

# Environmental Disruptions and Growth of Firms in Brewery Subsector of Nigeria

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## ABSTRACT

Nigerian business environment within which the brewery firms operate in a COVID 19 era is characterized by environmental changes. The growth and success of Brewery firms depend greatly on their prompt response to their environment. In recognition of this therefore, this study examines the influence of environmental turbulence on the growth of brewery firms in Nigeria amidst COVID 19 pandemic. It aims at determining the effects of exchange rate instability on the profitability of brewery firms. In line with this, two brewery firms in Nigeria were selected for investigation. Model was specified in line with the objectives of the study and environmental turbulence is decomposed into exchange rate instability while growth is proxies for profitability. The study uses diagnostic survey research design to carry out the research. Mainly secondary data sourced from publications of breweries, Nigeria stock exchange fact book, annual financial reports and publications of bureau of statistics were used for this study. Data gathered were analysed using Ordinary Least square Technique. The result shows that environmental turbulence impacts on the performance of brewery firms during and even after the impact of Covid 19 pandemic gradually resulted. This paper recommends that brewery firms should respond to challenges presented by the complexities in their environment so as to achieve sustained performance and growth in the sector. A negation of this study argues endangers the separation of Brewery firms in the country.

## INTRODUCTION

Business organizations constantly interact with their environment, which affects how they transform input to output. Environmental turbulence is defined as the disruptions within the external and internal environments culminating in instable and harsh economic situation in the Brewery Sub-Sector. Political instability, policy instability and uncertainty impacts severely on the performance and growth of Brewery firms in Nigeria. Thus the environment of brewery firms in Nigeria comprises a wide range of influence and imperfections during COVID 19 pandemic and this affect business activity in a variety of ways and having the capacity to impinge not only the transformation process but also the overall growth of the organization. Most firms face external environments that are highly turbulent and complex. Thus, environmental turbulence therefore refers to unpredictable and swift changes in an organizations external or internal environment that affects its performance. (Onodugo & Ewurum, 2013). However, not all organizations are exposed to the same environmental changes. Some companies operate in a fairly stable environment while others operate in a slowly evolving environment and still others operate in a turbulent environment. For the brewery firms in Nigeria, turbulence is a permanent new reality. The operating environment of breweries is such that the market stability is constantly threatened by new products, new technologies/high rate of obsolescence, changes in interests rates, exchange rates instability, population, changing income and attitudes of people, multiple taxation, currency devaluation, inflation and terrorism. Failure to respond to the challenges presented by such changes could signal the demise of the organization or at best a significant decline in its potential growth (Worthington & Briton, 2010).

Nigerian brewery firms remain one of the viable sub-sectors of the economy with many market opportunities. They provide the needed food-drinks which Nigerians require for health and happiness. This was so gratifying many years ago, when they were very viable and successful. As noted by brewery sector report (2010), in the 80's, there were only four brewers producing a total of 1.65 million hectoliters per annum but a decade later there was a dramatic growth such that in 1982 there was 22 brewing firms in Nigeria with a total installed

capacity of 11.5 million hectoliters per annum. By 1990 eight years later, a total of 33 brewing plants existed in Nigeria with total installed capacity of approximately 20 million hectoliters. However, while installed capacity grew up till the early 1990s, many of the brewers had ceased to be operational. (Brewery Sector Report, 2010). Thus by 1994, only about eleven breweries remained in operation, capacity utilization had fallen substantially in many cases and several of the plants had been taken over by the industry leaders. Today, only seven breweries are listed on the stock exchange while others are problems-ridden and comatose. The financial reports of the breweries including the market leading breweries for the 2015 financial year revealed declining performance as seen from the major financial indicators - Nigerian Breweries Plc declared 10.50 percent drop in profit after tax for the financial year ended Dec. 31, 2015 (NSE report 2016). According to the News Agency of Nigeria (NAN), the company posted a profit after tax of N38.06 billion against N42.52 billion achieved in the corresponding period of 2014. Further breakdown of the company's result indicated that profit before tax dipped by 11.30 percent to N54.514 billion from N61.461 billion reported in 2014. (NSE report 2016). For Guinness Nigeria Plc., profit dropped from N1,512 billion recorded in the period of 2015 to N864.172 million Revenue as at 31 March 2016. Cost of sale for the period under review stood at N39.352 billion from N45.014 billion gross profit went down from N39.735 billion in 2015 to N30.266 billion, while other income dropped to N346.384 million from N560.174 million. Operating profit went down significantly from N3.603 billion to N10.600 billion (NSE report 2016). It is very clear from the foregoing that the brewery firms in Nigeria is grappling with ways and means of achieving and sustaining improved growth given the current economic, social and cultural changes in their environment. Despite the strategic innovations and generous investments made by the breweries, there is still little positive impact of these on the profit published by the companies. Guinness Nigeria over the last three years has invested well on the expansion of its breweries and distribution network, it is sad to know that these investments are yet to boost the profit of the company. More so, despite the positive contributions from Guinness strategic innovations like origin brand, snapp, and satzenbran to net sales, huge finance costs in an ever increasing interest rate environment negatively impacted overall profitability. (This day, 2016). Similarly, the economic uncertainty in the country weakened Nigerian breweries growth potentials. The company attributed their sluggish performance to increased competition in the brewing sector, proliferation of the market with cheaper beers and insecurity in the northern part of the federation. (NB Plc report, 2016).

The current turbulence in the operating environment of these breweries have now reached an alarming dimension deserving solutions for obvious challenges of the brewery firms.

Recently, leading companies in the food and beverage sub sector under which the focus companies in this study belong wrote to labour on discussions on retrenchment of staff as a result of difficult business terrain, dwindling, irregular and insufficient power supply.

This is non surprising because business organizations become sick when they fail to record impressive financial performance overtime. It is therefore important to investigate how the business environment affects the growth of breweries in Nigeria. Ability to achieve and maintain high performance and productivity is therefore a key challenge facing management of breweries in Nigeria in the era of covid 10 and ever today. It therefore becomes imperative to study and understand the influence of environmental turbulence on these breweries and how they can achieve sustained growth deemed in the country. This study is in seven sections. Closely following the introductory subsector is the statement of problem in section two. Conceptual and terminological clarification firm the tenet of section three while four focuses on Environmental Turbulence articulations. Section five is promised on Environment and Business Performance and section six is on embodiment of theoretical discourse and Empirical Review of associated literature. Analytical methodological issues in respect of Empirical Result and related statistics as well as are anchored in section seven. Paper terminates with a brief policy Advocacy and concluding remarks.

## **Statement of the Problem**

Nigerian Brewery industry has remained one of the main drivers of manufacturing growth in the country until the outbreak of COVID 19 pandemic. Ogbu (2012) states that no other sector is more important than manufacturing in developing an economy, providing quality employment and reducing poverty. Thus, the contributions of the brewery sub sector to national development cannot be overemphasized. This cut across generation of employment, creation of business opportunities, attracting foreign direct investments, sustained

CSR investments, and generation of revenue for government at all levels as well as other linkage effects associated with COVID 19 pandemic. Unfortunately, Nigerian brewery industry is facing problems at present due to an increase in cost of living. Major problems in this regard include but not restricted to exchange rate instability, high level of inflation and interest rate, use of obsolete equipment, security challenges, multiple taxation, devaluation, terrorism amongst others. Equally it has been established that the environment in which Brewery firms operate in Nigeria is characterized by uncertainties and complexities and thus impact on the performance of the breweries. The brewery firms are challenged by a high level of dynamism, uncertainty and complexity in the political/legal, economic, technological, socio-cultural and international environment in which they operate. These rapid changes in their environments leads to turbulence in which makes it difficult for managers to understand the direction of the firm. A greater consequence of this is the drastic reduction in the number of operational breweries from over 30 to only seven at present. Okwo & Okelue (2012) noted that increased operational costs and increased cost of imported raw materials led to the demise of smaller breweries leaving only the breweries with greater capital bases, advertising, retailing and distribution links. (Okwo & Okelue, 2012). As popularized by Meristem (2015), the major problems facing the breweries include volatile interest rates, changes in technology, security challenges in the country, declining consumer spending due to increased pressure on flexible income resulting from high cost of living, health awareness and religiosity. In the same vein, majority of the brewery firms have laid off staff as a result of difficult business terrain, dwindling profit, irregular and insufficient power supply which has negatively affected their performance. (NAN, 2016). This disturbing situation poses a threat to Nigerian economy since the brewery firm constitutes an important part of the non oil sector which is very beneficial to the economy. The Nigerian economy has been forecasted to grow at a constrained rate due to the oil price collapse. (Business Monitor International 2016). This is impacted by the difficulties of implementing policies that facilitate a transition to a growth model that is not driven by oil. The brewery firm constitutes an important part of the non oil sector and as such the continuous dwindling growth and even shutting down of breweries as a result of tough operating environment hinders the economic growth and development of the nation. It therefore, becomes imperative to tackle the growth challenges of the brewery industry while taking into consideration macroeconomic factors (strength of the economy, inflation, interest rate), political (regulations, laws, taxes) and socio-cultural (tastes, environmentalism, etc). In line with these problems, the objective of the study is to determine the influence of environmental turbulence on the growth of brewery firms in Nigeria. Specifically, the objective is to examine the implications of exchange rate instability on the performance of selected brewery firms. Here, environmental turbulence is decomposed into exchange rate instability while performance is proxies for profitability.

## CONCEPTUAL AND TERMINOLOGICAL CLARIFICATIONS

### Concept of Business Environment

Pearce & Richard (2011) view the environment of a business organization as all elements that exist outside the boundary of the organization and have the potential of affecting all or part of the organization. In their articulation, the environment of an organization can be understood by analyzing its domain within external sectors. Harrison (1996) in Erumegbe (2015) views environment as all the conditions, circumstances, and influences surrounding and affecting the development of the total organization or an of its internal systems. For Andrews, Mintzberg and Quinn (1992), the environment of an organization in business is "the pattern of all the external conditions and influences that affect its life and development". The environment comprises (Morrison 2006). Morrison (2006) and Bedi (2011) visualized the environment of a business in terms of layers beginning with the immediate internal environment within the organization and moving outwards to the external environment surrounding the business and influencing its organization and operation. The business organization, in the process of transforming heir input to output enters into a mutual relationship with its environment. The environment exerts pressure on the business while the business, in turn, influences some aspects of its environment. Thus, there is a symbiotic linkage between organizations and their environment. Pearce & Richard (2011) further noted two essential ways the environment influences organizations: firstly, the need for information about the environment followed by the need for resources from the environment. The environmental conditions of complexity and change create a greater need to gather information and respond based on the information. The organization also is concerned with scarce material and financial resources and with the need to ensure availability of resources.

The environment can be classified into micro and macro environment - internal and the external environments. The internal environment consists of factors which influence the firm's activities but are within the firm's control. These include factors like financial resources, technology, human resources, structures and processes. The external environment is made up of those factors that affect the operations of the firm but are beyond the control of the firm. The environment therefore is an embodiment of political, economic, socio-cultural, technological, ecological and legal variables, the external environment comprises of all the factors that affect the performance of a business organization but are outside the control of the organization. The external environment is the source of major threat today's organizations. The environment often imposes major constraints on the choices managers for the organization. For a business organization to succeed, it must adapt to the complexity in the external environment. The external environment further comprises of the task and the general environment (Morrison, 2006). The task environment includes sectors with which the organizations interacts directly and have a direct impact on the organization's ability to achieve its goals. The task environment typically includes the industry, raw materials, market sector and perhaps the human resources and international sectors. The general environment includes those sectors that may not have a direct impact on the daily operations of a firm but will indirectly influence it. The general environment often includes socio-cultural, economic conditions, technology, and financial resources sectors. These sectors affect all organizations eventually. Pearce & Robinson (201) agree that this sector presents the greatest challenge to managers. Adeoye & Elegunde (2011) agree that the external environment is uncontrollable therefore the firm has to match its operations to it in order to survive. This study focuses on the external environment since it is that aspect of the business environment that impacts heavily on the performance of the business organization. The proper understanding of the social, political, illegal and economic environment helps managers to determine opportunities and threats to its business.

### **Political Environment**

This refers to the activities of government which in one way or the other affect operations of the business. Changes in administration or system of government sometimes come with political instabilities and unstable government policies and programmes, posing opportunities or challenges to business. As John (2015) argued, political environment has significant impact on business performance of brewery firms in Nigeria. The Nigerian political environment is characterized by frequent changes in government policies and programmes thereby negatively affecting corporate long-term planning. This is attributable to party politics with threats of conflict hindering business patronage and scaring away foreign investors from the country. Managers of breweries must understand the political system so as to gain significant benefits from managing the political environment and its associated risks and ignore the environment at their peril.

According to Bedi (2006) political environment has a risk level to which corporate managers adjust their investment decisions. Muiyiwa (2013) posits that in times of political instability, there is also likely to be a situation of policy instability and uncertainty from the point of view of business organizations. In addition, in most developing nations like Nigeria, a change in government does not always follow clear cut procedures. These frequent changes in governments especially during military dictatorships create unnecessary tensions and uncertainties. The brewery industry has witnessed government policies that negatively affected their operations the one time bann on importation of barley-a raw material used in the production of beer by the government posed some challenges to the breweries. In such a case brewery firms that are not sensitive to their environment may experience a drag in performance.

### **Socio-cultural Environment**

Socio-cultural environment consists of the society and cultures where an organization operates. It is a composite series of social and cultural conditions established in the society which have far reaching effects on business conditions (Muiyiwa 2013). The social and cultural conditions in which the organization operates can be understood by studying the demographic characteristics of the population, nature and lifestyle of the people, the groups they forms and the nature of interactions among the groups and the institutions they have created for themselves. According to Nwacke (2005), this plays a major role in shaping the skills, values and customs of the organizations human resources: To obtain relevant information about the social environment, managers of breweries must study and analyse demographic data and seek to identity cultural trends, linkages and variations.



Key demographic data in this respect include population density, age, distribution, and education levels. This greatly impacts the sales and distribution of brewery product in Nigeria.

### **Technological Environment**

Beddi, (2006), view technology as one of the most pervasive factors in the environment of a business. He defined technology as the sum total of the knowledge we have of ways to do thing. The growth and competitiveness of the business sector hinges critically on the technological development which itself requires a fostering environment (Beddi, 2006). The technological environment can be regarded as the state of the use of scientific principles and mechanical arts to different tasks in the society. Technology, according involves the application or scientific principles t industrial problems. This may include improvement in machineries, in methods of production, in materials and management. It can also be seen as the systematized practical knowledge, skills, methods, activities and artifacts by means of which man pushes back his limitations and extends this productive capability. The improvement and changes in materials and processes could be as a result of technological changes. Due to research, new materials and processes are discovered thereby bringing about constant changes in goods and services. Advance in technology is one of the major problems facing brewery firms in Nigeria. As new machines and methods of operation are borne, technologies in use tend to go obsolete, this has far reaching effects on performance. The growth and competitiveness of the brewery firms hinges on the technological development which requires a fostering environment.

### **Economic Environment**

The economic environment of a business consists of the economic system, state and policies that affect business operations. The environment consists of the microeconomic and macroeconomic environment. The micro economic environment affects the immediate business decisions while the macroeconomic environment envelops all business firms within a nation. This environment is defined by factors such as exchange rate, inflation rate, Gross Domestic Product (GDP), Government Fiscal and Monetary Policies, unemployment rate, capacity utilization, interest rate, money supply, aggregate demand, balance of payment. Macroeconomic stability is one of the important conditions for the growth of business (Bedi 2006). When most of the economic variables are not stable, it heightens uncertainty, hence turbulence in the business environment. Thus, the economic environment plays a great role in determining the performances and survival of brewery firms.

### **Exchange Rate**

This simply means the value of one country's currency in terms of another. It is the price for which the currency of a country's currency can be exchange for another. According to

Bedi (2006), this rate is determined in the foreign exchange market and depends upon the demand for the supply of foreign currency under competitive conditions. import and export activities are facilitated by exchange rate exchange rate instability impacts heavily on the performance of brewery firms as they rely on foreign countries for some of their raw materials.

### **Industrial Production**

Industrial production simply means the processes involved in transforming input to ouput.

During manufacturing, different production processes are involved using different technologies. Brewing industries will only atach important to that process which is characterized by technical efficiency. Environmental turbulence can create technical inefficiency and inturn impact sales and overall performance of the firm.

### **Manufacturing**

Manufacturing is the process of conveying raw materials, components, or parts into finished goods that meet a customer's expectations or specifications. In the process of manufacturing all the factors of production is put to use.

## **Turnover**

This is the total amount of revenue generated by a business during the calculation period.

This is restricted to revenue generated from operations a business is as good as its turnover is especially for the breweries. Sales are the pulse of the business and should be vigilantly maintained at optimum levels to generate revenue. It is a very important indicator of performance.

## **Inflation Rate**

Inflation is a process in which the general price index records a sustained and appreciable increase over a period of time (Bedi 2006). When inflation rate exceeds 5 percent, It could hinder the growth of firms. Inflation can also be seen as the temporary increase of the stream of money in circulation of a faster than that of the stream of goods and services. It is an important variable in investment decision. Inflation has a chain effect on a business. This is because in macro economics dynamics, inflation rate impacts other economic variables exchange rate, interest rate, export and imports, money supply and credit as well as other variables which affect the business environment. (Bedi 2006). A proper understanding of changes in these variables is essential to understand dynamics of a business environment and make strategic adjustment to the changing scenario.

## **Market Share**

Market share is the percentage of an industry's total sales that is earned by a particular company over a specified period of time, market share is a measure of the customer s preference for a product over other similar products. If a company's market share is higher than that of his competitions, it means that company is making more sales and thus a market leader in the business arena. The breweries all strive to gain a larger market share. This is a major indicator of performance.

## **Share Capital**

Since capital is the amount of funding a company raises through the sale of shares of stock to the public investors. It constitutes the main source of equity financing. Share price is an indicator of the health of a company. increased profit will drive a company's stock price up.

## **Unemployment**

This is the total workforce who are unemployed and are looking for a paid job. A rising rate of unemployment poses a threat for the breweries. This is because as unemployment rate increases, chances are that other economic variables like interests rate, inflation rate and others. Unemployment rate is a macroeconomic factor that affects business performance. A too high unemployment rate may result in recession and less discretionary consumer spending resulting in insufficient sales to keep the business going.

## **Environmental Turbulence Articulations.**

Strigter (2002) points that business organizations are faced with changes in their environment. These changes originate from different forces, like political, demographic, economic, legal, technological, infrastructure, ecology and social forces. Johnston and Scholes (1989) define environmental turbulence as consisting of two parameters: dynamics and complexity. The business environment is multifaceted. complex, and dynamic in nature and has a far-reaching impact on the performance and growth of business.

According to DANKBAAR (1996), a turbulent environment is an environment in which one cannot predict the outcome of one's actions. Smart and Vertinsky (1984) defined turbulence as change that occurs in the factors or components of an organization's environment. The amount of environmental turbulence closely relates to the degree of uncertainty facing a firm. Organizations must cope with and manage uncertainty to be effective. Uncertainty means that decision makers do not have sufficient information about environmental factors. As the

environment becomes increasingly turbulence, factors become less predictable and more uncertain as the values of important variables and the variables themselves move in an unpredictable manner (Smart & Vertinsky). According to Drucker (1980) and Huber (1984), turbulence displays dramatic increases in the number of events that occur within a given period.

Sambamurthy et al (2013) and Overby et al, (2006) emphasized the need to respond to business environment pressures after sensing the changes. Furthermore, the response has to be in time and with adequate speed and precision. The strength of the response is judged from its effectiveness and how the enterprise thrives after the response. Ansoff and McDonnell (1990) explained the changes in the environment in terms of turbulence.

Environmental turbulence they argued is a combined measure of the changeability and the predictability of the environment. Changeability is characterized by the complexity of the environment and the relative novelty of the successive challenges an organization encounters in the environment.

Predictability is characterized by the rapidity of the change and visibility of the future.

Visibility shows the adequacy and timeliness of information about the future. They further argued that a firm's performance is optimum when the aggressiveness of the firm's strategic behaviour matches environmental turbulence, responsiveness of the firm's capability matches the aggressiveness of its strategy and the components of the firm's capability support each other. Some classical authors clearly distinguished turbulence from quick change. Emery & Trist (1955) opined that quick change can be predictable and turbulence is equal to unpredictability. According to Kim, Cameron and Whetten (1987), turbulence is change experienced by the organization that are major, rapid and discontinuous". These changes are no longer incremental. Usually they are more radical, non-linear and frequent (KIDD, 2000). Rapid change creates uncertainty for managers.

Even though the organization has few external elements, those elements are hard to predict, and they react unexpectedly to organizational initiatives.

The greatest uncertainty for an organization occurs in the complex, unstable environment.

A large number of elements impinge upon the organization and they shift frequently or react strongly to organizational initiatives. When several sectors change simultaneously, the environment becomes turbulence.

## **Environment and Business Performance**

The environment in which Brewery firms operate in Nigeria is characterized by uncertainties and complexities which impact on the performance of the breweries.

Business performance relates to how successfully a business accomplishes its set goals efficiently. For a business to survive in the long run it must be seen as coping, adapting and responding favourably to the environment it operates in. (ICAN, 2009). Organizations need to respond and adapt to changing environmental conditions if they intend to survive (Proctor, 2000). Changes in the external environment of a business may induce a change in the strategy, structure, technology or the nature of human resources that the firm employs, into the business enterprise if changes in it are unfavourable. According to Johnson, Scholes and Whittington (2005), an organization exists in the content of a complex political, economic, social, technological, environmental and legal world. Given by the interaction between organizations and environment, it follows that performance relates to how an organization reacts, understands and influence to certain environment changes. Business performance is an approach used in assessing the progress made toward goals, identifying and adjusting factors that limit the progress of the firm in a competitive environment. Regular changes in the environment of breweries. These changes could be political, economical, technological, social, cultural or legal changes within the environment. Such changes can create difficulty in acquiring information which may mar the decision making activities of the manager. The brewery firms operate in an ever changing environment and this has far reaching implication on performance. For e-instance, high interest rate can make borrowing difficult for breweries which in turn hampers their investment plans. Brewery firms can only succeed when they remain sensitive to the changes in their external environment and respond to those changes promptly.

## THEORETICAL DISCOURSE

### Open System Theory

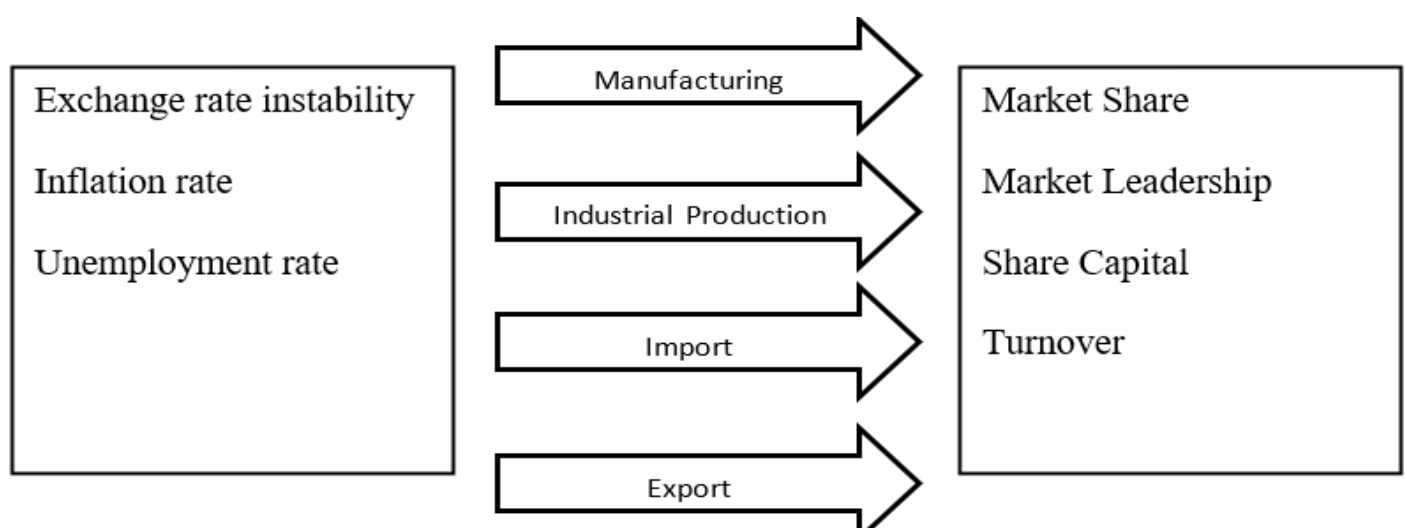
This study is founded on open systems theory in recognition of the fact that theory without fact is barren and fact without theory is meaningless. The theory was popularized by Ludwig von Bertalanffy (1956). Other strategic thinkers that contributed to this theory include: Alfred North Whitehead, Chester Bernard, Anatol Rapoport, Kenneth Boulding, Paul A. Weiss, Ralph Gerard, Kurt Lewin, Roy R. Grinker, William Gray, Nicolas Rizzo, Karl Menninger and Silvano Arieti. The theory is based on the concept that an organization is a system which is made up of a number of interdependent parts functioning as a whole for some purpose. According to Ludwig Von Bertalanffy, open systems in contrast to closed systems interact with their environment. Brewery firms as open systems regularly exchanges feedback with its external environment. Open systems are systems, of course, so inputs, processes, outputs, goals, assessment and evolution, and learning are all important. The theory proposes that certain aspects are critically important to open systems: these include the boundaries, external environment and equifinality. The external environment of the brewery firms includes a wide variety of needs and influences that can affect the organization, but which the organization cannot directly control. Influences can be political, economic, ecological, societal and technological in nature.

Kripnner (1997) maintains that a "system" may be described as a complex of interacting components together with the relationships among them that permit the identification of a boundary-maintaining entity or process. All the parts of the system are inter-related and a change in one will impact on others. Similarly, one poor performing part will potentially negatively impact the others and lead to less than successful results. Here, there are five components, inputs, a transformation process, outputs, feedback and the environment. The system theory is very important in understanding environment. A system that does not relate with its environments has a tendency to eventually run down and die. Strategy, which means that the whole is greater than the parts is an important concept for managers as it reinforces the need to work together in a cooperative fashion. When every business organizations slowly and solely start depending on several business financial systems, there will be a wide scope for their growth in term of business sustainability. Systems theory is fundamental to the decision-making process in an organization implying that brewery firms also interact with their environment and tend to adapt its behaviour to the changing conditions in the environment so as to ensure sustainable performance.

In this interaction process, environmental turbulence associated with instability of exchange rate, industrial production process, manufacturing, tum over, inflationary rate, market share, share capital, import,, export labour forced unemployment =, balance of payment and economic growth are viewed as having relationship with the system.

### Conceptual Model Environmental Turbulence and Performance

Environmental Turbulence Product Process





## Empirical Literature

Meristem (2014) carried out an analysis of the performance of quoted brewery firms in Nigeria their findings revealed different degree of performances for various companies. Nwaiwu J & John M. (2015) investigated the impact of political environment on business performance of multinational companies in Nigeria. Using only secondary data and SPSS statistical tool, findings showed that political environment has a negative significant impact on business performance of multinational companies in Nigeria.

Aghadowol R. (2014) studied the effect of turbulence environment on business performance from the view of agile manufacturing. They made use of questionnaire to collect data which was analysed using SPSS. Their findings revealed that dynamic environment influences agile manpower significantly.

Sola & Aypbami (2013) examined the impact of perceived environmental uncertainty and strategic agility on perceived performance of selected banks in Oyo State. The study aimed in determining the main and interactive effect of perceived market turbulence, competitive integrity, strategic leadership unity and resource fluidity on organizational performance, using Multiple Analysis of Variance (MANOVA), Canonical Correlation and Multiple Regression. The findings showed that perceived market turbulence has an influence on organizational performance.

Nwaeke (2013) critically examined environmental dynamics, organizational adaptation and effectiveness of organizations in Nigeria. From their analysis, it was observed that environmental uncertainties impact organizations. They recommended that organizations need to adopt ways and means of adapting reasonably to these environmental changes order to for them to survive grow, develop and become very profitable.

Gachambi N. P. (2013) carried out a study aimed at finding out how East African breweries responded to environmental changes. Using both primary and secondary data, the study found out that EABL carried out annual strategic planning sessions, which were guided by long-term goals the company was pursuing.

Moyiwa O. (2013) studied the impact of business environment on entrepreneurship performance in Nigeria, using secondary data and OLS technique for analysis they found that the government is the vital organ that can lead to a beneficial business environment also recommends the inclusion of entrepreneurship in the curriculum schools.

Hunda, Tamumomiebi & Momdu A. (2013) studied the effect of environmental change on a business organization in Nigeria. They carried analysis using SPSS. From their findings that environmental factors affect the organizational performance.

Adeoye & Elegunde (2012) examined the impact of external business environment on organizational performance in the food and beverage firms. Data was collected using questionnaire and analysed using multiple regression analysis. Performance was decomposed into effectiveness, efficiency, increase in sales and achievement of corporate goals. Their findings revealed that external business environment impacts organizational performance in the food and beverage firms.

## ANALYTICAL METHODOLOGY

This study on environmental turbulence and performance of selected brewery firms covers the period of 1990 to 2015. To complement this study, only secondary-data from Annual Publications/Report of the company studied, journals, Nigeria Stock exchange fact book (various issues), online publications related to the subject matter, publications bureau of statistics, balance sheets of the brewery industries as well as annual financial statement in published financial statement in published financial reports.

### Method of Data Analysis

The major focus of this study is to examine the influence of Environmental Turbulence growth of selected brewery firms in Nigeria with particular reference to Nigeria breweries Plc and Guinness Nigeria Plc. In the equations for empirical modeling, the Ordinary Least Square (OLS) technique is adopted with the use of gretl

econometric package. The use of OLS is to avoid bias as well as obtain appropriate association of the values measured. The equation is logged because log linear form permits direct estimation and interpretation of the associated coefficients of the model. The study captures equation for each of the companies under study Model Specification. In order to go into the fundamentals of the study, a period between 1990-2015 were selected and used. In a multiple regression analysis, using aggregate averages of the stylized facts, that is performance indicators of the brewery industries, the model then takes the form thus:

$$Prt, (EXCH, INDP, MANU, TNO, INFL, MKTSH, SCAP, UMEM-, EXP, BOP, GDP)\mu, \dots(i)$$

Econometrically we have

$$Prt = b_0 + b_1 LEXCH + b_2 LNDP + b_3 LMANU + b_4 LTNO + b_5 LINFL + b_6 LMKTSH + b_7 LSCAP + b_8 LUNEM + b_9 LIMP_{t-1} + b_{10} LEXP_{t-1} + b_{11} LBOP + b_{12} LGDP + \mu \dots(ii)$$

$$Prt = b_0 + b_1 L_1 + b_2 L\beta_3 + b_3 + b_4 + L\beta_4 + b_5 L\beta_6 + b_6 L\beta_6 + b_7 L\beta_7 + b_8 L\beta_8 + b_9 L\beta_9 + b_{10} L\beta_{10} + b_{11} L\beta_{11} + b_{12} L\beta_{12} + \mu \dots(ii)$$

Where:

M represents “while noise” or error term or disturbance term or stochastic term with usual normality properties

$B_0 - b_{12}$  = represents parameter estimate

PRT = Log of profitability

LEXCH = Log of manufacturing

LTNO = Log t Turnover

LNFL = Log of inflation

LMKTSH = Log of market share

LMSCAP = Log of share capital

LBOP = Log balance of payment

LGDP = Log of Real Gross Domestic Product

## Empirical Result and Related Statistics of guinness Nigeria Plc

Table 1: Profitability Equation

Method of estimation = Ordinary Least Squares

Dependent Variable: Profitability

Current Sample: 1990-2015

Number of observation: 25

Variable	Estimated coefficient	Standard error	t-statistics	P-value
C	6.91534	3.60048	1.3619	[.183]
$\Delta LEXCH$	-743381	2.76488	-2.518581	[.608]
$\Delta LINDP$	.585298	1.75352	2.19728	[.037]
$\Delta LSHCAP$	.578236	.237245	1.855241	[.012]
$\Delta LMANU$	-623046	.0616981	-768282	[.449]

$\Delta LTNO$	.660997	.119042	5.55263	[.000]
$\Delta LINFL$	-347878	.18792	-1.98722	[.116]
$\Delta LMKTSH$	.465135	.128153	1.94432	[.011]
$\Delta LMP_{t-1}$	.425384	1.82476	1.99341	[0.28]
$\Delta LEXP_{t-1}$	.477871	.08783	2.18312	[0.31]
$\Delta LBOP$	.687534	.7345	2.3418	[.458]
$\Delta LUNEM$	.8123481	2.01382	2.018331	[0.00]
$\Delta LINTR$	.256671	.07672	2.25831	[.221]

Source: gret – package of analysis

Mean of dep. Var. = 10.6159

LM bet. Test = 2.21737

Std. Dev. of dep. Var. =

Durbin-Waston = 2.15973 [.30.907]

Sum of squared residual = 15.2738

Jarque-Bera test = 14.26060[.001]

Variance of residuals = 565696

Ramsey's RESET2 = 293879[.592]

Std. error of regression = .152128

F(zero slopes) = 60.6091[.000]

R-squared .899791

Schwarz B.I.C. = 42.2368

Adjusted R-squared = .884945

Log likelihood = -33.5726

Table 2: Empirical Result and related Statistics of Nigeria Breweries

Profitability Equation

Method of estimation = Ordinary Least Squares

Dependent Variable: Profitability

Current Sample: 1990 – 2015

Number of observation: 25

Variable	Estimated coefficient	Standard error	t-statistics	P-value
C	244.098	497122	1.491022	[.627]
$\Delta LEXCH$	-868.357	.791836	2.338897	[.737]
$\Delta LINDP$	-391.948	1.10346	2.355300	[.725]
$\Delta LMANU$	-287.030	.121193	-2.36837	[.025]
$\Delta LTNO$	.13993E-02	.011201	.116949	[.908]
$\Delta LINFL$	.528917	0.231185	1.99872	[.778]
$\Delta LMKTSH$	.687928	0.412358	2.1161381	[.6387]
$\Delta LSCAP$	.0638401	0.2211841	.245538	[.003]
$\Delta LUNEM$	.08992	0.3319	.28413	[0.014]
$\Delta LIMP_{t-1}$	7.647302	0.232276	2.227241	[0.004]
$\Delta LEXP_{t-1}$	6.123216	0.41201	1.991872	[0.112]
$\Delta BOP$	.687534	.7345	2.3418	[.458]
$\Delta GDP$	.85993	.84378	-2.616471	[.198]

Source: gret – 1 package of analysis

Means of dep. Var. = 11.1849

LM bet. Test = 2.65808 [.103]

Std. Dev. Of dep. Var. = 1.69819	Durbin –Waston = 2.18375 [.208.973]
Sum of squared residual = 9.18888	Jarque-Bera test = 1.15252 [.562]
Variance of residuals =	Ramsey’s RESET2 = 3.20454 [086]
Std. error of regression = .606263	F(zero slopes) = 36.3714 [.000]
R-squared = .8947216	Schwarz B.I.C = 37.5722
Adjusted R-squared = .872548	Log likelihood = -25.4422

## DISCUSSION

The regression result of the implication of environmental turbulence (decomposed into instability of exchange rate) and performance (proxied for profitability) of selected brewery firms reveals salient points. In this case, the equation regresses profitability on exchange rate instability, industrial production, manufacturing, turnover, inflation market share. Share capital, labour force (unemployment), import at a particular point in time, export as a particular point in time. Balance of payment and real gross domestic product in other to determine the exact impact of environmental turbulence on the performance of Guinness Nigeria plc. and Nigeria brewery plc. This of course is also to establish the relationship between dependent and independent variables in the study. For Guinness Nigeria plc, the estimated coefficient of the constant term is positive and satisfactory. This is also applicable to Nigeria Brewery Plc implying that at zero performance of all the independent variables in both firms, profitability will increase by #6.92 million (Guinness Nigeria Plc) and #244.1 million for Nigeria Brewery Plc and the result is statistically significant at 0.2 percent and 0.6 percent respectively. The coefficient of exchange rate instability in Guinness Nigeria Plc is statistically significant at 0.6 percent and statistically significant at 0.7 percent for Nigeria Breweries Plc implying that a positive relationship exists between environmental turbulence (exchange rate instability) and performance of brewery firms under study. The coefficient of Industrial production for Guinness Nigeria Plc is equally statistically significant at better than 0.1 percent and also statistically significant in Nigeria Brewery Plc at 0.7 percent. The coefficient of share capital for Guinness Nigeria Plc is fairly significant at better than 0.1 percent and is statistically not significant at 0.1 percent p-value independent variables in both brewery firms. The coefficient of Manufacturing for Guinness Nigeria Plc is statistically not significant at 0.5 percent while it is statistically significant at 0.3 percent in Nigeria Brewery Plc. This shows variation in the environmental circumstance of Nigeria Brewery Plc and Guinness Nigeria Plc in favour of Nigeria Brewery Plc. The coefficient of turnover for Guinness is statistically significant at better than 0.1 percent and statistically not significant in Nigeria Breweries Plc. This implies a positive linkage between environmental turbulence and performance of Guinness Nigeria to the disfavor of Nigeria Breweries Plc. The coefficient of market share, import and export at a particular point for Guinness Nigeria plc are statistically significant at 0.1 percent respectively and also statistically significant in Nigeria Breweries Plc at better than 0.1 percent for these variables. This implies that these variables respond positively to environmental turbulence in the company studied. The coefficient of unemployment, labor force, interest rate and Balance of payment are respectable and statistically significant at less than 0.1 percent. This is also similar in Nigeria Brewery Plc the implication of which is that the two firms. There is a positive relationship between Unemployment (labour force) Interest rate and Balance of payment.

The adjusted  $R^2$  for Guinness Nigeria plc is 0.899791 while Nigeria Brewery Plc also has an adjusted  $R^2$  squared of 0.8947216. This implies a good fit for the model in both companies. In other words the variables in the two firms explain up to about 89 percent of the variations in the variables. The statistics show a result of 60.61 percent and a statistical significant of 5 percent level. In the equations, the value of Durbin Waston is 2.15973 for Guinness Nigeria and 2.18375 for Nigeria brewery Plc while in both cases the value of  $R^2$  is less. The implication is that there is no case of auto correlation and the result is therefore valid for policy analysis.

## POLICY ADVOCACY AND CONCLUDING REMARKS

From the result of the analysis, environmental turbulence has far reaching implications on the performance of brewery firm studied. Any change in the macro economic variables in the external environment of brewery firms



creates a situation of uncertainty which can lead to turbulence in the environment. The result of our analysis shows that the environment has a significant impact on business performance of brewery companies. The business environment where the brewery firms operate is characterized by frequent changes in the economical, technological, socio-cultural, political aspects of the environment. Brewery firms can succeed is in concert with the articulation of Worthington & Britton (2010). That failure of firms to respond to the challenges presented by the changes in their environment could signal the demise of the organization or a decline in its performance.

## **BASED ON THE FORE GOING THE STUDY RECOMMENDS AND ADVOCATES**

1. Organization should be encouraged to respond promptly to changes in their environment. Policy makers in the brewery sub sector should encourage application of adaptable technology which agrees with the operational methodology of organizations as this contributes to maximum and sustained performance.
2. Management of brewery industries should in recognition of performance in director's work creatively towards enhancement of profit while taking into consideration macroeconomic factors in their environment.
3. In order to succeed, brewery firms must develop a clear understanding of the trend of external business environment and forces that shape competition. The understanding will enable them choose the appropriate strategy or strategies that fit the trend in the external business environment.
4. Given the dynamic and rapidly changing environment in which most organizations compete. It is important that organizations maintain their performance measurement system.
5. Government should endeavour to encourage manufacturing by ensuring constant power supply, provision of motorable roads and rail systems as well as friendly tax and exchange rate regime.

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