PERCEPTION OF THE MODERATING EFFECT OF FIRM'S AGE ON PERFORMANCE OF QUOTED MANUFACTURING FIRMS IN NIGERIA

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Abstract
Production improvement function had existed in the Nigerian manufacturing industry over the years but had failed to deliver the promised goods of accelerated development of the economy. It was further identified that the age of the firm moderates the effect of the production improvement function on the corporate productivity performance of firms in the manufacturing industry. This paper therefore investigates the extent to which the age of firms has moderated the effect of production improvement function on the corporate productivity performance of the Nigerian manufacturing industry. In this respect, production improvement function has the dimensions of production planning, scheduling and control while the corporate productivity performance is measured in the areas of cost minimization, enhanced equity capital and growth, under the moderation of age contexts of the organization. The hypothesis was formulated and questionnaire were distributed to eighty respondents in the eighty sampled manufacturing firms from the one hundred in the industry, quoted in the Stock Exchange (Fact Book 2018). Sixty two copies of the questionnaire were retrieved. These with the financial statements of the firms were used for the analysis. From its findings, the study revealed that age of the firms truly significantly moderate the relationship between productivity improvement function and corporate productivity performance of Nigerian manufacturing industry. This finding implies that firm's age did not significantly affect the corporate productivity performance of firms directly but moderates. Based on these, the study recommends among others, that the Nigerian manufacturing industry should totally be overhauled, especially in the areas of technical, entrepreneurial and economic knowhow, in order to realign and restore the industry from total collapse.

Keywords: Age, Production Improvement Function, Corporate Productivity Performance

Introduction

The current gale of de-industrialization in African countries especially as it concerns Nigeria brought to the fore the conviction of

Ezekwesili (2009) that the greatest wealth is less than the least idea (Umoh & Wokocha, 2013). Eleanya (2009) contends that man by nature is a labourer as he must labour to produce the materials for his daily existence. Ake (1983) concluded that in spite of the prodigality of nature, man will soon die if he does not labour to transform the raw materials of nature to food, shelter, clothing and other essentials of life. Eleanya (2009) went further to state the fact that stable European and American states have industries which provide a platform for the citizens to be gainfully employed and usefully engaged hence removing a large segment of the population from, hunger, want, poverty, penury, anger and thus the possibility of being available for recruitment as political thugs, miscreants and possibly instigators of political, economic and social instability and ultimately, revolution.

Jain and Aggarwal (2008) exposed that the dimension of ***PIF*** has become an increasingly significant priority for production management and operations research studies. This lends support to Pineda's (2009) argument that over forty-two years of research in production management and operations research has been done to investigate how ***PIF*** influences ***CPP*** in the industrially advanced economies. This also corroborates Genesca and Grifell (1992) observation that ***PIF*** has been seen as one of the most important predictor variables in the study of problems in production management and operations research in the last three decades, but as in Umoh and Wokocha (2014:9) subject to contextual variable like the age of the firm. With the dynamic nature of the business world that is characterized by rapid changes and intense global competition, it is expected that ***PIF*** will continue to feature prominently in production management and operations research studies (Johnson and Montgomery, 2009; Lipesy and Chrystal, 2006).

This global trend of de-industrialization of developing economies is also true in most Nigerian industries. For instance, As Blau (1994) once remarked, most management in sub-Sahara African countries exhibit the tendency of poor Production Improvement Function (***PIF)*** in their organisational production activities. Jackson (2002) argues that the result is lack of commitment to production activities by production and operations' employees. This is similar to what Okpara (2004) and Aluko (2004) identified amongst other Nigerian workers. Reflecting on this sad state of things in Nigeria, Dike (2004) revealed that the most glaring of the deficiencies suffered by the Nigerian work system is the lack of motivation which manifests in production decline in productivity. The lack of worker's commitment is usually seen as pointed out by Ahiauzu (1999) in low worker's morale, absenteeism, lateness to work, increased cases of product error, industrial accidents and sabotage. We have observed these to be part of the bane of ***PIF*** and Corperate Productivity Performance (***CPP)*** in the Nigerian Manufacturing industry.

In the light of the current experience, it seems Nigeria cannot attain the noble objective of being among the twenty developed economies in the next eleven years as projected in the present administration's *Vision 20-20-30* with existing, industrial collapse, idle investment, massive unemployment, de-skilling and de-industrialization in general. There is therefore need to collectively sustain the pressure and advocacy for friendly business environment, stable macro-economic policies, consistent, clear and focused industrial strategy that will provide support and incentive for manufacturing activities, ensure value addition and job creation, to give the economy the required organizational Corperate Productivity Performance ***(CPP)*** of profit maximization/cost minimization, enhanced equity capital and economic growth and development in general.

Production is a process or procedure developed to transform a set of inputs like men, materials, capital, information and energy into a specified set of output like

finished products and services in proper quantity and quality, thus achieving the objectives of an enterprise' (Vollman *et al*, 2007; and Jain and Aggarwal, 2008). The production system likewise is the design process by which elements are transformed into useful products. A process then is an organized procedure for accomplishing the conversion of inputs into output. Production is effective if an appropriate and efficient ***PIF*** technique is in place.

Literature Review

Research evidence has shown that in Singapore, South Korea, Indonesia, Thailand and Malaysia the manufacturing sector contribution to Gross Domestic Product (***GDP***) of these countries is well over sixty percent (60%). These are countries that have through massive industrialization joined the class of world industrialized nations. Indeed, China which is about eleven (11) years older than Nigeria, it's manufacturing share of ***GDP*** is as high as eighty percent (80%). As at today manufacturing sector's contribution to ***GDP*** in Nigeria is less than three percent (3%). This is a problem. It is now obvious that one of the key components of the then President Yar'Adua's 2012 Seven Point Agenda is employment and wealth generation.

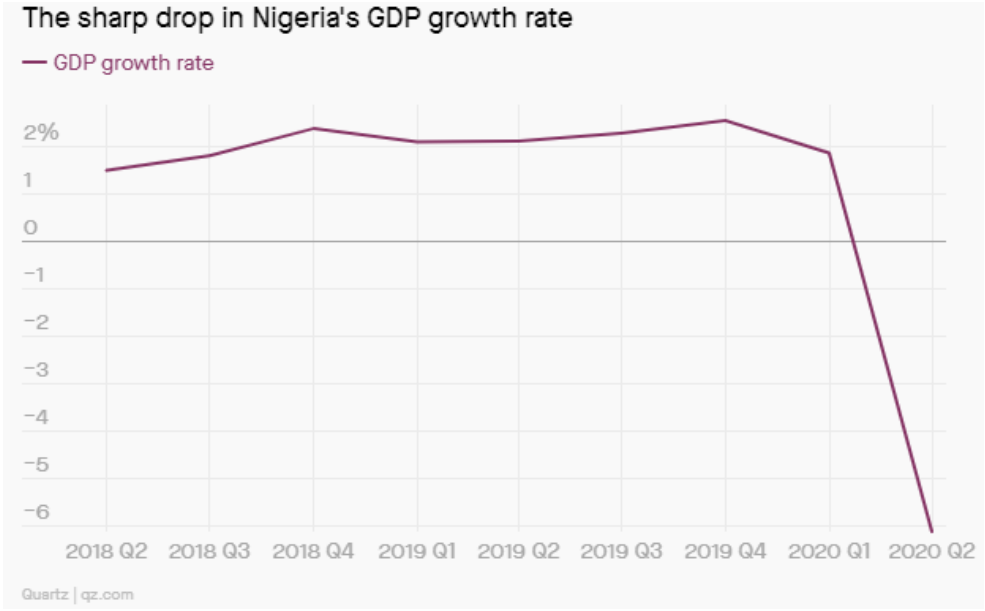
In the wake of 2008, the world experienced a depression which settles for the global economic meltdown and Nigeria was not left out. In 2016, Nigerian economy experienced a RECESSION. This is a situation when the economy declines significantly for at least six months. That means there's a drop in the following five economic indicators: real GDP, Income, Employment, Manufacturing, and retail sales. People often say a recession is when the GDP growth rate is negative for two consecutive quarters or more. Nigeria's economic situation was in "its worst possible time", according to the then Honourable Finance Minister, Mrs Kemi Adeosun. The inflation rate shrank at 17.1%, The GDP had contracted by 2.06%, the economy by 0.36%. The National Bureau of Statistics (NBS) had released a report on Nigeria's economy in the second quarter, including the Gross Domestic product (GDP), Inflation, Employment, and Unemployment, Capital Importation and other key fundamentals. Oil price had crashed to less than $50 per barrel; Nigeria's production output had tumbled over 400,000 barrels due to militancy activities in Niger Delta region. Oil production plummeted to 1.69 million barrels per day in the second quarter of 2016, down from 2.11 million barrel per day in the first quarter, with oil – based GDP contracting by 17.5% in quarter two compared to 1.9% in the first quarter. Naira remained at record low of #423 per dollar in the black market, as dollar exchange for 365.25 in the interbank market. On Employment; 4.58 million Nigerians had become jobless since the previous year, adding 2.6 million to unemployment figures of 1.46 million recorded in the third quarter of 2015 and 518.102 in the fourth quarter of 2015. According to reports during the reference period, the unemployed in the labour force increased by 1,158,700 persons, resulting in an increase in the national unemployment rate to 13.3% in Q2 2016 from 12.1 in 2016, 10.4% in 2015 from 9.9% in Q3 2015 and from 8.2% in Q2 2015. The value of capital imported into Nigeria in the second quarter of 2016 was estimated to be $647.1 million, which represents a fall of 75.73% relative to the second quarter 2015. This provision figure would be the lowest level of capital imported into Economy on record, and would also represent the largest year on year decrease. This would be the second consecutive quarter in which these records have been set, with the economy facing stagflation. It can therefore be deduced that the recession was hydra-headed. The economy plummeted in these dimensions till 2020 when the world economy was brought to its knees by the outbreak of the Corona Virus (COVID-19) Pandemic.

With many Nigerians made unemployed by COVID-19, combined with lower volumes of exports such as oil, Nigeria's economy has contracted by 6.1% year on year in the second

quarter of this year **(2020).** 27% of Nigeria's labour force (over 21 million Nigerians) is unemployed. There's also little sign of a quick turnaround in Nigeria's economic woes as the World Bank predicts that Africa's most populous country is set for its worst recession in four decades.(https://www.weforum.org/agenda/2020/08/).

The effect the corona virus pandemic has had on Africa's largest economy is starting to show in data. Nigeria's economy contracted by 6.1% year on year in the second quarter of this year, latest reports from Nigeria's statistics bureau show. The dip follows thirteen quarters of positive but low growth rates. The -6.1% decline is also Nigeria's steepest in the last 10 years. As with most other economies around the world, the sharp drop in Nigeria's GDP growth is largely down to the slowdown in economic activity after the country resorted to a lockdown back in April to curb the spread of the virus. In the wake of the pandemic the World Bank forecast a decline of -3.2% for 2020—a five percentage point drop from its previous projections. While the lockdown has since been eased in the wake of "heavy economic costs," the continued rise in cases—especially in Lagos, Nigeria's economic hub—means the local economy is yet to fully re-open. So far the country has recorded just over 52,000 cases and 1,002 deaths. (https://www.weforum.org/agenda/2020/08/)

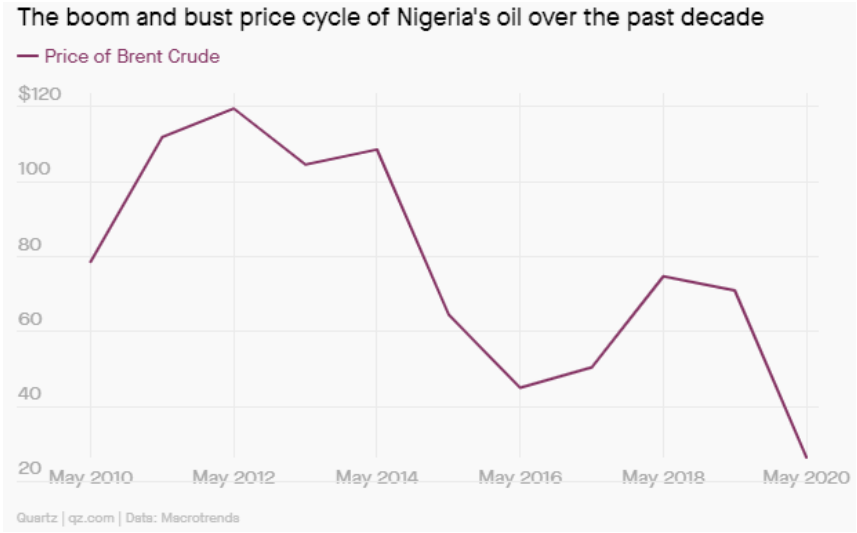
But Nigeria's economy has also been crippled by external factors too as the corona virus pandemic resulted in a near-total shutdown of economic activity around the world. The accompanying steep drop in oil prices amid a drop in global demand left Nigeria drastically shorn of earnings given its dependence on the commodity as its biggest revenue source. For context, the United States slashed its Nigerian crude oil imports oil by 11.67 million barrels in the first five months of 2020, compared to what it bought in the same period of 2019. In fact, in the second quarter of 2020, local oil production dropped to its lowest since 2016—when Nigeria endured a full year of negative growth.



Thirteen quarters of positive growth rate came crashing down in a matter of months.
Image: Quartz

The latest economic data shows Nigeria's government continues to fall far short of projections in its Economic Recovery and Growth Plan, created in the aftermath of the 2016 recession to set out aggressive growth targets from 2017 to 2020. There's also little sign of a quick turnaround in Nigeria's economic woes as the World Bank predicts

Africa's most populous country is set for its worst recession in four decades.



The United States slashed its Nigerian crude oil imports oil by 11.67 million barrels in the first five months of 2020.
Image: Quartz

The details of Nigeria's economic contraction also come barely a week after a grim report on unemployment rates which showed 27.1% of Nigeria's labor force (21.7 million Nigerians) are unemployed.

Some early reports in the media on the COVID-19 pandemic were a cause for alarm. China, a leading manufacturing nation, was running out of personal protective equipment (PPE) following the unprecedented outbreak, including medical aprons, gowns and coveralls as well as gloves, masks, respirators and goggles.

China's economy suffered, too, and that became the story of many countries around the world once the World Health Organization (WHO) announced that COVID-19 had become a pandemic. To date the disease has killed more than 745,000 people across the world, with more than 20.5 million people infected. (https://www.weforum.org/agenda/2020/08/).

In Nigeria, many watched news about the COVID-19 outbreak like detached movie audiences – until the nation recorded its first case on 27 February. Still, reality did not kick in until cases began to climb in the weeks afterwards, forcing the Nigerian government at the state and national levels to impose lockdowns from the end of March. The impact of these measures was more pernicious than anticipated. Many business owners are licking their wounds following the month-long lockdown, with inevitable courses of action such as cutting down their workforces, work hours, budgets and salaries. Businesses that pose a high risk of COVID-19 infections remain grounded as their owners strategize new business models and modes of engagement. (https://www.weforum.org/agenda/2020/08/).

Small, independent manufacturers could be crucial to reshaping industry post-COVID

The impact of the corona virus has shown us that things may be about to change. The global *spreading* of the supply chain in the pursuit of efficiency that was celebrated for years has put countries into difficult situations. In the U.S. for example, producers of the tests for corona virus saw their production coming to a halt due to missing inputs - often the most elemental simple parts in the entire process - sourced from China.

As people make predictions about the world after corona virus, some wonder if we might see the reversal of globalization, as

companies work to make their supply chains more resilient and local, and we see the drive to Industry 4.0. The call for such change began even before COVID, with the tariff war, but is more urgent now as the geopolitical and regulatory environment is increasing pressure on manufacturers to consider more agile and flexible approaches. A new approach could give manufacturers the resilience they need to thrive in a new context.

Understanding Industry 4.0

Industry 4.0 refers to the use of many innovative technologies - sensors, machine learning, IoT - to seek a new type of manufacturing efficiency. Where traditional manufacturing spreads production across the world and enable cheaper units of labour, Industry 4.0 ensures individual machines, and even entire factories, can communicate with each other in real time to orchestrate their co-existence in an optimal way.

In this new phase of manufacturing, sourcing, ordering and transportation are automated, thus error-less, while the new levels of transparency will help make better management decisions and promote higher ecological standards. With this approach, it is possible to create more flexible processes, reconfigure more quickly and simply predict better what will happen by linking more closely with suppliers and customers. Elimination of downtimes and the ability of production customization to the last element are among some of the other aspects that this deeper interconnectedness brings.

The impact of coronavirus - this new-found urgency to become more resilient - will accelerate this shift toward simplification of processes. Experts predict that the virus could be with us for years. As countries find new ways to manage life with the virus, remote factories could become less attractive, replaceable by smaller, regional operations as response times become faster and holding large inventories becomes unnecessary.

Changes underway

Openness to this approach is already in place. A survey cited by Harvard Business Review, for example, shows that collaboration across supply chains is widely recognized by manufacturers as the means to address "rapidly evolving and increasing customer needs". This is one of the ways in which we can make even localized production work as the reduction in costs from externalities, process halts and production stops would outweigh higher costs of inputs from local suppliers.

In the past five years, technologies like 3D printing gave a taste of what is about to come by compartmentalizing previously complex production processes. Tesla, for example, is widely recognized for its innovative manufacturing processes, using 3D printed components in places where other automakers would have to use a more complex, costly and hard to make combination of parts or elements. Signs of this shift were seen before the virus emerged as micro factories sped the creation of everything from buses to breweries. Such changes make manufacturing more accessible to a wider range of entrepreneurs and help makers customize their products to local markets while cutting down on distribution time and transport emissions.

These changes are best driven from the level of smaller independent manufacturers because they can adopt changes quicker and at a lower marginal investment. Their supply chains are also less complex with fewer interdependencies.

The challenge ahead

Despite the recognized benefits of industry 4.0 and the wider appreciation that this trend represents for the future, smaller manufacturers do face challenges in its implementation. For one, management at small manufacturers don't have access to often benevolent capital markets to raise funds. "Pilot purgatory," as noted in

the Harvard Business Review, is another hurdle. Companies can sometimes conduct small-scale pilots to respond to industry pressures and trends, but fail to scale those solutions up to truly change wider processes. To be sure, the economic climate will play a key role. Some might hesitate to invest in new solutions during uncertain times while others might be wary to fulfill what they foresee to be a short-term need in localized production. Smaller manufacturers might be especially vulnerable during this time and, indeed, many will be fighting for survival. Still, the greatest opportunities often arise in times of crisis, when those who act can dominate their segments, and even create completely new categories. The COVID-19 crisis exposed gaps and challenges that need to be rectified, and for the first time, smaller players have an advantage over large corporations that are hurting from the trade wars and general geopolitical upheaval. It's possible we may be at a forefront of another manufacturing renaissance, just one in a local setting. While shipping containers made way for globalization, Industry 4.0 and a new wave of technologies and solutions might be sparked in an equally surprising way: by the corona virus.

The European, American and Asian States did not just relax and watch the crisis wreck their economies. Every little effort put forward by these countries to revamp their manufacturing sectors yielded fantastic result, either by the public, private or both sectors. The reverse is the case in Nigeria, where huge amount of the peoples' resources are being pumped into the manufacturing sector and no visible result is recorded. Instead the sector is seriously declining.

Consider the Nigerian automobile industry: In 1980, Nigerians rode in locally assembled cars, buses and trucks: Peugeot cars in Kaduna and Volkswagen cars in Lagos. Leyland in Ibadan and ANAMCO in Enugu produced buses and trucks while Steyr Motors at Bauchi produced our agricultural tractors. It was not just the assemblage of the vehicles, components of the vehicles were also produced: Vono products in Lagos produced the seats, Exide in Ibadan produced the windshields, Ferodo in Ibadan produced the brake pads and discs, tyres were produced by Dunlop in Lagos and Mitchelin in Port Harcourt, using the rubber from rubber plantations in Rivers State. These age long firms and others are history now. The Nigerian economy has lost this economies of age, experience and scale.

Jain and Aggarwal (2008) state that, every manufacturing activity requires resource input in terms of men, materials, capital and machines. They went further to state that in any business that produces a product or service production activity must be related to market demands as indicated by the continuous stream of customers' orders. It follows therefore that for maximum effectiveness, this must be done in such a way that customers' demands are satisfied, but at the same time production activities are carried on in an economic manner. The process of developing this kind of relationship between market demands and production capability is the function of ***PIF*** which has been described as the process of planning, scheduling and control. ***PIF*** can be effected principally through the management of workflow, inventories and backlogs, and changing levels of operation (Winston, 2004; Hillier and Lieberman, 2005; Jain and Aggarwal, 2008). Buffa (1975) had maintained that this tool is indispensable in any firm irrespective of size and complexity. It is with the understanding and application of this basic tool that advanced countries had contained the global economic crisis that would have ravaged their economies. They took advantage of the contextual variable – age of their firms to harness the economies of scale, age, localization and globalization.

It is the understanding, design and application of these techniques that form the focal concept of this research in the Nigerian state. If the manufacturing sector of the Nigerian economy is seriously declining in its contribution to ***GDP***, then there is probably the problem of understanding, design and

application of ***PIF*** in the Nigerian economy-especially in the real sector where manufacturing is predominant, subject to firm's age. The object is to enhance business organisational goals of cost minimization, profit maximization, enhanced equity capital and growth. There are no excuses whatsoever that Nigeria can give for not accomplishing same, like other economies with her existing human and economic resources (Jain and Aggarwal, 2008).

This research is looking at existing models and techniques to find out if they are applied anywhere in the industries under study. The study also seeks to establish how suitable such models might be in the context of the Nigerian economy. It is argued that the existing models could not have been developed with the Nigerian economy in mind, or that our economy lacks proper understanding of such models, thereby being unable to adapt it for application in the Nigerian economy.(Umoh and Wokocha, 2014).

Theoretical Foundation.

The theoretical foundation of this work as in Umoh & Wokocha (2013), is based on the production function which technically explains the direct relationship between quantity of output produced and factors of production, subject to constraints in a given period of time. In that case, output is dependent upon factors of production available. Hence output is the criterion variable, factors of production are the predictor variable and the constraints are the moderating variables. Based on this, as adopted from Umoh & Wokocha (2013) & (2014), three key variables were focussed upon in this study, namely, the Criterion Variable – ***CPP*** and the Predictor Variable – ***PIF*** and the moderating Variable – ***A.*** We defined ***CPP*** as measured by cost minimization, enhanced equity capital and growth. In the same way, ***PIF*** has its dimensions of production planning, scheduling and control; and A as age of firm. It was assumed that the practice of ***PIF*** will trigger ***CPP*** through its dimensional effects on cost minimization, enhanced equity capital and growth subject to ***A***. The objectives and the research questions for the study were drawn from the hypothesized relationships between the predictor, moderating and criterion variables. The conceptual framework assumes a straight line relationship between the predictor variable and the criterion variables subject to the moderating variable. The conceptual framework, which is unidirectional, indicates that ***CPP*** is a function of ***PIF*** and that the functional relationship is moderated by the contextual factor ***(CF)*** which is the age of firm ***(A).***

This is represented in the following mathematical model, as developed in Umoh & Wokocha (2013):

CPP = *f*(***PIF***) ***CF(A)***
CPP = Corporate Productivity Performance.
PIF = Production Improvement Function.
CF = Contextual Factor ***(A)***

From the conceptual framework, ***CPP*** is measured by the level of cost minimization, enhanced equity capital and growth. The framework also shows the dimension of ***PIF*** as production planning, scheduling and control. It also shows the moderating influence of firm's age (***A***). Consequently our mathematical model can be expanded thus:

CPP = *f*(p,s,c)a.

*Where**:***
p = planning
s = scheduling
c = control
a = age of firm

Methodology

The cross sectional survey design is considered most appropriate because what is being investigated is experiences (Anwuluorah, 1987). Again the range of issues and inter-relations are numerous and diverse.

The study is also a causal study that is intended to identify the effect of the application of ***PIF*** on ***CPP*** subject to ***S*** in the manufacturing industry. The design is expected to reveal, with the moderation of ***S*** the relationship between ***PIF*** and ***CPP.*** The purpose of a cross-sectional survey therefore is to generate a body of data in connection with two or more variables, and to examine and identify patterns of association (Nachimias, and Nachimias, 1981). This design meets our purpose and enables us to generalize from the result of our sample for the entire population. Furthermore, the causal investigation is adopted in this study and is built around the purpose of hypothesis testing in which we examined, subject to ***A*** the causal relationship between ***PIF*** and ***CPP*** in a non-contrived setting.

Population of the Study

The population consists of those manufacturing companies quoted in the Nigerian Stock Exchange (NSE) fact book of 2018. A total of one hundred (100) manufacturing companies were identified, but a sample of eighty (80), using Taro Yamen's formular, was drawn for the study, using stratified random sampling method. In this case, the proportional allocation approach was used firstly to determine the number of companies in each stratum (sector) as classified by the Nigerian Stock Exchange (NSE) Factbook of 2018. (Umoh & Wokocha 2013). Thereafter a simple random sampling technique was used to select members of the sample frame from each stratum (sector), as shown below: Agric/Agro Allied, 5; Automobile and Tyre, 2; Emerging Markets, 7; Engineering Technology, 2; Food/Beverages, 12; Conglomerates, 4; Computer and Office Equipment, 2; Breweries, 6; Building Materials, 5; Chemicals and Paints, 6;

Healthcare, 6; Industries/Domestic Products, 6; Machinery (Marketing), 1; Packaging, 7; Petroleum, 6; Textiles, 1; and Printing/Publishing, 3.

As in Umoh and Wokocha (2013), a total of 81 companies emerged from the proportional allocation approach as a result of approximation error. In order to eliminate one company, the researcher focused on the automobile and tyre sector and computer and office equipment sector since they have the least equal number of companies with the smallest approximations (i.e. 2 and 1.6 respectively). A simple random sampling was initially used to eliminate one company and a company in the automobile and tyre industry was eliminated. After the allocation was set right, a simple random sampling technique was used to select members of the sample. This method was considered suitable so as to give every member of the population an equal chance of being selected. This was done by having a check list of all the companies that were selected from each of the sectors. Names of the companies were written on a piece of paper raided and placed in a bowel. The bowel was rotated for proper mix-up, thereafter a blind folded person asked to pick eighty (80) papers from the bowel one at a time.

Data Collection Methods

Following Umoh & Wokocha (2013), primary and secondary sources of data collection were explored for this study. The primary data were gathered through the administration of questionnaire designed using Five-Point Likert-Scale. While the secondary data were sourced from the companys' financial statements as reported in the Nigerian Stock Exchange Factbook of 2018. The structured questionnaire containing questions relating to ***PIF*** with dimension such as production planning, scheduling and control, as it affects ***CPP*** of firms in the Nigerian manufacturing industry, moderated by the firm's sizes, were served on chief executives or senior managers in the production and operations department. The copies of the questionnaire were administered personally and online (where applicable) by the researcher to the respondents. Sixty two (62) copies of the questionnaire were retrieved and analyzed. To generate the

qualitative data, we adopted an in-depth personal interview through the use of open ended questions designed to clarify certain issues and obtain further intricate details about the phenomena under investigation which were difficult to capture through the structured questionnaire. Sometimes, since the interviews were conducted after copies of the questionnaire with their responses had been retrieved, the interview was also used as a confirmatory test of some of the responses especially those that were not clear. We observed the operations in the study units. Here, we adopted the socio-technical systems model (Susman and Evered, 1978). In this respect, the system's framework guided the collection of facts so that they were organized into an integrated whole about boundaries, transformation of inputs into outputs and the climate of the operations environment. Secondary data were generated from textbooks, journals, company bulletins, annual reports of firms and professional bodies. These materials were reviewed to obtain relevant information, but for this analysis the companies' annual reports for six years were used to generate data for the criterion variables about each organization and the phenomena we were studying.

Research Hypothesis

In undertaking this study, we were guided by the following hypothesis:

H_0: The age context of the organisation does not significantly moderate the effect of ***PIF*** on Corporate Productivity Performance in the Nigerian Manufacturing Industry.

Guide To Decision

This section, as in Umoh & Wokocha (2013), provides a verification of the hypothesis that was stated earlier using the simple linear regression analysis.

H_0: The age context of the organization does not moderate between productivity improvement function and productivity performance in the Nigerian manufacturing industry.

In testing this hypothesis, firm's age was regressed with productivity performance (operational efficiency, equity capital and net profit before tax) of the selected companies. The result obtained is presented in the table below;

Table: Influence of Age in Moderating the Relationship between Productivity Improvement Function and Productivity Performance

Statement Variables	Values
Co-efficient of correlation	0.824
Co-efficient of determination	0.691
t-statistic	3.287
p-value	0.006
Intercept	212682.507
Partial Regression Co-efficient	49067.669

Source; SPSS Version 16 Window Output

The table shows an R-value of 0.824, which indicates a strong influence of firm's age in moderating the relationship between productivity improvement function and productivity performance. The analysis shows that changes in firm's age influence productivity improvement function and account for about 69.1% variation in productivity performance, hence the model is a good fit. More so, since the P-value (0.006) is less than 0.025 for a one-tailed test, it indicates that the age context of the organization significantly moderate between productivity improvement function and productivity performance in the Nigerian manufacturing industry. The null hypothesis was therefore rejected.

DISCUSSION OF FINDING

The logical question one may ask at this point is "what do the research finding entail"? Therefore, this section of the study is focused on a detailed discussion of the research finding by relating them one after the other to previous studies.

Perceived Moderating Variable (age of firm) and the relationship between Production Improvement Function and Corporate Productivity Performance

The firm's age was hypothesized in this study as moderating the influence of the relationship between production improvement function and productivity performance. The finding of this study show that age of the firm, influences the level of production improvement function and consequently lead to increase in operational efficiency, equity capital and firm's growth. An increase in the level of a firm's age, influence the level of production, improvement function and consequently lead to increases in operational efficiency, equity and capital and firm's growth. Hence the age of the firm influence production planning, scheduling and control and causes about 69.1% positive change in corperate productivity performance.

These findings lend credence to Aluko et al (1998) who reported that age of a firm is a source of productivity increases. Yeyu (2004) claimed that older firms tend to be less involved in production planning scheduling, and control and therefore does not significantly moderate the relationship between production improvement function and productivity. Obot and Gang (2009) also claimed that when a firm is old, it tends to do things in the traditional way but new firms are more likely to adapt to operational changes because there are no existing protocols and procedures.

These various findings point to the fact that age of firms moderate the influence of the relationship between productivity improvement function and productivity performance.

Recommendations

Based on these findings, and in tandem with Umoh & Wokocha (2013), the following recommendations were suggested;

1) Since age of firm significantly moderates the degree to which production improvement function enhances corporate productivity performance, Nigerian manufacturing firms must with seriousness be involved in efficient, effective and formal planning of production activities and their implementation in the firm, to harness the economies of large scale production, age, localization of industries and globalization.

2) There should be a formal relationship between the Nigerian manufacturing sector and the tertiary educational institutions, which has been designed to address this problem. This will go a long way to aid the implementation of research findings towards revamping and re-aligning the real sector of the Nigerian economy towards development.

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