended by section 51 of Finance Act 2019. The ATAS initiative aims to access for tax purposes, relevant data or records stored in any electronic devices, or cloud computing facilities which is owned, maintained, operated, or controlled by taxpayers or their agents.

2.2.3 Post COVID-19 (Economic Variations and Development)

Nigeria's economy went up to 3.6% in 2021 from a 1.8% decline in 2020, marked on the supply line by 4.4% expansion in the non-oil sector against 8.3% deflation in the oil sector; the development in the non-oil sector spanned from agriculture which contributed 2.1% and services 5.6% respectively. Looking at the aspect of demand, public and private consumption were the basic contributors to the growth of the GDP. Per capita income went up by 1.0% in 2021. The fiscal deficit streamlined to 4.8% of GDP in 2021 from 5.4% in 2020, due to a keen uptick in revenues, and was financed by loans. Public debt reclined at \$95.8 billion in 2021, or about 22.5% of GDP.

As against 13.2% of the previous year and beyond the central bank's 6–9% target, the annual average inflation stood at 17.0% in 2021. Inflation was fueled by the hike in food cost at the beginning of the year and exchange rate pass-through, this made the central bank of Nigeria to keep to the policy rate and had it unchanged for economic support, leaving it at 11.5% in 2021. Account deficit in 2021 was narrowed to 2.9% of GDP from 4% 2020 which came about by the

recovery in oil receipts. The disbursement of the SDR allocation of \$3.4 billion (0.8% of GDP), awaiting its utility and improvement of oil exports supported the rise in gross reserves to \$40.1 billion in 2021. The ratio of NPLs to gross loans was 4.9% in December 2021 (regulatory requirement 5%), while the capital-adequacy ratio was 14.5% (regulatory benchmark 10%).

Nigeria exceeded its projected GDP growth rate of 3% for the fiscal year in 2021, as the country recorded a Gross Domestic Product growth of 4.03% (year-on-year).

The modest annual GDP growth came on the back of five consecutive quarters of positive growth, following the country's brief economic recession in 2020 when the economy contracted by 6.10% and 3.62%, respectively, in the second and third quarters of the year. Nigeria's exit from the 2020 economic recession was weak, as the GDP growth rates for Q4 2020 and Q1 2021 were 0.11% and 0.51%, respectively. The country's economic growth stabilized in the second, third and fourth quarters of 2021, as it recorded positive GDP growth rate of 5.01%, 4.03%, and 3.89, respectively.

Admittedly, these growth rates were boosted by the bottom effect of the economic contractions that Nigeria experienced in 2020 thanks to the dual shocks of COVID-19 and low fossil fuel prices. Nonetheless, it is important to note that the country's overall year-on-year economic growth of 4.03% in 2021 was no mean feat, considering that the effects of the pandemic lingered in 2021, because the Delta and Omicron variants of COVID-19 negatively affected global economic recovery and triggered new restrictions and lockdowns in many countries. The non-oil sector of the economy grew by 4.4% in 2021, following a contraction of 1.25% in 2020.

In 2021, The Information, Communication and Technology (ICT) grew by 6.55%, the agriculture sector at 2.13% and the manufacturing sector of by 3.35% respectively, and served as the fundamental drivers for the growth experienced in the country's non oil sector. Notwithstanding the increased demand for crude oil and the surge in oil prices, Nigeria's oil sector declined by 8.30% in 2021, as it continued to undergo drastic drawbacks as regards to social and technical

issues. Nigeria, however failed to meet its targeted oil production rate of 1.86 million barrels per day (mbpd), as the average crude oil production fell steadily from 1.72 mbpd in Q1 of 2021 to 1.50 mbpd in the Q2 of 2021. This decrease in production volumes equally had significant implications on the budget, hence Nigeria drop short of its oil revenue projection of ₦1.843 trillion (January to November pro-rata) by 47.4%, despite the 69% annual increase in the average price of Bonny Light crude, from US\$42.1 per barrel in 2020 to US\$71.1 per barrel in 2021. In all, the oil sector contributed 7.24% to Nigeria's GDP in 2021, Whereas the non-oil sector brought about the balance of 92.76%, which went up by 0.92% compared to the points in 2020.

The deterioration of the purchasing power of Nigerians continued in 2021, as the country's double-digit inflation surged to a four-year high of 18.17% (year-on-year) in March 2021 before gradually decelerating to 15.63% in December 2021. The average inflation rate for the year was 16.99%, 5.04 percentage points above the target inflation rate of 11.95% reflected in the 2021 Federal Government (FG) Budget. The high rate of inflation is largely attributable to the depreciation of the Naira and its impact on imported raw materials and inputs for production/total consumption, disruption in the global food supply chain and the underinvestment in transport and logistics infrastructure.

Growth is predicted to decline from 2022 to 2023, averaging at 3.2% as regards to consistent low oil production and the heightening of insecurity. From projection, inflation was to maintain an elevated level of 16.9% in 2022 and to stay ahead pre-pandemic levels in 2023, influenced pivotally by the rise in diesel, gas prices, and food and persistently ensure a disruptive supply scaled by the Russia– Ukraine crisis. The projections further ascertain that capital inflows are to recover, while the exportation of oil is to increase slightly. The importance of a positive oil forecast price shock on exports might, therefore, be partially offset by a weak resultant effect due to lesser oil production, stoked by infrastructure deficiencies and rising insecurity. The current marginal projection account excess of 0.1% of GDP in 2022 could turn into deficit of 0.2% in 2023. Enhanced revenue collection will assist in narrowing the fiscal deficit to an average of

4.5% of GDP. Public debt is projected to rise to over 40% of GDP by 2024 on new borrowing. The headwinds to the outlook may be exacerbated by rising insecurity and policy uncertainty underpinned by reversal of initially planned removal of subsidies on premium motor spirit a year before the 2023 elections.

Positively, the Petroleum Industry Bill was endorsed by the President in August 2021, and is expected to raise investment in the Nigerian oil and gas sector. The Act provides the legal, governance, administrative, regulatory and fiscal framework for the transformation of Nigeria's petroleum industry and development of host communities. The President also signed the Appropriation Bill, 2022 into law on 31 December 2021, maintaining his administration's tradition of early budget passage. The 2022 FG Budget, themed "Budget of Economic Growth and Stability", is designed to deliver on the strategic objectives of the National Development Plan (NDP) for 2021 to 2025 fiscal years. The FG adopted conservative crude oil production and price benchmarks of 1.88 mbpd and US\$62 per barrel, respectively, in the Budget, as oil price is forecasted to average US\$741 in 2022. The FG expects to generate 65% of its revenue from non-oil sources and 35% from oil-related sources in 2022. Although revenue generation remains a fiscal constraint for the FG, one of its strategies for improving domestic revenue generation is by making incremental changes to Nigeria's fiscal framework through the enactment of annual Finance Acts. In this regard, the Finance Act, 2021 ("the Finance Act" or "the Act") introduced an excise duty at N10 per litre on non-alcoholic, carbonated, and sweetened beverages, finetuned tax law provisions pertaining to the taxation of the digital economy, and increased the Tertiary Education Tax rate from 2% to 2.5%. It is imperative that the FG achieves or surpasses its budgeted revenue of ₦10.7 trillion, to ensure effective implementation of the ₦17.1 trillion budgeted expenditure and curtail the country's budget deficit, which currently stands at ₦6.39 trillion, and is about 3.5% of the country's GDP. The FG has projected a GDP growth rate of 4.2% for the 2022 fiscal year, which is higher than the 3.4% projected by the International Monetary Fund (IMF), and 2.8% projection by the World Bank. Although the positive impact of

the fiscal changes introduced by the Finance Act, the implementation of the NDP, and increase in crude oil prices could positively impact revenue generation, the rise in Nigeria's total public debt and the pressure on the Naira are likely to persist, and the target inflation rate of 13% is unlikely to be achieved. Whether the FG would be able to deliver the forecasted GDP growth would largely depend on effective execution of policy measures to stabilize the macroeconomic environment, and implementation of critical reforms that will curb insecurity, catalyse inclusive economic growth, improve the country's business environment, and attract foreign direct investment (FDI). The FG's focus on economic growth and stability is especially important, considering that 2022 is a preelection year. Thus, it is crucial, for instance, that the inflationary pressures that would arise from pre-election spending are effectively managed, and that the Federal and State governments keep focused on economic progress, notwithstanding the distraction from governance expected to occur from political campaigns during the year.

2.2.4 Disruptive Technology and economic development in Nigeria (an outlook on SMEs)

Being one of the largest ICT markets in Africa, the growth of the digital economy is one of the Nigerian government's focus areas. The ICT sector has become a major catalyst of non-oil growth in recent years and a major contributor to Nigeria's total GDP. This is evident in the sector's growth in contribution to GDP – from less 1% in 2000 to 12.6% in Q4 2021.

Similarly, the sector's growth performance of 7.3% in 2021 outperformed non-oil sector growth of 4.4%. This was despite the declination in tele-density from 108.94% in November 2020 to 101.2% in November 2021, and the year-on-year drop in mobile and internet subscribers by 7.1% and 9.3%, respectively, due to the effect of the SIM card registration ban. Furthermore, Financial Technology (FinTech) growth has sustained its upward momentum as SMEs and start-ups look to create innovative solutions to fill socio-economic gaps such as exclusion from the traditional banking system. Resultantly, according to investment monitor, fDi Markets,

Nigeria recorded 40 greenfield FDI projects in the financial services sector between 2014 and 2019 – one of the most active sectors during the period. In 2020, FinTech firms in Nigeria raised US\$160.3 million (25% of total FDI in starts ups, higher than any sector and up 49% from 2019). On a broader scale, according to the “West African Start-up Decade Report 2010-19” by technology company TechPoint Africa, Nigeria accounted for 86.3% of the US\$1.8billion raised by 51 start-ups in the region between 2010 and 2019. As such, even before the advent of the COVID-19 pandemic, the government had prioritized expansion in the sector through dedicated policies (e.g., launch of the National Digital Economic Policy and Strategy 2020-30 in 2019, roll out of the National Broadband Plan (NBP) 2020-25 in March 2020, launch of the National Cybersecurity Policy and Strategy 2021 etc.), infrastructure development and investment promotion. Consequently, given the sector’s role in enabling business continuity amid the COVID-19 pandemic, ICT will remain a priority in the years ahead, supported by the country’s large and youthful population and the rapid adoption of mobile internet. Digitalisation is set to continue to grow and develop in 2022, supported by the waived fees for laying fibre-optic cables and various government regulations²². In addition, the FGN should focus on improving the ecosystem for entrepreneurs, infrastructure development and the future deployment of 5G – these will be most crucial in achieving the country’s goal of fostering a buoyant digital economy.

A study by Vincent (2018) on the impact of e-commerce on developing market growth with Konga Online Shopping Company as a case study, examines the hypothesis which states that there will be no consequent impact of e-commerce on developing market in Nigeria which was tested using a simple linear regression analysis at 0.05% level of significance. The study shows that e-commerce adoption was used as predictor variables while the developing market growth was used as an outcome variable. The discoveries show that reception of ecommerce business fundamentally affects development of Konga firm which might be in term of productivity, market share, client unwaveringness and competitiveness. The findings show that e-commerce is a good trading strategy which tends to expose firm goods and service to a very large number of

people and this tend to increase their sales and the level of profitability. At the point when contrast with the adversary firms, an organization which embrace the utilization of online business are bound to have better customer audience and service and benefit more than their counterparts in the industry. Through e-commerce, firm ability to compete with their rival firms improves and their competitive advantage improves over time. As this tallies in accordance to the research of Atuanya, et al. (2013) who speaks from the consumer's point of view, that obtaining value is a fundamental consumption goal and essential to all successful Lexchange transactions. Nevertheless, in response, lots of retailers are looking for ways to turn shopping into a high-value course and are highlighting consumer value as a vital way of building competitive advantage (McKnight, 2002).

2.3 Theoretical Framework

This study is focused on the following theories;

2.3.1 The Solow Growth Model

According to CFI (2022), the Solow Growth Model is the basics for the modern theory of economic growth. It was the first neoclassical growth model developed by Nobel Prize-winning economist Robert Solow and was built upon the Keynesian Harrod-Domar model. This model is an exogenous model of economic growth which analyzes the deviations and variations in the level of output in an economy over time as a result of changes in the rate of population growth, the technological development rate as well as the savings rate.

2.3.2 Balanced Growth Theory

James et al (2008) explains that the Balanced Growth Theory is an economic hypothesis spearheaded by the financial expert and economist Ragnar Nurkse. The theory states that the leadership of any underdeveloped nation needs to take an enormous interests in various sectors of the economy, thereby making large investments in a number of industries simultaneously.

Yūjirō (2005) stresses that this will extend the market size, uphold increment of efficiency, and give an incentive to the private entities to contribute to economical development of the country.

Nurkse (1961) was supportive of accomplishing adjusted development in all areas of the economy, therefore, attaining balanced growth in all sectors of the economy. He understood and emphasized that the extension and sectoral balance in between agriculture and manufacturing is important so every one of these areas gives a market to the results of the other and thus, supplies the fundamental unrefined extracts for the turn of events and development of the other.

2.3.4 Unbalanced Growth Theory

With a huge dependency on the managerial division of resources. Unbalanced growth theorists argue that sufficient resources can't be mobilized by government to push widespread, coordinated investments all told industries.

This shares similar analysis with balanced growth thesis defining the attributes of which free markets, alone, cannot generate development but proposes that government planning or market intervention is of great need in just strategic industries. Those with the greatest number of backward and forward links are prioritized. Hence a country lacks required resources to finance balanced growth. Resources are therefore concentrated on strategic industries with:

- Significant forward linkages i.e. firms creating essential inputs for other key firms within the economy.
- Significant backward linkages i.e. key firms buy industrial inputs from a large number of domestic firms (Phil, 2019)