

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The brewing sub sector is a very important sector in the Nigerian manufacturing sector and it is believed to contribute immensely to Nigerian economic growth. However, one of the cardinal variables that influence the performance of firms has been the dynamic and volatile business climate. Complexity, dynamism, and uncertainty have recently become dominant characteristics of business environment in the global business (Darbanhosseiniamirkhiz, Khairuzzaman and Ismail (2012). This is associated with free entry and free exit of business organizations in Nigerian business environment. Onwuchekwa (2000) opined that the business environment is the location of constraints, uncertainties, competence etc which business organizations require to carry out their productive activities and achieve their objectives. According to Akpan (2012), the environment consists of some economic, international, market, political, regulatory, supply, technological and socio-cultural variables. The instability in these variables influences the performance of firms either positively or negatively. Some of the breweries in Nigeria may have closed as a result of unstable business climate making it difficult for firms to breakeven and stay in business. According to Equity Research Report, (2014), the number of breweries in Nigeria in 1990 was about thirty three (33) with total production capacity of 20 million hectoliters but by year 2013 only about four of these Breweries are still operational with production capacity of about 15 million hectoliters (15mhl) per annum. This is a reduction of five million hectoliters from what it was in the 90s.

As much as businesses factor in uncertainties, the one thing that firms including breweries want to avoid at all cost is the instability in business environment. This may result from insecurity, competition from alcoholic and other non-alcoholic beverages, exchange and interest rate volatilities, inflation rates, technological changes, legal and regulatory volatilities as their operations may be adversely hit as a result of these variables. Hence (Wu 2003) maintained that industrial organisations have to focus mainly on the influence of the business environment on performance to avoid being adversely hit by sudden environmental changes. According to

Osagie (2014) from Meristem (2014), across the world, one industry known to thrive well, amidst declining economic performance, is the beer, liquor and the overall alcoholic beverage industry. This is because people drink beer whether they are happy or sad. Despite this, a large number of breweries have closed down over the years. The survivors seem to be larger breweries with strong financial base (Meristem 2014).

The three companies under study are Nigeria-based companies active in the brewing industry. The Companies are primarily engaged in the brewing, packaging and marketing of beer and non-alcoholic malt drinks. They include Nigerian Breweries plc, Guinness Nigeria Plc, and International breweries.

Nigerian Breweries (NB) PLC is a subsidiary of Heineken, one of the top four Brewing giants in the world (Equity research 2014). Established first in Lagos in 1949, the company has a production capacity of 3 million hectoliter per annum. In terms of market capitalization and holding structure, NB is one of the top most capitalized stocks listed on the Nigeria Stock Exchange (NSE) with a total of NGN1.16trillion, representing 9.30 per cent of total market capitalization(NB PLC annual report 2014). Its mission is “to be the leading beverage company in Nigeria, marketing high quality brands to deliver superior customer satisfaction in an economically friendly way” (NB PLC annual report 2014, meristem research report 2014).

Guinness Nigeria operates as the second largest brewer in the country (after Nigerian breweries Plc), with operating plants in four locations (Ikeja, Benin, Ogba and Aba). Founded in 1950 and incorporated in 1962, Guinness built its first brewery in Ikeja in 1963 (Rasaq 2010). According to Equity research (2014), in the last two years, GUINNESS launched five innovative products to support its weakening performance (Malta Guinness Low Sugar, Dabic Extra Lager, SNAPP, Alvaro and the recent Orijin) in a campaign tagged the ‘*colourful world of more*’. GUINNESS is a subsidiary to the Diageo Group (46 per cent stake), the fourth largest brewer in Africa and a world's leading premium drinks producer (Equity research, 2014). In terms of market capitalization and holding structure, GUINNESS represents 2.18 per cent of NSE market capitalization with a market cap of NGN 301.2b. Guinness vision is “to be the best performing, most trusted and respected consumer products company in Nigeria.”(Guinness Nigeria Plc, 2015)

International Breweries Plc. (Intbrew) is the 3rd largest quoted brewer in Nigeria. International Breweries Plc was incorporated in December 1971 by its founder and first Chairman, Dr. Lawrence Omole under the name International Breweries Limited. In terms of capacity, INTBREW currently has a total installed brewing capacity of 0.5mhl (International Breweries Annual Report 2014). By market capitalization, INTBREW is worth NGN79.25bn. This represents 0.65 per cent of the NSE market capitalization which places the company as the third largest brewer in Nigeria by market Capitalization. Its mission is

To take locational advantage in the grain belt of Nigeria and the high quality water on the plateau to manufacture drinks of exceptional quality to ensure the satisfaction of all; and in the process, become a major player in the brewing industry in Nigeria. To emphasize the promotion of indigenous raw materials and technology in order to enhance industrial development and improve the quality of life of our people (international breweries annual report 2014).

These Brewing companies like most industrial organisations recognize the influence of business environment on performance and therefore operate according to forecasts and scenarios about the future. Thus, the instability in the environment may be very detrimental to the brewing industry if we go by the recent financial reports of the selected breweries in Nigeria.

The latest performance of Guinness Nigeria plc for the financial year revealed operational challenges. For instance, the financial results of Guinness recently published by Nigeria Stock Exchange showed that the company realized sales revenue of N109.202 billion as at the year-end June 30, 2014 as against N122.463 billion of the preceding year. The amount represented a decrease of 10.83 per cent. Operating profit dropped by 22.98 per cent from N20.933 billion in 2013 to N16.123 billion in 2014. While profit before tax (PBT) also dropped from N17.008 billion in 2013 to N11.681 billion in 2014, plummeting by 31.32 per cent, profit after tax (PAT) stood at N9.573 billion in 2014 having dropped by 19.30 per cent from N11.863 billion of the previous year. This is despite the seasonality effects as a result of increased demand for beer during the 2014 world cup which drove strong growth (Equity research 2014).

Following the full-year Nigeria Breweries financial report released by NSE for 2014, the results showed that turnover dropped by 0.83 percent from N268.6bn to N266.4bn, profit before tax

(PBT) and profit after tax (PAT) dropped by 1.3 percent each from N62.2bn to N61.5bn and N43.1 to 42.5bn respectively (Equity research 2014).

For the south west based International breweries, the full year performance 2014 recorded decline in sales turnover after five years of tremendous performance from loss position of almost 11 years. Profit after tax (PAT) dropped by 9.5 per cent from N23.2bn to N21.1bn (Meristem report 2014).

Thus, considering that performance is a crucial objective of an organization, this study seeks to examine the extent of influence of environmental instability on the selected breweries in Nigeria. These selected breweries have proven to be sustainable businesses with over 6 decades of operation, these business players in the market have survived years of unstable polity, economic downturns, technological innovations, different government reforms and socio-cultural conflicts. The goal of this paper therefore, is to determine the extent to which the Nigerian volatile, unpredictable business environment influence the profitability, growth and productivity of the breweries selected for this study.

1.2 Statement of the Problem

The relationship between organizational environments and performance is a key topic in organizational studies. The current Nigeria economic landscape is rugged and the competition is fierce. Thus the unpredictable environmental turbulence and dynamics in the business environment hindering performance of Nigerian brewing sector justify the rationale for this study.

The environment in the brewing sub sector of Nigeria seems to be characterized by many problems. These problems occur in areas such as the economic, political, socio cultural and technological environments and these have created some degree of turbulence for the brewing sub sector. The constraints arising from this situation leads to less reliable information affecting organization's decision making and they pose great threats to brewing industry for managers to assess the direction of the industry. This problem of instability in the environment becomes one of the most disturbing problems hampering efficient and effective performance of the breweries in Nigeria. Other problems include but are not restricted to unstable exchange rate, high rate

of inflation, poor industrial policies affecting production and distribution of goods and frequent technological change impact on the brewing subsector. Other problems of environmental instability which is suspected to impact on performance of brewing industry include poor return on turnover, insecurity and terrorism, Competition from other Non-Alcoholic beverages, low acquisition of market share, work stoppages, man hour loss, low returns on export, poor industrial production, inadequate capacity utilization, high cost of imports, low market investment, unemployment and lack of well defined manufacturing processes.

The problems highlighted above could be reasons for the fluctuation in performance of selected breweries in Nigeria which are reflected in the review of the recent financial performance of the selected breweries. Guinness Nigeria recorded deterioration in the overall performance from 2012 to 2014; this was a result of weaknesses in both profitability indicators and revenue generating capability of assets. Operating profit margin and net profit margin have been declining consistently over the past five years as recorded in their financial reports. The profitability indicators for Nigeria breweries and international breweries have also been fluctuating for the past few years.

In recognition of the above discrepancies in performance and other problems therefore, this study seeks to achieve the objectives listed below.

1.3 Objectives of the Study

The major objective of the study is to examine the extent to which environmental instability influence the performance of breweries in Nigeria

Specifically the objectives are:

1. To determine the extent to which exchange rate instability influence the profitability of selected breweries in Nigeria.
2. To ascertain the influence of technological change on the growth of selected breweries in Nigeria.
3. To determine the influence of insecurity on the productivity of selected breweries in Nigeria.
4. To ascertain the influence of inflation on turnover of selected breweries in Nigeria.

5. To examine the value added by investment on market share of selected breweries in Nigeria.

Decomposition of variables

In this study, the major variables are Environmental Instability which is the independent variable and Performance which is the dependent variable. The variables in the objectives are further decomposed into:

Objective 1

Performance which is the Dependent variable is proxied by profit and environmental instability which is the independent variable is decomposed into Exchange rate, inflation, export, import, industrial production and investment.

Objective 2

Dependent variable performance (growth) is proxied by net assets and the environmental instability which is the independent variables include Technological changes proxied by obsolete equipment in the breweries, capacity utilization, manufacturing, investment, industrial production and exchange rate.

Objective 3

Dependent variable performance (productivity) is proxied by net profit and environmental instability which is the independent variables include Insecurity proxied by conflict, work stoppages, man hour losses, unemployment and capacity utilization.

Objective 4

Dependent variable performance is decomposed into turnover and the independent variables include inflation rate, exchange rate, export at a particular point in time, import at a particular point in time and investment.

Objective 5

Dependent variable is performance decomposed into market share and the independent variables include investment, export, import, manufacturing and industrial production

1.4 Research Questions

1. To what extent does exchange rate instability influence the profitability of selected breweries in Nigeria?
2. To what extent does technological changes influence the growth of selected breweries in Nigeria?
3. To what extent does insecurity influence the productivity of selected breweries in Nigeria?
4. What relationship exists between inflation rate and turnover of breweries in Nigeria?
5. Does investment add any value to market share of breweries in Nigeria?

1.5 Hypothesis

- H_{O1} No significant relationship exists between exchange rate instability and profitability of selected breweries in Nigeria.
- H_{O2} Technological changes have no significant relationship with the growth of selected breweries in Nigeria.
- H_{O3} Insecurity has no significant influence on the productivity of selected breweries in Nigeria.
- H_{O4} There is no significant relationship between inflation and turnover of selected breweries in Nigeria.
- H_{O5} Investment by breweries does not add any significant value to the market share of selected breweries in Nigeria.

1.6 Significance of the Study

The findings of this research work will help consultants and researchers to understand the problems encountered by brewing industries in the course of striving for survival. Secondly, it will help to influence the decisions of policy makers in addressing the problems that hinder the performance of brewing business in Nigeria.

1.7 Scope of the Study

The study assessed environmental instability and its influence on the performance of selected breweries in Nigeria. The breweries studied include Nigeria Breweries, Guinness Breweries, and International Breweries. These breweries engage in the brewing, distribution and export of beer, malt drinks, juice and carbonated water. They were selected because they are the three largest breweries in Nigeria. According to Meristem research report 2014, of all the listed players, besides NB Plc, Guinness Nigeria and International breweries Plc, other brewers have failed to regularly publish performance scorecards.

1.8 Limitation of the Study

The generalization of the results would be rather limited due to the fact that the sample covers only the three largest breweries that are quoted with the stock exchange market in Nigeria.

HAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Conceptual Framework

The environment according to Okoh and Munene (1986) is the collection of persons, groups and other organisations that provides inputs to, receives outputs from a local organization. Their second consideration is that the environment is a set of general, social, economic and technological conditions that impact on performance of firms.

Environment refers to the uncertainty of a firm's external task environment and the intensity of competition that affects its business activities (Volberda and Lewin 2003). Jain (2000) agrees that the external environment has a major impact on how well a firm meets its objectives because the environment is the primary force in firm performance. In other words, the degree of response a firm gives to the external environment (political, legal, social, technological and economic) determines its eventual performance. A company therefore should monitor those environmental forces that affect the business. There are two aspects in environments, i.e., internal environment and external environment. Wheelen and Hunger (2012) noted that the external environment consists of variables, such as opportunities and threats that are usually beyond the control of the organizations. According to Griffin (1987), the external task environment of a firm includes its competitors, customers, suppliers, regulators, associations and the broader societal forces.

According to Osuagwu (2011) environment has been seen as the totality of the factors that affect, influence or determine the operations or performance of a business. The environment determines what is possible for the organisation to achieve.

This study however summarise the Environment is the combination of many factors both tangible and non-tangible that provides the lifeblood for the organisation's success by providing a market for its products and services and also by serving as a source of resources to others.

2.1.1. External business environment

Onwuchekwa (2000) defined Business environment as those element, institutions, organisations, systems, etc whose activities and services are essential for the effective performance of the organization but are not subject to the control of the organization. Hence the organization must

adapt and adjust to their demands He further classified the environment into General and task external business environment.

- General external business environmental factors include social values, educational, political environment, economic environment, legal environment, behavioural, demographic - , natural environment, natural resources and technological environments (Grant 2003). Task environmental factors include consumers, competitors – (Competition, which to a large extent is a function of the other environmental forces), suppliers, labour market, regulatory group, industry and financial resources and all those parts of the environment which are relevant or potentially relevant to goal setting and goal attainment. (Onwuchekwa 2000). The task environment is more volatile than the general environment, therefore, the task environment creates greater and perceived uncertainty to organizations (Onwuchekwa 2000).

According to Onwuchekwa (2000), every industry is affected by factors in the environment in which they operate. These factors which they have no direct control over, may either impact positively or negatively on the industry. The environment of an organization is a fixed limitation/constraints to an organization. So it must be managed to the advantage of an organization. The business environment is the major source of contingencies, constraints and uncertainties or generally the major source of turbulence to an organization. Hence the performance and sales turnover, high profitability and return on investment of breweries as organizations may be directly related to business strategies along defined channels of cross functional coordination and management of environmental dynamism. The general environmental factors are shown in the diagram below:

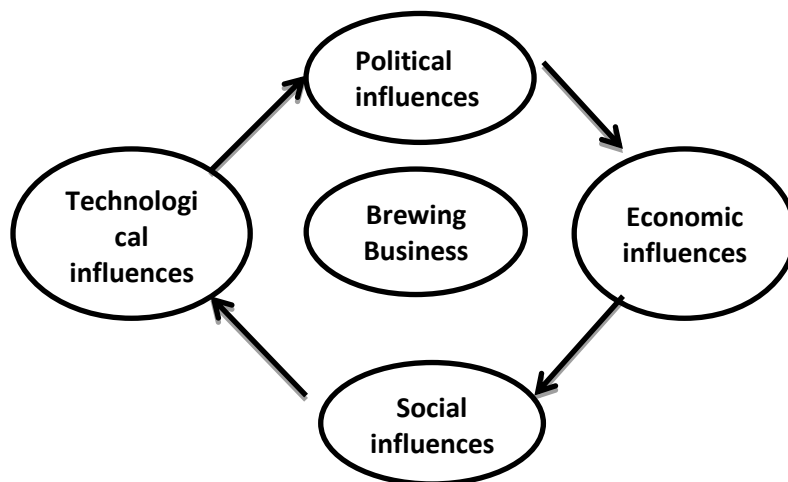


Figure1: Environment of a Brewery Organization
Source: Researcher’s View (2015)

2.1.2 The Internal Environment

This includes situational factors within the organization. These factors are largely the result of decisions of the management process, most times under management control. It is described as the resources, behaviour, strengths, weaknesses, synergy and distinctive completeness within or internal to the organization. Organizational capability in the design and implementation of corporate policy and strategy rests on the organization's capacity and ability to use its distinctive competencies to excel in a particular field.

A business internal environment plays the most significant part in charting out the direction and the unique qualities that define it from others (Elin Grimsholm and Leon Poblete, 2010). This macro environment comprises of factors which a firm can effectively use in adapting to the ever-changing external environment. Unlike the external, the internal environment factors are largely within control of the management of a business enterprise. An organization's internal environment consists of the trading status of the business, its finances, physical resources, staff and management skills, operational and control systems, stakeholders' interests, policies and procedures (Shiamwama, Ombayo & Mukowe 2014). Williams (2009) assert that the internal environment of any organization comprises firm-related factors that influence its capacity to achieve set objectives, develop and implement a viable plan, which consequently contributes to its performance (Ghani 2000, Barua & Islam 2008; Amoako- Gyampah & Acquaaah 2008; Ghani, Nayan, Ghazali & Shafie, 2010). (Freeman & Reid, 2006), describe internal environment as key internal aspects that need to be aligned within an organization for improved performance or effective change implementation. He described Internal environment as those internal controllable forces operating within the organization itself that have a direct impact on an organization's performance. These include financial resources, information and knowledge, firm's capabilities, incentives, organizational demographics such as size, inter-institutional linkages, company's objectives, goals and employees' skills (Freeman & Reid, 2006). We analysed the internal environmental factors below.

2.1.3 Internal Environmental Factors

Such factors as tangible business resources, its workers, its management, competencies, production, marketing and strategic choices are so strong conventional contributors to the effective and efficient operation of any business (Shiamwama et al 2014).

McKelvie et al (2009) on internal environment highlighted strategy, structure, skills, staff, systems, shared values and style as the key internal factors that influence performance of organizations (McKelvie & Davidson, 2009).

Here, the internal environmental factors including organizational structure, organizational culture, human resource management, marketing, production and distribution will be discussed.

Organisations structure consists of various departments that contribute to the company's overall mission and goals. Organization structure may be considered the anatomy of the organization, providing a foundation within which the organization functions.

All organizations have structure and Organizational structure affects the behavior of organizations members and how performance is measured and managed.

Greenberg (2011) refers to organizational structure as formal configuration between individuals and group concerning the responsibilities, allocation of task and authority in the organization.

Ajegbe, Oluyinka and Long (2011) sees organizational structure as how job tasks are formally divided, grouped and coordinated.

Organizational structures can inhibit or promote performance, depending how effective the supervisory relationships and workflow influence productivity. Without defined policies and procedures that are consistently enforced throughout the organization, performance management strategies can fail to achieve their desired goal of improving product and service quality for end-user customers.

Maduenyi, Oke, Fadayi & Ajegbe (2015) argued that structure of an organization gives it the shape to carry out its purpose in the business environment. Nelson and Quick (2011) posit that the organizations structure is meaningless unless supported by appropriate systems and well conceived culture.

Ajegbe et al (2011) asses that organizational structure is the formal system of tasks and reporting relationships that controls, coordinates and motivates employees so that they cooperate to achieve the organizational goals. Structure explains how productive the organizational proceses are in the organization (Maduenyi 2015). Effective organizational structure facilitates proper working relationships among various sub-units in the organization. It can further be conceived that performance of an organization largely depends on the structure of the organization. When a

clear structure exists, people perform better, tasks are divided and productivity is increased (Maduenyi 2015).

Organizational culture - one of the major distinguishing feature in comparing company's success or non-success is in their most important competitive advantage and key ingredient to success –The long term success of companies has had more to do with company values, vision, and personal beliefs than market focus, competitive positioning, and resource advantage (Price 2003). Although Schein and Denison (2003) both provide excellent formal definitions of culture, a basic definition of culture as “It’s how things get done around here”. Just as families and cities have a specific look and feel to them, so do organizations. This look and feel can represent culture, as it includes images, distinct methods of doing things and how it is perceived by others. Culture influences the behavior of all individuals and groups within an organization. It influences most aspects of organizational life, including how decisions are made, who makes them, how rewards are given, who is promoted, how people are treated, and how the organization responds to its environment. Culture to an organization is what personality is to an individual. It is that distinctive collection of beliefs, values, work styles, and relationships that distinguish one organization from another (Roger Harrison & Stokes, 1992). “Culture can either be an asset or a liability to an organization” (Marc & Farbrother, 2003).

What is significant is that culture supersedes any organizational strategy, market presence, or technology. All of these things are important to the success of a company, but they will not be effective without a strong, unique culture. In today’s fast changing business world, understanding and assessing your organization’s culture can mean the difference between success and failure (R. Hagberg & J. Heifetz, 2003).

Human Resource Management (HRM) is another important factor that impact on organisational performance. (Katou and Budhwar (2006), recognize that HRM outcomes connect HRM policies to business performance. According to Quansah (2014), In today’s competitive and rapidly changing business world, organisations especially in the manufacturing industry need to ensure maximum utilisation of their resources to their own advantage; a necessity for organisational survival. Human resource management practices has the ability to create organisations that are more intelligent, flexible and competent than their rivals through the

application of policies and practices that concentrate on recruiting, selecting, training skilled employees and directing their best efforts to cooperate within the resource bundle of the organisation. This can potentially consolidate organisation performance and create competitive advantage as a result of the historical sensitivity of human resources and the social complex of policies and practices that rivals may not be able to imitate or replicate their diversity and depth. Armstrong (2009) defines Human Resource Management (HRM) as a strategic and coherent approach to the management of an organisation's most valued assets; that is, the people working there who individually and collectively contribute to the achievement of its objectives. Moreover, Human resource management practices can be defined as a set of organisational activities that aims at managing a pool of human capital and ensuring that this capital is employed towards the achievement of organisational objectives (Wright and Boswell, 2002). The adoption of certain bundles of human resource management practices has the ability to positively influence organisation performance by creating powerful connections or to detract from performance when certain combinations of practices are inadvertently placed in the mix (Wagar and Rondeau, 2006).

The term Human Resource Management (HRM) is a strategic, integrated and coherent approach to the employment, development and well-being of the people working in organisations. To Boxall, Purcell and Wright (2007), it is the management of work and people towards desired ends. Som, (2008) described HRM as carefully designed combinations of such practices geared towards improving organisational effectiveness and hence better performance outcomes.

Interestingly, Hyde, Jeffrey, Stup, & Holden (2008) examining the impact of HRM practices on firm profitability found little support for a positive relationship between HRM practices and firm profitability.

Marketing - Defining a market requires the specification of which product or services are to be included (Buzzell, 1999; Bowen and Ford, 2002).

Marketing environment reflect, factors external to the business unit (opportunities available) and factors internal to the business (ability to exploit opportunities). These dimensions represent key aspects of both the external and internal environment for strategic marketing decisions.

An organisation should take into account environment factors before developing or implementing marketing strategies. Promotion, pricing, distribution, and product standardization

and adaptation have an impact on sales, customer and financial performance of firms. (Nashwan Mohammed Abdullah Saif 2015)

(Zeithaml and Zeithaml, 1984; Clark et al, 1994) posits that a company can adapt a firm's marketing strategies to environmental conditions in such way which will produce a better performance from the environment. Higher levels of fit lead to higher levels of performance (Hofer, 1983; Hambrick, 1983a).

Strategy research has focused largely on factors outside the firm such as market condition and competition (Porter, 1980,1985). Industrial organisation theory foresees the firm's position in the market and its strategy being based upon five market forces (Porter, 1980). These five market forces are threat of new entrants, rivalry within the industry, buyer power, supplier power and threat of substitution.

The above forces are said to determine industry profitability. Porter (1980) postulated that a firm might pursue superior performance by employing the five market forces to select an attractive industry, or to select a strong competitive position within an industry.

Aaker et al (1982) and Porter (1980) indicates that firms' capabilities and constraints influence their choice of marketing strategy and their ability to implement the chosen strategy. Furthermore, a company need to allocate its resource to sustain competitive advantage (Day and Wensley, 1988; Porter, 1985). Therefore, firm characteristics affect marketing strategy and performance. In term of embeddedness theory, any actions initiated by firms and the outcomes of the actions are determined by the environment context (Porac and Rosa, 1996).

Production is yet another internal factor that affects business operation. The type of product that a company wants to produce, the cost of production, the target group, the technology used or required in the production and the quality and quantity of output are very important determinants of the success of any firm. If not monitored properly, then the ability to estimate and meet the market demand and sustain market size is slim (Karingiti, 1999).

Distribution as an internal factor is vital in deciding the extent to which the firm's product can reach the target customers (Kibera, 1996). Appropriate distribution channels are those which respond to the firm's financial base, market demand, size and diversity and also product

requirement. Keen attention should therefore be paid to the distribution channel the firm proposes to use based on the above listed controls (Elin Grimsholm and Leon Poblete, 2010).

It may be a disastrous venture when the distributional issues are not well weighted against the expected returns.

Human resource, workers or labour elements are prime determinants of the organizations success, right from inception, management and marketing (Ondiege, 1996). The role of workers in painting an image of a firm to the public is so critical that if not well managed, then no matter what the firm sells the customers would just shy away from the business to its own detriment (Elin Grimsholm and Leon Poblete, 2010).

2.1.4 Internal Environment and Performance

Whereas the operationalization of an organization's internal environment remains varied, there is consensus among scholars that internal environment is a key determinant of an organization's performance. Internal environmental forces provide strengths and weaknesses to the business (Tolbert & Hall, 2009). The aspects forming the internal environment of an organization provide an enabling environment for an organization to achieve its objectives. McKinsey's conceptualization of organizational internal environment highlights strategy, structure, skills, staff, systems, shared values and style as the key internal factors that influence performance of organizations (McKelvie & Davidson, 2009). Consequently, firms' are said to operate within a social framework of norms, values and assumptions, which eventually influences their performance and competitive advantage (Oliver, 1997). Performance of an organization is dependent on the degree to which the values of the culture are comprehensively shared (Schein and Denison (2003).

2.1.5. Environmental instability

Environmental instability refers to the uncertainties in the environment which makes new and existing companies a risky venture. Any form of environmental instability is not healthy for any business. Instability is a great threat to both local and international investors. Instability is of different forms-social, economic, political, cultural, etc. Abayomi and Ayobami (2012), opined that environmental instability is one of the environmental factors that negatively affect the

performance of organizations. Bazza & Daneji (2013) also reported that environmental instability is “a situation where a system lacks coherence and where individuals in authoritative position are unable to contain the downward slide in the system.

Within the context of this work, instability is defined as “a situation of frequent change in political, technological, economic and industrial policies that influence the economic environment which affects the performance of breweries”. As observed by Babatunde, and Adebisi (2012), either directly or indirectly the organizations’ effective and efficient growth depends on the kind of environment in which it operates.

Factors which may cause instability in the business environment include volatile asset prices, volatile levels of growth, volatile bank lending, unanticipated inflation, insecurity, unemployment, work stoppages, volatile exchange rate and frequent technological changes.

The instability in the environment in the form of oil price shocks can lead to exchange rate volatility and inconsistency in policy environment. Oil price change is an important source of macroeconomic fluctuations such that its increase worsens the economic situation of most countries including Nigeria. So, fiscal and monetary policies depend upon oil price (Rosser and Sheehan, 1995) and these affect exchange rate, inflation, import and export of brewing materials and products. Oil price hikes alone can result in economic recession and it can equally give birth to other environmental uncertainties. (Kilian 2005 and Hooker, 2002)

Thus, some organizations fail to perform satisfactory due to frequent changes in the environment. As observed by Babatunde, and Adebisi (2012), either directly or indirectly the organizations’ effective and efficient growth depends on the kind of environment in which it operates. (Otokiti & Awodun, 2003) therefore maintained that performance of manufacturing firms is dependent to an extent on how much attention they pay to their environment when formulating and implementing policies.

2.2 Approaches to Evaluating Organisational Performance

Kasimoglu (2002) conceived organizational performance as a multidimensional factor which includes profitability, productivity, competitive position, employee development, employee relations, technological leadership and public responsibility. Osuagwu (2006) listed

organisational performance measures to include sales, market share, ability to gain market share, sales growth rate, return on investment, profits and competitive position or advantage. Desarbo (2005) in his research, collected a battery of performance indicators, which included profit (that is, total revenue minus variable costs divided by total revenue); average percentage of the return on investment; return on investment; return on assets; relative market share; overall customer retention; retention of major customers; sales growth rate; and overall profit margin relative to the objective for a business unit.

Thus, organisational performance does not depend on a single attribute, but rather on the fit among the elements of an organisation (Donaldson, 2001; Miles and Snow, 1978; Onwuchekwa, 2002; Oladum 2012; Yennapoulos, 2011).). One of the definitions of high performance organisations (HPO) emanated from the description of achievement or attribute put forward by Ping (2012) as including strong financial results, satisfied customers and employees, high levels of individual initiative, productivity and innovation, aligned performance measurement and reward systems, and strong leadership.

Looking at organizational performance, (Jones and George 2009) viewed organisational success as the outcome of both individual and collective efforts of human elements in the work environment. Organizational Performance (OP) is viewed as how a manager utilizes the resources of the organization efficiently and effectively to accomplish the goals of the organization as well as satisfying all the stakeholders. Richard, Devinney, George & Johnson, (2009) described OP as the real output measured against the intended or expected output. They view OP as a term that is made up of three major areas namely

- Financial performance- this is made up of profit, return on investment (ROI), Return on assets (ROA), etc
- Products market performance- such as sales, market share etc
- Shareholders return such as total shareholders return (TSR, economic value added (EVA)

Kast and Rosenzweig (1985) argued that performance is a function of ability, efforts and opportunity. Ability is dependent upon knowledge and skill and technological capabilities that provides an indication of range of possible performance.

Effort is a function of needs, goal-expectation and rewards and it depends on the degree to which individuals and groups are motivated to aspirant effort.

Opportunity must be provided by the managers for individual's ability and effort to be used in ways that will result in the achievement of goals. A similar perspective to the discussion of organisational performance is the view expressed by Ogundele (2005) when he quoted Katz and Kahn (1966) who viewed it as the totality of organisational goodness representing the sum of such elements as production, cost performance, turnover, and quality of output, profitability and efficiency.

Organisational success is the outcome of both individual and collective efforts of human elements in the work environment. Individual productivity is often taken as a measure of societal and socioeconomic trends of a culture and is therefore an important determinant of the welfare and health of an economy (Ogutu et al, 2012; Fletcher, 2009; Aranja, 2012).

However, the most noticeable and convincing measurement of organisational performance, most especially to the shareholders of an organisation is the level of profitability. Organisations get a lot of things done through the amount of profit they make in their various business endeavours. Government charges company income tax from the profit organisations make from their operations which form substantial part of government revenue and adds to a country's economic growth.

Thus, Organisational Performance can be summarized here as an approach used in assessing the progress made toward goal attainment, identifying and adjusting factors that are inimical to the progress of the organization in a competitive and unstable environment.

2.2.1 Characteristics of High Performance Organisations

De Waal (2007) argued that —to develop an overall definition of a high performance organisation (HPO) requires the identification of common themes and composing a uniform definition based on these common themes: —

- HPO achieves sustained growth that is better than the financial performance of its peer group over a period of at least five years;
- HPO has a great ability to adapt quickly to changes;

- HPO has a long-term orientation;
- the management processes of a HPO are integrated and the strategy, structure, processes and people are aligned throughout the organisation;
- HPO focuses on continuously improving and reinventing its core capabilities;
- HPO spends much effort on developing its workforce.

Thus, a HPO is a company that achieves financial results that are better than those of its peer group over a longer period of time by adapting well to changes and reacting quickly, by managing for the long term, by setting up an integrated and aligned management structure, by continuously improving its core capabilities, and by truly treating the employees as its main asset. Therefore, Managers of manufacturing firms should always be at alert regarding who they hire and the strategies they adopt in order to adapt and adjust easily to changes in the business environment.

2.3 Analysis of Environmental Factors

The diagram below shows the general (indirect action) and task (direct action) environments of breweries.

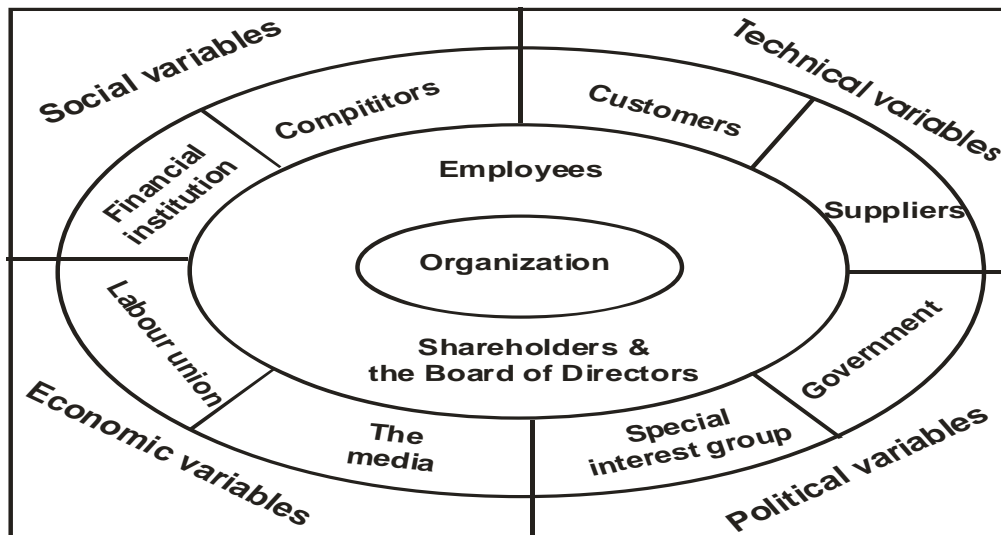


Figure 2: General (indirect action) and Task (direct action) Environments of Breweries.

Source: Stoner, Freeman and Gilbert (2007)

2.3.1 Economic Environment

The economic environment consists of external factors ("environmental uncontrollables") in a business' market and the broader economy that can influence a business. The economic environment can be divided into two- the microeconomic environment, which affects business decision making - such as individual actions of firms and consumers - and the macroeconomic environment, which affects an entire economy and all of its participants(Shawn Grimsley 2014).

Many economic factors act as external constraints on businesses, which means that firms have little, if any, control over them. Nigeria operates a mixed economy which encourages the co-existence of both the private sectors and the state in the market place. The economy has seen relatively unstable exchange rate in the past few months following the fall in the crude oil price, interest rates have also been closely regulated by the Central Bank of Nigeria while efforts to bring inflation rate below single digit has been elusive.

As a result of macroeconomic challenges, the period between years 2000 and 2012 has witnessed the closure of more than 850 industries (Corporate Nigeria, 2010/2011).

Macroeconomic factors directly and indirectly influencing the entire economy and all of its participants, including brewery businesses include the variables stated diagrammatically below in figure 3:

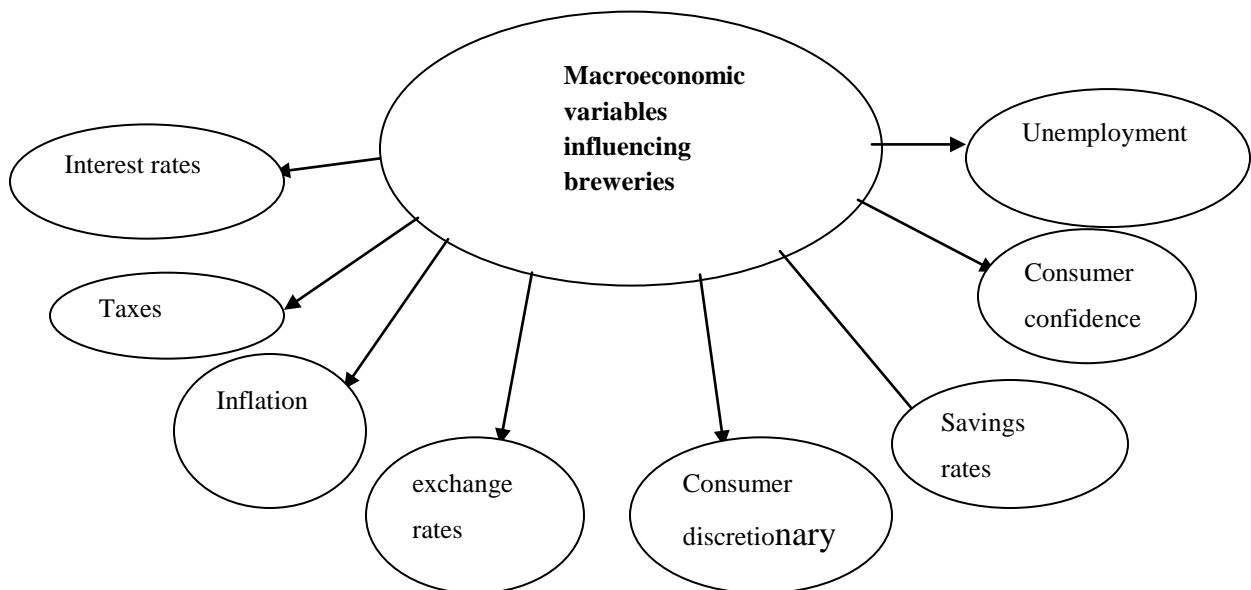


Figure 3: Macroeconomic Factors Influencing Breweries

Source: researcher's construction 2015

Microeconomic factors influence how business will make decisions. Unlike macroeconomic factors, these factors are far less broad in scope and do not necessarily affect the entire economy as a whole but it creates volatility in the business environment.

Microeconomic factors influencing a business include:

Market size

Demand

Supply

Competitors

Suppliers

Distribution chain, such as retailer stores

This study is focusing more on the macroeconomic environment. Thus, the importance of macroeconomic environment is explained below.

Why Is the Economic Environment Important?

The economic environment of business will play a pivotal role in determining the success or failure of a business. Ogundele (2005) says that the economic environment is of vital concern to an organisation. He further said that, the economic environment goes a long way to determine and define the opportunities for an organisation; this is because an expanding economy provides operational scope for the organisational existence as well as for the establishment of new ones. However, a period of recession can bring about failures and probably liquidation of the organisation. It is of paramount importance that the management should be able to distinguish between short-run phenomena and more fundamental changes in its assessment of the overall economy. The economic environment is one of the major determinants of market potential and opportunity. Careful analysis of this, particularly income and the stage of economic development is essential. Stoner, Freeman and Gilbert (2007).

2.3.2 Causes of Macro-Economic Turbulence in Nigeria

Changes in Interest Rates: Interest rates are used as a tool in controlling inflation. However, they can also have an impact on consumer spending. If interest rates are too high, the cost of borrowing may not permit a business to expand as witnessed by Guinness breweries within the

last four years as a result of their investment into the capacity expansion programme that started a few years ago (Adetu 2012). Sometimes interest rates may have little impact; however, if they coincide with other factors they can cause a much bigger than expected fall in consumer spending. For example, in Nigeria, many people operate SMEs. Therefore a small change in interest rates can have a big effect on disposable income. Interest rates follow the trend of the economy; if the economy is strong then the interest rates will be high. If it is struggling then the interest rates will be low. Thus 'A rise in interest rates could be aimed at putting the brakes on economic growth or inflation'.

Tax Rates: Tax rates will take a chunk of firms' income. In Nigeria, some firms suffer multiple taxation while some avert taxes. Government fiscal policies also affect performance.

Inflation: A period of high inflation creates instability. When prices are rising rapidly, firms and consumers become uncertain about future costs, prices and profitability – this uncertainty tends to reduce their willingness to invest. When inflation is very high and when inflation is above interest rates, the real value of money can decline quickly causing savings to fall in value and this affects sales and profits. When money loses value, economies can become very unstable as consumers have to resort to a barter economy. Interest rates can directly affect inflation, and the Banks are known to increase or decrease the interest rates to either decrease or increase inflation.. Guinness Nigeria plc through their chairman Adetu admitted that high inflation influence the demand for their product which led to low performance in 2012.

Exchange rates: Currency exchange rates can either help or hurt the exporting of firms' products to specific foreign markets and the purchase of equipments. The brewery industry is highly capital intensive. The technology for the industry, spare parts and expert technicians are rarely available in the country and therefore highly dependent on foreign exchange. When the exchange rate increases, it affects the purchasing power of breweries and the profitability of the business. According to Adetu (2013) about 40 % of brewery materials and services are imported from outside the country, this is why they are exposed to exchange rate risks. Volatility of exchange rate induces uncertainty and risk in investment decision with destabilizing impact on the macroeconomic performance (Mahmood and Ali, 2011). Exchange rate volatility has

asymmetric effects on macro-economic variables. Exchange rate depreciation has a negative effect on developing countries (Razazadehkarsalari, Haghiri and Behrooznia, 2011). Exchange rate is the price of one country's currency in relation to another country. It is the required amount of units of a currency that can buy another amount of units of another currency. Despite various efforts by the government to maintain a stable exchange rate, the naira has depreciated throughout the 80's (Benson and Victor, 2012). It depreciated from ₦0.61 in 1981 to ₦2.02 in 1986 and further to ₦7.901 in 1990, all against the US dollar. Presently, naira has plunged further to ₦420 to 1 dollar.

Consumer discretionary income: Income per head in Nigeria has been growing reasonably well over the last decade at an average of 7.5 per cent according to World Bank data, while average growth of the beer market over the same period correspond to this at 11 per cent (Meristem Research 2014). Hence with rising level of disposable income, discretionary consumption is expected to rise (Meristem 2014). However, the last two years have witnessed a huge amount of pressure on consumer spending given the higher cost of living and security challenge which have all led to the drag in the volume growth amongst major players in the sector. The drop in disposable income has resulted in strong emergence of value brands within the brewery sector; one can say that value brands will be a major factor in determining the future of the industry because in the last four years, the value brands have been outgrowing the rest of the segments. So, the fastest growing segment would be the value brands which are brands that are sold typically around ₦100 and ₦150. So, the point is that the disposable income of the consumers and the ability to spend on beer is incredibly tied to private consumption and the economy (Meristem 2014). According to Savage (2012), the more the economy booms, the more you expect that people would have money to spend on brewery products.

Conversely, Porter believes that the price elasticity of demand for sales of brewery products is inelastic; an increase in price may not have a significant impact on demand. A decrease in consumer disposable income may have a small impact on demand, as buyers may go for cheaper brands or substitute products. The introduction of a new product into market that is not related to the brewery industry may compete with brewery products for consumer disposable income. The introduction of GSM service into the Nigerian market in 2003 created a serious competition for the brewery industry (Equity Research report, 2006).

Confidence: Economic instability is linked to confidence. When the economy shows signs of instability, consumers and firms become risk averse. Typically, when people worry over the future, they save a higher per cent of their income. This higher saving rate can cause a larger fall in output and more instability. It is known as the paradox of thrift.

Unemployment: if unemployment rate is high, breweries can obtain labour at cheaper costs etc. However, if unemployment is too high, this may result in a recession and less discretionary consumer spending resulting in insufficient sales to keep the business going.

Global Factors: In an era of globalisation there is an increasing interdependence of the world economy. For example, if China's boom was to end, there would be a marked slowdown in global growth. It used to be the case when the world was very dependent on the US economy. If the US economy suffered a recession, it would often drag the rest of the world into recession. This was because the US was the world's biggest consumer of imports. However, it is argued that the world is less dependent on the US economy because of the development of new economies like China and India. Nevertheless global factors are of great importance to the performance of any business organization including the breweries in Nigeria (Meristem 2014).

Government Debt Crisis: If markets fear government debt is unsustainable or likely to face liquidity shortages, bonds will be sold. This will tend to push up interest rates on bond yields. This increases the government debt interest payments and puts pressure on the government to cut spending and reduce the budget deficit. This can cause a negative spiral of lower growth and lower tax receipts, (Sovereign debt crisis). The 2008 recession was caused by: Global credit crunch, higher oil prices and falling asset prices.

Labour Unrest: Large scale strikes can cause lost output and shortage of key public services.

Price of Oil: An increase or a decrease in the price of oil can cause economic instability, especially if it is a sudden increase like in the 1970s and sudden decrease in 2014/2015. Higher oil prices increase the costs of firms while decrease in oil price reduces the value of money especially in Nigeria which is dependent on oil. This causes both inflation and lower growth. The impact on Nigerian economy and businesses is devastating.

Increasing Raw Material Input Costs

The success of backward integration in the Brewery Sector is and brewers' continued exposure to raw materials such as barley and hops for the flavour of its brewed products is readily admitted, although the raw material remains largely sorghum based. NB Plc reports noted the spike in commodity (barley) prices alongside crude oil prices, one for which they had highlighted the ability of sorghum to substitute for barley, and disclosed the existing backward integration strategy as a mitigating factor. The decline in oil prices ensured a commensurate decline in commodity prices such as barley, as barley prices depreciated over 50 per cent between July and December 2008 (Vetiva 2010). This resulted in a decrease in input costs for the brewers, and was reflected in improved operating margins. However, between April and July 2009, barley costs have recorded an increase of 26.06 per cent, thus necessitating brewers' concern as to the sector's exposure to raw material input prices (Vetiva 2010). Recently however, NB PLC partners with farmers to source their raw materials locally.

Key growth drivers for breweries in Nigeria: The demographic dividend fulcrum

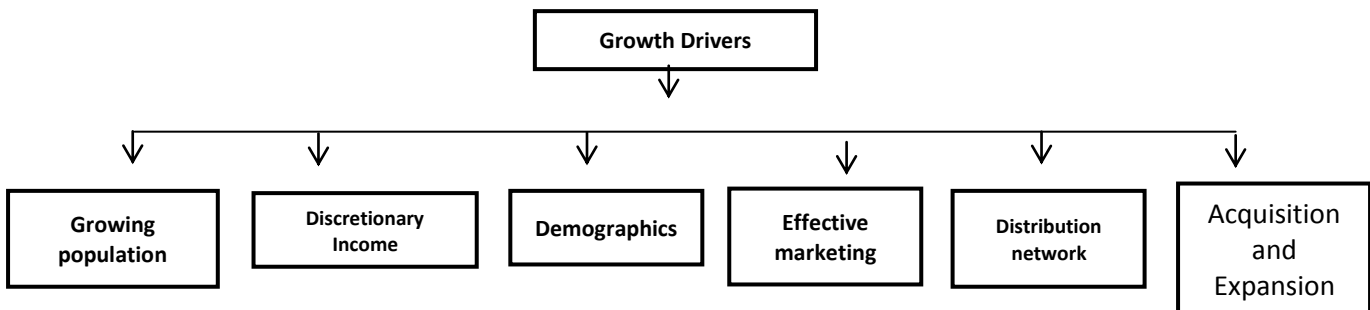


Figure 4: Key growth drivers for breweries in Nigeria

Source: Meristem equity research (2014)

Population: A critical factor driving the beer market growth in Nigeria has been the huge population of the country. 2013 population estimate stays at 170 million, which puts the country's consumer market on an amazingly attractive level.

Income: With rising level of disposable income, discretionary consumption is expected to rise.

Demographics: Nigerian demographic dividend is another key driver of growth of the breweries market. The country has a median age of 19years, 55 per cent of the population is within the age bracket of 15 to 65years. The age distribution is bottom heavy with only 2.73 per cent as aged. Middle class is rising and urbanization rate is expected to maintain a growth rate of 3.75 per cent. These features point to the likelihood for beer consumption growth.

Effective Marketing: Marketing and distribution efforts among brewers is another key growth factor for the industry. Top Management of the two major players (Nigerian Breweries and Guinness) continue to leverage on strategic means to market dominance with huge expenditure on marketing and distributive activities to stay dominant, visible and appealing to the huge youthful population. Sponsorship of football games, advertisements on national and international events and reality shows are amongst the popular channels used in reaching the target market.

2.3.3 Political Environment

Political environment refers to Government actions which affect the operations of a company or business, it includes all laws, government agencies, and lobbying groups that influence or restrict individuals or organizations in the society. The political environment is the state, government and its institutions and legislations and the public and private stakeholders who operate and interact with or influence that system. These actions may be on local, regional, national or international level. Business owners and managers pay close attention to the political environment to gauge how government actions will affect their company. The stability of the political environment and government will impact on the prioritisation of business policy in relation to other policies, the funding available to breweries and the time frames in which policies and programmes can be realized.

Political environment also includes the political culture i.e. "widely held views, beliefs and attitudes concerning what governments should try to do and how they should operate and the relationship between the citizen and the government.

When a political institution passes a new law, businesses consider the impact it will have on their operations. In some instances, companies may need to develop new strategies or processes in order to comply with initiatives imposed through legislative laws.

For instance, the ban on importation of barley in 1987 necessitated the brewery industry to settle for local substitute of maize and sorghum as raw materials for its production. The resultant plant conversion to accommodate the new raw material input-mix cost Nigerian Brewery a whopping sum of 100million naira! (Equity Research Report, 2006). This also forced them to go on backward integration policy through successful introduction of two innovative sorghum seeds to Nigerian farmers (Kola Jamodu 2014 through daily independent newspaper).

The political system of the country also has an influence on political environments. As defined by Robert Dahl, a political system is a "persistent pattern of human relationship that involves, to a significant extent, control, influence, power, or authority." Political systems such as democracies tend to protect the rights of individuals and organizations more than oppressive totalitarian and dictatorship political systems do. Consequently, the political environments in democracies tend to conform to higher standards of regulation and efficiency than the environments of opposing political systems.

The Nigerian political history after independence in 1960 has been characterized by a compendium of military and civilian governments. The military regimes had adversely affected the real sector, an example was the ban placed on importation of barley; the raw material for production of beer, by the military government in 1987 (Porter & Phillips-Howard, 1997). However the past fourteen years of civilian government has witnessed relative stability in most parts of the country except for the restiveness in the Niger Delta region, which has dwindled the country's crude oil revenue and the insecurity in the North east region. It was expected that the continuous and successful civilian democratic government will further stabilize the polity and create an enabling environment that will attract more foreign investors and stimulate the resuscitation of the brewery sector (Corporate Nigeria, 2010/2011).

Legal and regulatory actions, which include regulations regarding the type of advertising available to a product, product labeling and testing requirements, limitations regarding product contents, pollution control, restrictions or incentives with respect to import and exports all influence the performance of the brewery industry in Nigeria. Laws are made by politicians - who enact these laws based on the likelihood they will get re-elected. The political environment is affected and effected by politicians who in turn are influenced by changes and challenges in the social- cultural environment (languages, ethnicity, immigration etc.), challenges in the

economic environment (currency exchange rates, corporate activity, unemployment rates) and also to some extent the geographic environment in terms of how the region is laid out, rivers, mountains, proximity to other countries, weather, seasons etc.

According to Daneji & Bazza (2013), the Political / Legal / Regulatory environment is often a direct consequence of the political parties in power, which represents the popular opinion of the citizens of the region. The rules and regulations created by the politicians have significant influence on the cost of running a business and the way it can market products and services - for example in Nigeria there are severe regulations about advertising for alcohol and tobacco.

Businesses prefer the policies that were followed during a government's tenure to be continued even when there is a change of government. A business is affected by the political environment, either negatively or positively depending on the current situation of a country (Fitzpatrick, 1998). Agimael (1976) and cited by Gadzama (1995) reported that political instability refers to "wars, revolution or frequent coups that affect the day to day business operation in the forms of stoppages of work, strikes, supply and distribution problems...negative impact on sales or profits." Looking at political instability from investment view, no individual or organization will want to commit fund for future benefit when the investment environment is not stable. Gaddbrough (1985) cited by Lanyi (1987) and Gadzama (1995) noted that the provision of a stable economic environment and the adoptions of appropriate financial and exchange rate policies are crucial for encouraging more investment in breweries.

2.3.4 The Effects of the Political Environment on Brewing industries

"In Our age there is no such thing as "keeping out politics." All issues are political issues, and politics itself is a mass of lies, evasions, folly, hatred and schizophrenia" – George Orwell quoted in Shawn (2015).

The political environment in a country affects individuals and our Business operations.

In the Nigerian Political environment, there are several factors that create Inter-linkages occurring in many ways, for example:

- Political decisions inevitably affect the economic environment.
- Political decisions also influence the social and cultural environment of a country.
- Politicians can influence the pace at which new technologies appear and are adopted.

The political environment is one of the less predictable elements in an organization's business environment.

The political environment in its widest sense includes the effects of pressure groups who seek to change government policies.

Some companies may survive and prosper by bribing government officials, but the success and growth of such companies is not necessarily based on the value they create for consumers.

The importance of monitoring the political environment

- Governments see business organizations as an important vehicle for social reform.
- The government is additionally responsible for protecting the public interest at large.
- Government is itself a major consumer of goods and services.
- The economic environment is influenced by the actions of government.

Let's check the influence of some of those factors more closely:

Impact on the Economy

The political environment in a country affects its economic environment. The economic environment, in turn, affects the performance of a business organization. It is important for organizations to monitor their political environment, because change in this environment can impact on business strategy and operations. The stability of the political system affects the attractiveness of a particular national market.

In the United States, for instance, there are significant differences in Democratic and Republican policies. This has implications for factors such as taxes and government spending, which in turn affect the country's economy. In the Nigeria, the economy has just witnessed change in government from an opposition since the present democratic dispensation. We await the outcome of this change on the economy. A higher level of government spending tends to stimulate the economy, for instance and this leads to more sales.

Changes in Regulation

- Governments could change their rules and regulations, and this could have an effect on a business.
- Governments pass legislation that directly affects the relationship between the firm and its customers, its suppliers and other firms.

Political Stability: Particularly for businesses, a lack of political stability in any country has an effect on its operations. A hostile takeover could overthrow a government, for instance. This could lead to rioting and looting and general disorder in the environment. Bekefi and Epstein (2006) viewed the continuum of political instability as trade restrictions, endemic corruption, engagement with national military, executive instability (frequent regime change), foreign currency exchange rate changes, foreign wars, nationalization, predatory government and weak legal system. All this disrupts the operations of a business. Such disruptions have occurred in the north east and other parts of Nigeria, in Egypt and Syria, which have been subject to disturbances as people agitate for certain rights.

Role of the media, including Social Media

The media - press, radio and television and increasingly the Internet - not only spreads awareness of political issues but also influences policy and decision-making by setting the political agenda and influencing public opinion.

2.3.5 Social Environment

According to Shawn Grimsley (2015) Social Environment consists of the sum total of a society's beliefs, customs, practices and behaviors. Every society constructs its own social environment. Some of the customs, beliefs, practices and behaviors are similar across cultures, and some are not. For example, a Nigerian traveling to Britain will find many familiar practices but not so much if traveling to China. This social environment created by a society-at-large in which a business functions can be referred to as its external social environment. If a business operates in a multicultural society, then the social external social environment is even more complicated because the environment will consist of diverse sub-populations with their own unique values, norms, attitudes, religions, beliefs and customs values just like the Nigerian case. Every business works in a society, so societies ' different factors like family, educational institutions and religion affects business.

A business also has its own social environment. We can refer to this as its internal social environment, which is simply the customs, beliefs, practices and behaviors within the confines of the business. A business has much more control over its internal social environment than it does with its external social environment.

2.3.5.1 Effects of External Social Environment

A business must utilize and adapt to its external social environment, or it will not survive. A business must be keenly aware of the society's social preferences regarding its needs and wants. These preferences and needs and wants will be influenced by a population's values, beliefs and practices.

If a business refuses to adapt to changing social preferences, its sales will drop, and it will fail. Of course, sometimes the change in social preferences may be so large that a business simply can't adapt. For example, a social movement led to the outlawing of alcohol in the early 20th century, which was known as Prohibition. During Prohibition, it was illegal to sell alcohol. Distilleries were put out of business until Prohibition was repealed.

While there are risks with social change, there are also opportunities. Businesses often try to influence social values through the use of marketing, advertising and targeted public relations strategies. Marketing campaigns are used in an attempt to create trends. The brewery industry is a prime example. Public relation campaigns are often used to build up or repair a business' image.

Broader social values will also affect the success of a business. A society that values higher education will provide a better workforce that will lead to more productivity and innovation. Likewise, a society that supports investment in public infrastructure will have access to good transportation and communication systems. And if the social values of a community include a hard work ethic, a business will have access to productive workers and a population that has money to spend on goods and services (Lewis 2015). Customers choose which business to patronize based on various factors, and the social environment can be the deciding factor for some (Vinod 2009).

2.3.5.2 Main elements Of Societies and its effect on brewing industries

1. **Family:** Family is basic part of society. In the culture of a family, it may happen that parent does not allow to use a certain product, then sale of such product will decrease, so businessman must analyze different family needs . Many occasion of family like marriage of any family member, can increase the demand of goods for breweries.
2. **Educational institutions:** Educational institutions are also main part of societies. They provide good knowledge, education, awareness, thinking what should students buy or not

to buy. Students are not allowed to drink alcohol in schools and this affects sales. Education also influences the level of skilled manpower employed by the firms for improved performance.

3. **Religion:** Like family and education institution, religion also effects the business socially. Different religions have different principles, rules and regulations in which they sacrifice to use some products and to eat some foods. Although, the sector has witnessed continued growth in sales volumes, individual faith and lifestyle restrictions advocated by some religions against alcohol consumption has served to somewhat limit the growth of the sector's volumes. In the Southern and Eastern parts of Nigeria which are largely Christian where Pentecostal churches frown at alcohol, as well as the Northern region which is largely Muslim (some of the Northern States have adopted the Sharia Islamic code which frowns strongly at alcoholic consumption), religious faith is growing and with this growth, to some extent, a declining consumption of alcohol is being experienced.

Nigeria with its population of about 170 million is a huge potential market for investors in brewery business. The country is the second largest beer market in Africa after South Africa. South Africa with a population of 47.9 million according to 2007 statistical data, has a beer consumption per capita of 50 hectolitres while Nigeria has 10 hectolitres per capita. Industry operators are of the view that the existing firms' capacity are not enough to meet the demand of the market, and there is therefore room for expansion (Momoh, 2009).

Nigeria is a diverse country with over 250 ethnic groups. The population of the country gives a religious spread of Muslims (50 per cent), Christians (40 per cent) and indigenous religions (10 per cent). The Muslims and Pentecostal Christians do not indulge in beer consumption due to their religious beliefs (Corporate Nigeria, 2010/2011).

The above notwithstanding, beer consumption remains a social activity in Nigeria and the sale of the commodity has continued to increase from year to year.

4. **Healthy Consumption:** With increasing proportions of the populace seeking solace in various religions, typical consumption levels are likely to be negatively impacted. Another challenge is the increasing desire for healthy foods and drinks by some individuals. This, we opine, may continue to limit the consumption of alcoholic products as several health

campaigns advocate for reduced alcohol intake. Market expansion will be fuelled by rising disposable income, the spread of Western influence on lifestyles worldwide and economic growth. Beer is the world's number-one alcoholic beverage, with consumption suitable for various occasions at home, in restaurants, bars and clubs.

5. **Values and Attitudes:** In both actions and thoughts, people are affected by a wide range of influences. Past experiences, cultural and social norms, and the money at our disposal are some of the most important. Connected to all these to an extent are our values – which represents a strong guiding force, shaping our attitudes and behavior over the course of our lives. Our values have been shown to influence our political persuasions; our willingness to participate in political actions, our carrier choices, how much money we spend and on what; our feelings of personal wellbeing. Values represent our guiding principles, our broadest motivations, influencing our attitudes we hold and how we act. Business focus on social values is a movement that could reinstate society's trust in companies (Nnanke 2012).

6. **Gifts and Donations/corporate social responsibilities (CSR):** CSR refers to a business practice that involves participating in initiatives that benefits the society. Communities are grappling with problems that are global in scope and structurally multifaceted – Ebola, persistent poverty, terrorism, climate change and billions are at stake if fast and large scale action is not taken. As consumers awareness about global social issues continues to grow, so does the importance these customers place on CSR when choosing where to shop. Guinness Nigeria is at the forefront of adopting a responsible attitude towards corporate social responsibility (CSR) in Nigeria. It donated ₦77.9m, N50,8m and ₦139.9million respectively in 2010, 2011 and 2012 respectively to better the lives of the members of the community where it does business by provision of clean portable water (through their Dingo water of life initiative) and health and education and social infrastructure (Guinness annual report 2012). NB Plc. despite the huge turnover and return on investments donated only N67million, 40million and 70million in 2010, 2011 and 2012 respectively(NB PLC annual reports).

2.3.6 Technological environment

The technological environment in the manufacturing sector has changed dynamically from mechanized powered systems to the present day trend towards application of advanced manufacturing technology (computerized design, planning, and manufacturing tools). Technology can be defined as the practical embodiment of knowledge – the useful application of basic sciences (Eager 2003). Thus, Technological environment is associated with the external factors that impact on business operators. It relates to the development of technology which affects business by way of new inventions of productions and other improvements in techniques to perform the business (Eager 2003). According to Stoner; Freeman and Gilbert (2007), technological environment has to do with the new developments in products or processes, as well as advances in science, that may affect an organisation's activities. The changing technological environment may pose threats or present opportunities. (Mathew and Cho, 2000; Lall and Urata, 2003; Amsden and Chu, 2004).

The brewery industry is highly capital intensive. This accounts for the reason why the ownership structure is either public and/or state-owned with/without foreign partnership. The technology for the industry, spare parts and expert technicians are rarely available in the country and therefore highly dependent on foreign exchange. Guinness for example has Diego of Ireland as its foreign partner (Trade Invest, 2009).

One of the major challenges facing the industry is the maintenance of equipments and machinery. The players commit huge financial resources in technology and upgrades in order to remain competitive (Equity Research report, 2006).

The rate of technology adoption and the ability to use that technology to remain competitive and add value define the advanced manufacturing sector.” (Ismail 2012.) Consequently, training programs are the popular medium to deliver the necessary skills and knowledge which result in skillful workers who are acquainted with the fundamentals of manufacturing process, computer-related technologies, and automation (Waldeck, 2007; Boothby et al., 2010).

Manufacturers that adopt advanced manufacturing technologies produce Products with high levels of design, Technologically complex products, Innovative products, Reliable, affordable, and available products, Newer, better, more exciting products, Products that solve a variety of

society's problems (Jabar et al., 2010). When one considers technological environment, he needs to address Issues concerning Investment in advanced manufacturing technology.

2.3.6.1 Technological factors affecting Breweries

These technological factors can include both products and processes and can present opportunities and threats but it is vital for competitive advantage and is a successful driver in globalisation. The factors include: innovation, internet and social media, product design, new processes, machinery and equipment.

Some of these technological factors affecting businesses proved to be dramatic for some. Some companies seriously invested in certain type of equipment only to see a more innovative and cost- effective technology emerge.

Spending money on the latest technology can be daunting for some organisations and questions such as ('Ignore it.., Ignore it for now.., Evaluate it carefully.., Adopt it enthusiastically?') always come up in their response to Innovation.

Other technological factors affecting businesses and their environment include:

- Organisational change – is usually quite difficult especially when a high number of people are involved as routines will be modified. It is recommended to inform employees in advance and keep them up to date encouraging feedback when making such change (Eager 2003).
- Business processes – integrating modern technology solicits identifying the business requirements and evaluating the business processes according to its objectives and goals. These changes should benefit the company and the consumers.
- SCA (Sustainable Competitive Advantage) – looking at technology from a positive perspective instead of a 'necessary evil'. Traditional models are changing and advantages can be achieved by investing in modern technology but just purchasing technology for the sake of having it is not enough, implementing a strategic plan is the key in order to succeed.
- Costs involved – a necessary expense in today's emerging environment. However, it's understandable that some organisations are hesitant to invest due to systems being outdated

quite often, but the ones who view this investment as an opportunity to gain competitive advantage and have a well-developed strategy attached, could benefit immensely.

- Efficiency – productivity, reducing manual labour costs, cost-effective overall factor as it can simplify, speed up and enhance accuracy (or e.g. departments can interact or check a particular issue or status of an order/delivery/service from different locations in the Value Chain).
- Information Security/Contingency Planning – Technology provides a lot of advantages but we should also take into consideration the responsibilities that come with it. Businesses should take into account the rise in data breaching and various cyber-crime elements and must invest in effective ways of preventing or combating these factors. Imagine if an important process becomes unavailable suddenly or a system is hacked. Businesses must have these contingency plans in place in order to protect their valuable assets (Eager 2003).

Mostly, technology is beneficial and businesses should try to counter the negatives in order to find the beneficial impact in its adoption.

“High technology has become like a force of nature. It transforms the economy, schools, consumer habits, the very character of modern life. Investors pour money into it; parents urge their children to study it; communities vie to attract its factories; decorators adopt it as a style; politicians push it as a panacea.” (Source: Science Digest Magazine)

2.3.7 Technology and Performance Potential of Brewing Firms in Nigeria

Several factors can determine a firm’s performance; technology investment related factors are some of the factors that determine a firm’s performance. Computerisation of processes and procedures should be embarked upon to save time and costs.

The following concepts are needed to help improve the manufacturing firms in Nigeria. They include:

i) Investment in ICT (E-business facilities)

Investment in ICT is an important factor that has enabled the competitiveness of many successful economies in recent decades. However while Nigerian manufacturing firms still lag behind in the use of ICT in the production process, Nigerian firms are beginning to employ ICT for operations management and other e-business activities (Adeoye 2005). Lal (2002) defines e-

business to encompass the application of ICTs in all business processes such as office automation, production processes, coordination with other plants, customer relation management, supply chain management, and management of distribution networks.

ii) Investment in skills upgrading

For the purpose of this study we conceive investment in skills upgrading to entail investment in training activities that enable better and efficient operation of machines and equipment and investment in R&D. However skills upgrading is generally reckoned as the outcome of learning mechanisms that enable firms improve their technological capability endowment. Shrivastava (1995) observed that skills upgrading fosters cross fertilisation of knowledge, and thus enhances technological innovation and health friendly manufacturing processes.

iii) Investment in technology hardware

This variable represents firm's implementation of a programme of reengineering that brings in new production equipment/machines or reengineering that improve existing production equipment/machines. Many Nigerian firms are known to use second hand machines/equipment due to capital constraints, and some even use production equipments that are obsolete (NISER, 2004). It is assumed that an immediate challenge that faces firms would be the necessity to embark on a reengineering programme that would replace obsolete or inefficient machines/equipment in order to significantly improve production performance.

iv.) Technological collaboration with foreign firm(s)

Lal (2002) observed that technological collaboration between local and foreign firms can have positive impact on performance of firms. Technological collaboration in this respect can be in the form of foreign direct investment in a subsidiary of a multinational firm or technology licensing, technical agreements, trademarks, etc.

2.3.8 Insecurity/Terrorism

According to Achumbe & Ighomereho (2013), Insecurity, is the antithesis of security. However, because of the very many ways in which insecurity affects human life and existence, the concept of insecurity has usually been ascribed different interpretations in association with the various ways which it affects individuals. Some of the common descriptors of insecurity include: want of safety; danger; hazard; uncertainty; want of confidence; doubtful; inadequately guarded or

protected; lacking stability; troubled; lack of protection; and unsafe, to mention a few. All of these have been used by different people to define the concept of insecurity. These different descriptors, however, run into a common reference to a state of vulnerability to harm and loss of life, property or livelihood. Beland (2005) defined insecurity as “the state of fear or anxiety stemming from a concrete or alleged lack of protection.” It refers to lack or inadequate freedom from danger. This definition reflects physical insecurity which is the most visible form of insecurity. The alarming level of insecurity in Nigeria has increased the crime rate and terrorists attacks in different parts of the country, leaving unpalatable consequences for the nation’s economy and business growth.

Terrorism is the most fundamental source of insecurity in Nigeria today, and its primary bases and sources of support have generally been located in religious fanaticism and intolerance particularly in Islam dominated states of Nigeria. The term terrorism does not have a single definition and thus, become one of the most contested concepts in the world. The definition used may be as a result of influence of the total numbers of attacks in a particular place.

Gary A. Knight and Michael R. Czinkota (2008), the McDonough School of Business defined Terrorism as the systematic threat or use of violence, often across national borders, to attain a political goal or communicate a political message through fear, coercion, or intimidation of non-combatant persons or the general public (Alexander et al 2009). According to Todd Sandler and Walter Enders (2013), Terrorism is the premeditated use or threat of use of violence by individuals or sub national groups to obtain a political or social objective through the intimidation of a large audience, beyond that of the immediate victim. Although the motives of terrorists may differ, their actions follow a standard pattern with terrorist incidents assuming a variety of forms: airplane hijackings, kidnappings, assassinations, threats, bombings, and suicide attacks. Terrorism is a human imposed disaster which purposefully aims at maximum random destruction and which is planned to systematically circumvent preventive measures. Terror incidents also occur in Nigeria just like other countries globally leading to significant socio-economic consequences. The terror incidents and violence are suffered with relatively greater intensity in the Northern Nigeria than the southern regions of the country (Oladimeji, Moruff Sanjo and Oresanwo, Adeniyi Marcus (2014). The goal of terrorist organizations according to

Tavares (2004) is to impose damage on economy: Terrorist activities affect the brewery firms because foreign investors will be discouraged from investing into breweries in the country and customers are also afraid of visiting bars and pubs. Ultimately, it may not be terrorism itself that poses the greatest threat but the fear that terrorism incites. The panic and psychological impact of terrorism can be more harmful to the interests of the firm than the event itself. It is critical to restore confidence and maintain order as early as possible following terrorist events (Czinkota et al 2008).

2.3.8.1 Economic Consequences of Terrorism in Nigeria Brewing Sub Sector

Recent terrorist attacks in Nigeria affected both the national and the global economy.

Nigeria's federal government spent a considerable 20 per cent of its 2012 budget on security – equivalent to the share the US spent on security following the 11 September terrorist attacks, in 2001. In 2013 it was increased to 27.11 but in 2014, N845 billion (\$5.29billion) was provided for recurrent and service vote for security in Nigeria. It could be noted that as government spends much on the security in the country, businesses have become vulnerable to terrorist targets, with important implications for the operations and performance of firms.

The economic consequences can be largely broken down into short term direct effects; medium-term confidence effects and longer term productivity effects (indirect effects).

Medium term confidence effects of terrorism on breweries

The indirect costs of terrorism have the potential to affect the economy in the medium term by undermining consumer and investor confidence. The activities of terror attack can reduce the incentive to spend as opposed to save, this may led to reduction in the investment in an economy and this will have a multiplier effect on the economy development of the entire world through normal business cycle and trade channels.

Brewery firms are soft targets of terrorist in the sense that it is impossible to prevent potential terrorists from coming near or even entering the premises where beer is sold. The targeted area of terrorist in Nigeria includes, churches, schools, shopping centers, restaurants, cafeterias in which multitudes of people gather (Varol, 2007).

2.3.8.2 Short Term Direct Economic effects of Terrorism on Breweries in Nigeria

The direct effects of terrorism on breweries comprise the immediate business consequences of terrorism as experienced by breweries. Direct economic costs are mostly proportionate to the intensity of the attacks. Major attacks in Bornu, Plateau, Kaduna, Yobe, Adamawa, Kano, Bauchi and Abuja by Boko Haram sect has caused major activity disruption especially the Abuja bomb that happened in April, 2014 and this left most pubs and bars closed. Most distributors were also disrupted from the distribution of brewery products to the affected areas. Some event centers in the south are closed permanently because of the terrorist attacks in the northern part of Nigeria with the fear that it may escalate to the southern part. The direct economic costs of terrorism, include

- the destruction of life and property of firms and their workers
- responses to the emergency which requires funding
- restoration of the systems and the infrastructure affected, and
- the provision of temporary living assistance for the affected workers, are most pronounced in the immediate aftermath of the attacks and thus matter more in the short run.

2.3.8.3 Indirect effects of Terrorism on Breweries in Nigeria

In terms of the impact of terrorism on business, the *indirect effects* are the most important outcome of terrorism. It is these indirect effects that pose the greatest potential threat to the activities of breweries in Nigeria

The indirect effects of terrorism accumulate and often become recognizable only over time and include:

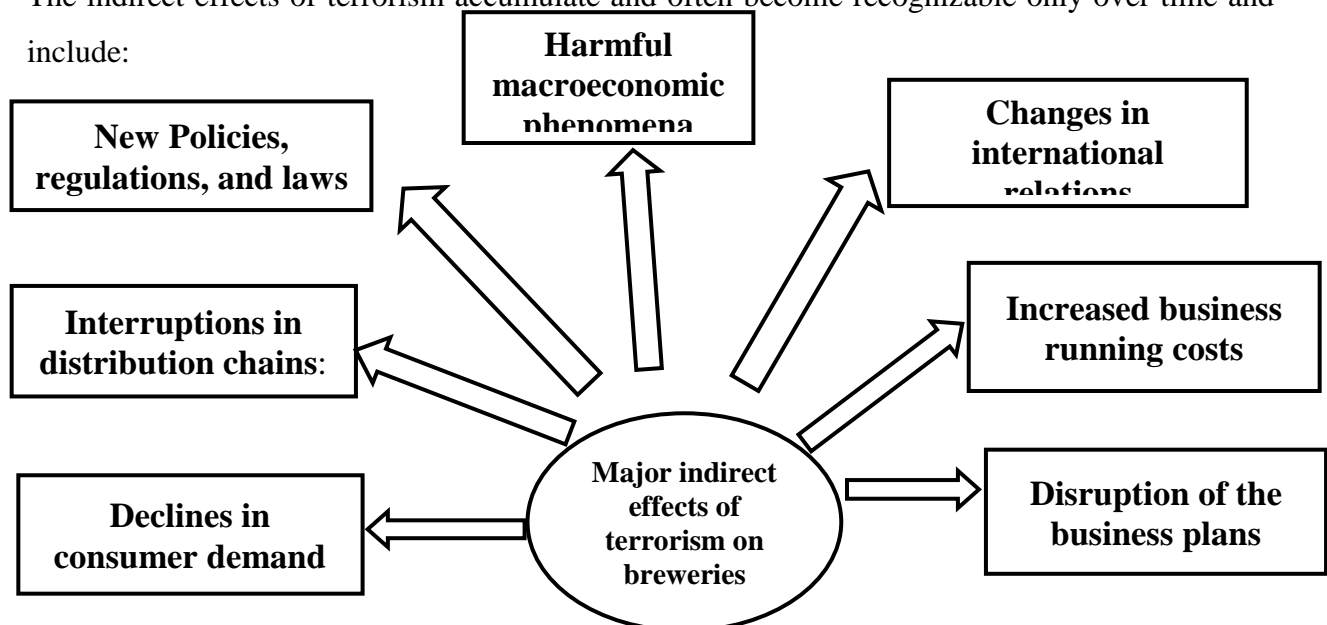


Figure 5: Indirect effects of Terrorism
Source: Researcher's View 2015

- 1. Declines in Consumer Demand:** Long term changes such as a decline in buyer or in consumer demand result from the fear and panic that ensue following terrorist acts. Unable to predict future events, consumers may delay or discontinue visiting bars and pubs and making purchases. Industrial demand is derived from retail consumer demand. A widespread psychological response of individuals, therefore, may trigger a decline in demand for brewery products. Fear may also impact the behavior and reactions of managers. Firms experience reduced revenues from falling consumer demand and may attempt to recoup decreasing sales by reducing prices or via increased advertising and other communications activities, all of which engender reduced revenues or unplanned expenses.
- 2. Sudden shifts or interruptions in value and distribution chains:** Unpredictable shifts or interruptions in the supply of needed inputs, resources, and services is another indirect effect of terrorism. They hold the potential to induce serious problems for the firm's value-chain operations and other activities. For breweries, interruptions may result from delays in the supply chain as increased security measures and other factors lessen the efficiency of transportation and logistical systems. Short-term shortages of input raw materials and components may occur if, as a result of attacks, certain externally obtained resources are delayed or become unavailable. Shortages are also associated with higher costs of input goods, which can contribute to higher prices for consumers.
- 3. Effects of new Policies, regulations, and laws:** New laws, policies and regulations are enacted by governments in response to terrorist events. While intended to improve security conditions, such actions may have unintended consequences of hindering efficient business operations of businesses.
- 4. Harmful macroeconomic phenomena:** Macroeconomic phenomena, such as (real or perceived) declines in per-capita income, purchasing power, or stock market values, are exacerbated by terrorism. Such trends affect the extent of consumer uncertainty about the state of national economies. In the long run terrorism can induce declines in international trade, with associated consequences for GDP, tax revenues, and living standards (Czinkota, Knight, and Liesch 2008).

5. **Changes in international relations and perceptions:** changes in international relations and perceptions as a result of terrorism in the country affect trade and investment.
6. **Increased business running costs.** Terror incidents increase the running cost of firms
7. **Disruption of the business plans:** The almost unpredictability of the terrorists events render the business plans useless
8. **Low sales:** Terrorists target beer parlour and pubs where brewery products are sold thereby scaring people away from visiting bars and drinking beer which affects the sales of brewery products.
9. **Increased security cost:** The increase in the security costs against terror extends distribution cycle and raises marketing costs. Moreover, breweries have to provide and finance their own protection. They have to hire commercial security firms and have to install expensive equipment raising their costs of production.

These indirect effects pose the greatest potential threat to the activities of firms.

Table 2.1: The chronology of the Boko Haram insurgency from 2009 to 2015

Year	Number of attacks	Number of casualties
2009	5	1000
2010	2	14
2011	9	293
2012	12	341
2013	17	773
2014	44	2475
2015	25	2588

Source: Nigeria Newspaper Publications (various issues)

Timeline of the insurgency

Timeline of Boko Haram insurgency is the chronology of the Boko Haram insurgency, an ongoing armed conflict between Boko Haram and the Nigerian government.

Table 2.2: Timeline of Boko Haram insurgence in Nigeria from 2009 to 2015

Year	Exact date of attack	Place of attack	Number of casualties	Casualties	Incidence
2009	Between July 26 to July 29 2009	NORTHERN NIGERIA	1000	about 1,000 people were killed	clashes between Boko Haram militants and Nigerian soldiers
	On July 30, 2009	NORTHERN NIGERIA	1	1	the leader of the Islamic sect book haram, Mohammed Yusuf, was summarily executed by Nigerian soldiers. A new leader AbubakarShekau took over the control of the group.
2010	In September 2010	BAUCHI	726	5 people were killed and 721 inmates were freed from prison	by suspected Boko Haram gunmen
	In 2010	Abuja	4	killed four civilians.	a bomb attack by book haram sect outside a barracks
2011	On May 2011	Abuja and Bauch	15	15 people were killed	there was bombing in Abuja and Bauchi during Goodluck Jonathan's swearing in as the new president.
	June 2011	Abuja police headquarters	3	at least two people, the perpetrator and a traffic policeman were killed	attacked by a suicide bomber
	August 26,	Abuja United Nations	21	21 people dead.	bombing
	November 4, 2011	Damaturu	150	killed about 150 people	Damaturu attacks
	December 22–23, 2011	Damaturu	68	68 people dead, of whom are 50 militants, at least 7 soldiers, and 11 civilians.	Clash between Boko Haram militants and Nigerian soldier
	December 25, 2011	Churches in the north	41	killed 41 people	Boko Haram bomb attacks and shootings
2012	From January 5–	Churches in the north		About 37 Christians are targeted and	Boko Haram militants attacks.
	6, 2012		37	killed	

	January 20, 2012,	Kano	183	183 people, of whom at least 150 are civilians and 32 are police officers.	on Boko Haram attacks
	April 2012	Kaduna	38	left 38 people dead	bombings at a church.
	June, 2012	Kaduna church bombings	19	killed 19 people	bombings in three different churches.
	August 2012	Deeper Life Church in Kogi state	19	killed 19 people	shooting
	August 2012	a mosque in kogi state	3	killed two Nigerian soldiers and a civilian	reprisal attack
	25 th December 2012	Maiduguri and Potiskum	27	27 Christians were killed	suspected Boko Haram militants,
	December 28 2012	the village of Musari	15	15 Christians were killed	by unknown gunmen.
2013	8 th February 2013	in northern Nigeria	9	9 of them killed.	polio vaccinators were attacked and
	March 18 th 2013,	Kano bus	65	65 people were killed	bomb blast in a car bombing.
	April 16 – 2013	Baga massacre	187	claimed 187 lives	It is unclear whether the Nigerian military or Boko Haram is responsible for the massacre.
	June 9 th 2013	Maiduguri	3	3 people were killed	by Boko Haram.
	June 9 th 2013	Damaturu	13	13 students and teachers were killed	by Boko Haram.
	July 6 th	Yobe State	42	killed more than 42 people	school shooting by Boko Haram.
	August 12 th	Maiduguri mosque	56	killed 56 people	Boko haram
	September 12 th ,	Northern nigeria	40	40 soldiers dead.	by Boko Haram ambush
	Between, September 12 th to 18 th	Northern nigeria	166	150 Islamists and 16 soldiers dead.	an offensive by Nigerian Army
	September 19 th	Benisheik.	161	161 were killed	attacks blamed on Boko Haram
	September 20 th	Abuja	13	13 killed	Boko haram shootout
	On September	Gujba college in Yobe State	50	killed more than 50 students	massacre by Boko Haram.

	29 th				
	October 10 th	Dambo	20	20 killed (15 suspected militants and 5 civilians).	Boko haram
	October 2013,	Northern nigeria	101	101 Boko Haram fighters.	government forces raid rebel camps, killing around 101 Boko Haram fighters.
	October 29 th	Damaturu	128	killed at least 128 people	Boko Haram raids that killed (95 militants, 23 soldiers, 8 policemen, and 2 civilians).
2014	January 14	Maiduguri, Borno State	30	killed 30 people	bombing by Boko Haram
	January 26 2014	separate attacks in Northern Nigeria	138	138 people were killed	by Boko Haram militants
	January 31 st	Chakawa	11	11 Christians killed	by Boko Haram militants
	February 14 th	Borno Massacre	121	death of 121 Christian villagers	Borno Massacre by Boko Haram militants in Konduga, Borno State.
	February 15 th	Izghe attack	106	killed 106 people	by Boko Haram militants
	February 15 th	Gwosa	99	at least 90 Christians and 9 Nigerian soldiers were killed	By Boko Haram.
	February 24	Izghe	24	Over 24 people killed	by Boko Haram
	February 25 th 2014	Federal Government College in Yobe State	59	claimed the lives of 59 students	by Boko Haram
	March 14 th	Giwa military barracks in Maiduguri,	600	The military then executes about 600 unarmed recaptured detainees, according to Amnesty International.	Boko Haram attacks the heavily fortified Giwa military barracks in Maiduguri, freeing comrades from a detention and The military then executes about 600 unarmed recaptured detainees, according to Amnesty International.
	Facility April 14 - April 2014	Abuja	88	over 88 people killed	a twin bombing attack in Abuja by book haram
	April 15	Chibok in Borno	276	276 female	By Boko Haram..

		State		students were kidnapped	
	May 1 - May 2014	Abuja	19	19 killed	by a car bomb.
	May 5 – 2014	Gamboru Ngala in Borno State	300	least 300 people were killed	by Boko Haram militants
	May 20 – 2014	Jos	118	at least 118 villagers were killed	by car bombs in the city of Jos.
	May 21	Northeastern Nigeria.	27	27 villagers were killed	by Boko Haram gunmen
	May 27 - May 2014	Buni Yadi	58	49 security personnel and 9 civilians were killed	Boko Haram attack on a military base in Yobe State.
	May 30	Gwoza	1	1	the third emir of Gwoza, Idrissa Timta, was assassinated during a Boko Haram ambush
	June 1 – 2014	Mubi	40	at least 40 people were killed	by a bomb in Mubi, Adamawa State.
	June 2	Gwoza	200	at least 200, mostly Christians, were killed	massacre in several villages in Borno State by Boko Haram
	June 20–23	Borno State	161	at least 70 people were killed and 91 women and children kidnapped	by Boko Haram militants
	June 23–25	central Nigeria	171	around 171 people were killed	by Boko Haram militants
	June 26	Northern Nigerian	100	Over 100 militants were killed	by the Nigerian military during a raid on two Boko Haram camps.
	June 28	Bauchi.	11	11 people were killed	by a bomb
	July 18	Damboa,	18	At least 18 were killed	by a Boko Haram attack leaving the town almost destroyed.
	July 22	Chibok.	51	51 people were killed	by Boko Haram
	September 19	Mainok, Borno State.	30	Around 30 people were killed	by Boko Haram militants at a busy market
	October 31	Gombe	36	At least 4 people	by an explosion at a bus station

				were killed, 32 injured and 13 vehicles destroyed	
	November 2	Kogi	99	99 inmates in Kogi State are freed	prison break by suspected Boko Haram rebels,.
	November 3–10	Yobe State	61	killed 15 Shiites on the 3rd and 46 students on the 10th.	double suicide bombing
	November 25	Maiduguri, Borno State	45	Over 45 people were killed	by two suicide bombers .
	November 27	Damasak	50	Around 50 people were killed	by Boko Haram militants
	November 28	Kano	120	killed at least 120 Muslim followers of the Emir of Kano, Muhammad Sanusi II,	2014 bombing, were killed during a suicide bombing and gun attack by Boko Haram.
	December 1	▪ Maiduguri, Borno State.	5	5 people were killed	by two female suicide bombers who detonated explosions at a crowded market place
	December 10	Kano	11	At least 4 people were killed and 7 injured	by female suicide bombers near a market in Kano
	December 11	Gajiganna, Borno State.	30	30 people were killed and houses were destroyed	By Boko Haram militants
	December 13 - 2014	Gumsuri	220	between 32 and 35 were killed and between 172 and 185 were kidnapped	kidnappings, by Boko Haram in Borno State
	December 22	Gombe State.	27	at least 27 people were killed	bus station bombing, at a bus station by a bomb
	December 28–29	Cameroon clashes,	181	85 civilians, 94 militants, and 2 Cameroonian soldiers were killed	Boko Haram offensive into Cameroon's Far North Region.
	January 2	Waza, Cameroon,	17	Killed eleven people and injuring six.	Boko Haram militants attacked a bus
2015	January 3–7	Baga in north-	2000	as many as 2,000	Boko Haram militants raze the entire

		east Nigeria.		people were killed.	town. Bodies lay strewn on Baga's streets with Boko Haram now controls 70% of Borno State, which is the worst-affected by the insurgency.
	January 3	Borno State	40	kidnapped around 40 boys and young men.	Fleeing villagers from a remote part of the report that Boko Haram had three days prior
	January 5	Baga.	0	hundreds of Boko Haram militants had overrun several towns in northeast Nigeria and captured the military base in Baga.	This is two days after 40 boys were kidnapped
	January 9	Borno State	8300	7,300 flee to neighbouring Chad while over 1,000 were trapped on the island of Kangala in Lake Chad.	refugees flee Nigeria's Borno State following the Boko Haram massacre in the town of Baga. Nigeria's army vows to recapture the town, while Niger and Chad withdraw their forces from a transnational force tasked with combating militants.
	January 10	Maiduguri, Nigeria	20	killed 20 people	a 10 year old female suicide bomber
	January 11 -	Potiskum, Nigeria.	5	5 people were killed	more female suicide bombers, this time two, and again each believed to be around 10 years old,
	January 12	Kolofata in Cameroon	301	The Cameroonian military claims the army lost only one officer while the Islamic group lost about 300 rebels.	Boko Haram militants launch a failed raid on Kolofata.
	January 18	from villages in north Cameroon.	83	kidnap 80 people and killed three others	Boko Haram militants
	January 20	Baga,	21	21 civilians were killed	Boko Haram leader Abubakar Shekau claims responsibility for the attack
	January 24	Kambari near Maidaguri.	15	15 people were killed	Boko Haram gunmen attempt to burn down the village

	January 25	Maiduguri,	64	leading to the deaths of at least 8 civilians, up to 53 militants, and 3 soldiers.	Boko Haram rebels launch a large offensive against Nigerian forces in Maiduguri The status of the 1,400 soldiers stationed in Monguno is unknown. As a result of these attacks, Boko Haram now controls four out of five roads leading into the major city, prompting fears that it will be taken as well.
	January 28	Adamawa State.	40	killed 40 people	Boko Haram fighters while on a rampage
	January 29	Michika	N/A	N/A	The Nigerian military, in collaboration with Chadian soldiers, captures the border town of Michika from Boko Haram rebels.
	January 31	north of Cameroon	123	Chadian forces claim to have killed 120 Boko Haram fighters while losing only 3 soldiers of their own during fighting	The African Union pledges to send up to 7,500 international soldiers to aid Nigeria's fight against Boko Haram.
	February 1	Borno State, Maiduguri, potiskum and gombe	13	Also, a suspected Boko Haram suicide bomber killed himself and eight others at the residence of a politician in Potiskum. Another suicide bomber killed five people outside a mosque in Gombe.	Boko Haram attacked the capital of borno state. This time, the city was attacked from four out of the five sides. The attack was unsuccessful, but many civilians inside the city panic.
	February 2	Gombe	19	at least one death and eighteen people injured	A female suicide bomber attacked minutes after the President of Nigeria left an election rally in the city of Gombe
	February 4	GamboruNgala.	209	killed 200 militants and lost nine soldiers	the Chad Army claims to have killed 200 militants and lost nine soldiers while capturing the border town of Gamboru

	February 6 –2015	Bosso and Diffa, both in Niger	114	5 Nigeriens were killed while the government claimed 109 Boko Haram militants were killed as well.	The Chadian military assisted the Nigerien Armed Forces in repelling the attack.
	February 7	N/A	N/A	N/A	Nigeria postponed its general election for six weeks to allow its armed forces to control parts of the country currently controlled by Boko Haram.
	February 9	Diffa in Niger	N/A	N/A	Boko Haram launched a raid on a prison in the town of Diffa in Niger. Authorities repel the attack.
	February 12	Sambisa Forest in Borno State, Mbuta and Biu	20	deaths of 8 residents. A dozen people were also killed in a suicide blast	The West African Allied Forces, led by Nigeria and supported by Cameroon, Chad, and Niger, invade the Sambisa Forest in Borno State, a stronghold of Boko Haram, killing scores of the insurgents. Elsewhere, the town of Mbuta, 15 miles northeast of Maiduguri, was raided by Boko Haram, resulting in the deaths of 8 residents. A dozen people were also killed in a suicide blast at Biu, 100 miles southwest of Maiduguri.
	February 14	Gombe	N/A	N/A	Boko Haram forced assault in Gombe. The Nigerian military repelled the attack,.
	February 15	Damaturu	46	killed 16 and wounded 30	A suicide bomber
	February 16	Monguno	N/A	N/A	Nigeria regains the key town of Monguno from Boko Haram. The town had previously fallen to the militants on January 25th.
	February 18	northeastern Nigeria	300	killed 300 militants	The Nigerian Army claimed to have killed 300 militants in northeastern Nigeria
	February 18	Niger.	37	killing 37 civilians.	a warplane bombs a funeral ceremony in Niger.
	February 20	Borno	34	killed 34 people	Boko Haram militants attacks
	February 21	Baga,	N/A	N/A	Nigerian army retakes Baga, which had fallen to Boko Haram on January 3rd.
	February 22	Potiskum.	31	killed five and wounds 26	A suicide bomber

	February 24	Potiskum and Kano.	27	killed at least 27 people	Two suicide bombers killed at least 27 people at bus stations
	February 24	Garambu,	210	killed over 200 Boko Haram fighters with One Chad Army soldier is killed and nine were wounded	Chadian soldiers killed over 200 Boko Haram fighters in a clash near the town of Garambu, close to Nigeria's border with Cameroon. One Chad Army soldier is killed and nine were wounded.
	February 26	at the cities of Biu and Jos	35	At least 35 people were killed	At least 35 people were killed in two attacks targeted at the cities of Biu and Jos.
	February 28	Near Damaturu.	4	kill up to four civilians	Two female suicide bombers
	March 2	Kondunga town in Borno State	73	73 Boko Haram militants disguised as herders were killed	A senior military officer claimed that 73 were killed. In addition, the Chadian military recaptured the town of Dikwa, also in Borno State.
	March 7	Maiduguri	197	54 dead and 143 wounded	Five suicide bomb blasts in Maiduguri. After the explosions, Boko Haram formally declared allegiance to the Islamic State.
	March 9	Malam Fatouri and Damasak in northeastern Nigeria.	N/A	N/A	Chadian and Nigerien forces retook the towns of Malam Fatouri and Damasak in northeastern Nigeria.

Sources: Reuters Publications (2009)
BBC News (2015)
Sahara reporters (2014)
Nigeria Newspaper Publications (various issues)
Achumbe & Ighomereho (2013),

CAUSES OF INSECURITY IN NIGERIA

Many scholars have identified several causes of insecurity in Nigeria that are inimical to socioeconomic and national development (Ndubisi, Anigbogu and Okonkwo 2015, Achumba and Akpor 2013). In Nigeria the causes of insecurity pose major challenge to socio-economic and they include:

Ethno-religious conflicts - These arise from distrust among various ethnic groups and among the major religions in the country. Ethno-religious conflict is a major cause of insecurity in

Nigeria. Ethno-religious conflict was defined as a situation in which the relationship between members of one ethnic or religious group and another of such group in a multi-ethnic and multi-religious society is characterized by lack of cordiality, mutual suspicion and fear, and a tendency towards violent confrontation (Achumba et al. 2013; Salawu, 2010).

Weak Security system - This result from lack of expertise and inadequate equipment for the security arm of government.

Unemployment/Poverty- As a result of the high level of unemployment, poverty, among Nigerians, especially the youths, they are adversely attracted to violent crime. Unemployment has a severe negative implication on national development in Nigeria as most of its productive force is unemployed. What this means theoretically is that poverty and unemployment increase the number of people who are prepared to kill or be killed for a given course at token benefit Salawu (2010).

Porous Borders: Achumba et al. (2013) observe that the porous frontiers of the country, where individual movements are largely untracked have contributed to the level of insecurity in Nigeria. As a result of the porous borders there is an unchecked inflow of Small Arms and Light Weapons into the country which has aided militancy and criminality in Nigeria (Hazen and Horner, 2007).

2.4 The Brewing Industry

2.4.1 The outlook of the Global beer market

The developments in the global brewing market stays consistent with trends in domestic economies.

- Beer is the most widely consumed alcoholic beverage in the world after water and tea. According to Euro-monitor through Barth report (2013), Beer volume and value grew by 7 per cent and 2 per cent respectively in 2013. Canadian global beer trend report estimates beer consumption at 2bn hectoliters (hl) in 2013.
- Despite the effect of global economic crunch on discretionary spending and by implication on the beer consumption, the Canadian beer report held that average growth of the global

beer industry is expected to expand by 2.8 percent between 2009 and 2015, although this is expected to vary across regions (Equity research 2014).

Table 2.3: Global beer market share of products by continent 2003 to 2014

Continent	2003	2005	2007	2009	2011	2013	2014
Europe	34%	34.1%	33.1%	28%	28.49%	27.94%	26.63
Asia/middle east	26.9%	28.5%	31.2%	35%	35.25	35.27	35.27
North America/ South America	32.40%	31.60%	29.9%	29%	29.31%	29.28%	29.45
Africa	4.4%	4.5%	4.7%	5%	5.82	6.41%	7.1
Australia	1.40%	1.30%	1.20%	1.20%	1.13%	1.11%	1..25
Total	100%	100%	100%	100%	100%	100%	100%

Source: Meristem Equity Research 2014

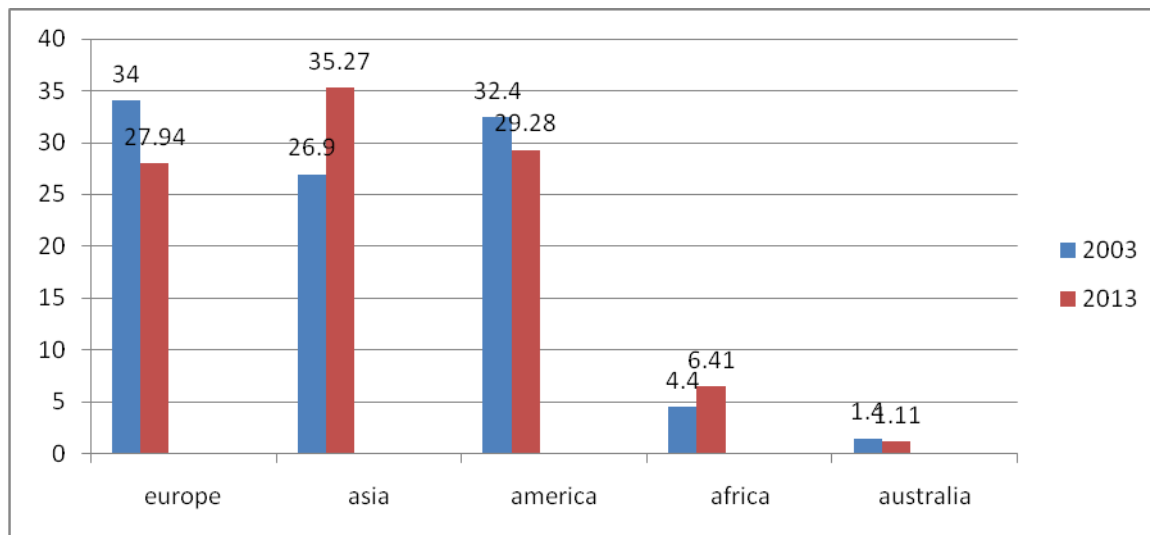


Figure 6: Bar chat representing Global Beer Market Share

Source: Researcher's Construction (2015)

Though the global growth in the industry is expected to be driven by the developing markets, European and American markets continue to account for more than 50 per cent of global beer production. According to the Meristem report (2014), Africa accounts for 6.41 per cent of the total global production making the region the least producer.

Industry Leaders

- Brazil, Russia, India and China (BRIC) are recording the highest rate of market growth within the global beer industry, generating almost \$108 billion in 2010, according to Market Line. India led the group in terms of growth, reaching a yearly rate of 2 per cent between 2006 and 2010. China led the group in terms of revenue, generating more than \$58.5 billion in the same year. China is forecast to remain at the top of the BRIC countries, expected to hit \$82 billion in 2015 (Equity research 2014).
- The G8 nations beer market grew at a yearly rate of almost 1.5 per cent in the four-year period ending 2010, when it was worth close to \$256 billion, reports MarketLine. The US leads these nations, generating almost \$77 billion in 2010, accounting for more than 30 per cent of the overall market. The US beer industry is expected to remain in the top spot of the G8 nations, hitting just over \$75 billion in 2015 (Meristem 2014).

2.4.2 The African Brewing Market

The Growth Story

- With a population size of 1.03bn people and a projected growth rate of 2 per cent (CAGR) up to 2020, Africa will account for 20 per cent of the global population by 2020 according to IMF estimates. By income, the continent is projected to grow by 7 per cent up to 2020. Six among the top ten fastest growing economies in the world are in Africa, with Nigeria, the most populous and largest economy growing at an average growth rate of 6.5 per cent for the past 5 years. Despite the appealing fundamentals, Beer consumption per capita (BCCP) in Africa is very low (9liter per head, Global insight 2012), compared to other markets. This number implies that the potential for growth for beer consumption is massive in the region. The sector's 10-year average growth rate (CAGR) of 4.1 per cent substantiates this view (Vetiva 2010).

2.4.2.1 Nigeria in Global Context vs Peers in Africa

The African market is still small relative to the global beer market. Africa accounted for just 6.4 per cent of global beer production while Nigeria accounted for an abysmally low share of less than 1 per cent (0.94 per cent precisely) as at 2012, (meristem 2014).

The competitive landscape in the African brewery market is shaped by 4 global players: SABMiller, Heineken, Castel and Diageo with a pooled market share of above 80 per cent in the continent. Based on 2013 figure, 32 per cent of African beer demand come from South Africa alone. Nigeria has the second largest beer market with a production size of 15mhl p.a. representing 15% of African market.

The four global players are operational in the Nigerian market with Diageo and Heineken as the most active players through their majority-controlled subsidiaries: Guinness Nigeria Plc (Guinness) for Diageo; and Nigerian Breweries Plc (NB) for Heineken. Castel also launched its foray into the Nigerian market through the acquisition of a majority stake in International Breweries Plc (Equity research 2014).

Despite growth in beer volume, the current level still appears quite imbalanced putting into perspective the geographic metric that shows Sub Saharan Africa (SSA) controlling 11.5 per cent of world population. This disparity in the distribution of global beer consumption level is much more pronounced in the context of the Nigerian market. This is premised on the fact that about 99 per cent of the production volume in Nigeria is used to meet domestic demand. Hence, the level of beer production gives some estimate as to the level of domestic beer consumption.

Hence, we argue that the Nigerian case presents an appealing growth theme given that Nigeria controls 2.2 percent of global population base but controls barely 0.94 percent of global beer production (Equity research 2014).

2.4.2.2 Competitive Landscape in Africa

When considered globally, an obvious feature is the dominance of global production of beer by the four brewing giants (ABInBev, SABMiller, Heineken and Carlsberg) accounting for 48% of total volume produced.

The biggest five global industry players produce 52 per cent global beer volume. They continue to drive regional expansion both organically and through acquisitions; increasing their collective share of the market at the expense of smaller players, while the next 6 firms produce 13 per cent. Others account for the remaining 35 per cent. ABInBev, SAB-Miller (SABM), Heineken and Carlsberg are currently the top global players by market share with 21per cent, 10 per cent, 9per cent and 6 per cent in that order.

The Africa beer market is dominated by Global brands such as SABM and Heineken, two of the big four. They have their foot prints firmly rooted in Africa. SABM dominates the continent with 35per cent market share; Heineken and CASTEL occupy the second position with 23per cent each, Diageo, the parent company of Guinness Nigeria Plc. Follows with 13per cent share of the market, other makers control the residual 6per cent. (Meristem 2014)

2.4.3 Nigeria Brewing Industry Overview

The Nigerian Brewing Industry is a highly active sector. Players in the sector are engaged in the brewing, bottling, sales and distribution of alcoholic and non alcoholic beverages such as stout, beers and malt drinks amongst others and in some cases, soft drinks.

There are seven listed Companies in the highly concentrated Sector with the leaders, controlling circa 85 per cent of the Sector's production volumes.

However, there also exist several unlisted brewers operating in Nigeria such as Consolidated Breweries and Sona Breweries amongst others resulting in about 11 brewers in all. Of the listed players, besides NB, Guinness and International Breweries, the other brewers have failed to regularly publish performance scorecards and have lagged behind their peers in this regard.

The Brewing process is highly technical and hugely capital intensive, and has benefitted from significant foreign direct investment inflows in recent times. This has to a large extent ensured that the volumes and thus market share has remained with the most technologically advanced manufacturers with cutting edge technology and up to date expertise.

Owing to the highly asset intensive with heavy economies of scale alongside the aforementioned, new entrants and small firms oftentimes find themselves highly disadvantaged. The growth of the sector over the years has been flexible, predicated on economic conditions, improved product quality and the marketing activities of manufacturers. Worthy of note is the defensive nature of the Brewing Industry's products viz its ability to grow sales volumes despite over riding economic considerations. The resilient and largely inelastic demand profile of the Sector's products inspires volume growth irrespective of the economic climate. The perception is that in times of depression, consumers drink to drown their fears and anxieties and in times of excitement, they also drink to express their joy (Equity research 2014).

Nigeria has moved from a duopoly beer industry, to an oligopoly one. There are seven quoted breweries company on the Nigerian stock exchange. These include Nigerian Breweries Plc (NB), Guinness Nigeria Plc (GUINNESS), International Breweries Plc (INTBREW), which are the three largest in terms of market capitalization. Others include Champion breweries Plc. (CHAMPION), Jos Breweries (JOBREW), Golden Guinea Breweries Plc (GOLDBREW) and Premier breweries (PREMBREW). All together, the seven listed beer producers have a total market capitalization of NGN1.75trillion representing 12.36 per cent of the NSE market capitalization.

The aforementioned breweries were further categorized into Large Cap (market capitalization of NGN100bn and above), Mid Cap (Market capitalization between NGN1bn to NGN100bn) and Small Cap (Market Capitalization less than NGN100bn)brewers, based on market capitalization of these company. Based on this classification, we classify NB and GUINNESS as large cap, INTBREW, CHAMPION and JOBREW fell within the Mid Cap criteria while PREMBREW and GOLDBREW are grouped as the Small Cap beer makers (Equity research 2014).

Table 2.4: Quoted Breweries Firms

Ticker	Share Outstanding (bn)	Mkt. Price	Mkt. Cap (bn'NGN')	Mkt. Cap (%)	Rating
Large Cap					
NB	7.56	178.20	1,347.19	77.04%	HOLD
GUINNESS	1.51	198	298.98	17.10%	HOLD
Mid Cap					
INTBREW	3.26	28.05	91.44	5.23%	SELL
CHAMPION	0.9	9.67	8.70	0.50%	UNRATED
JOBREW	0.56	2.58	1.44	0.08%	UNRATED
Small Cap					
GOLDBREW	0.27	0.71	0.19	0.01%	UNRATED
PREMBREW	0.98	0.77	0.75	0.04%	UNRATED
			1,748.71	100.00%	

Source: NSE (2015)

2.4.4 The Nigerian Beverage Market

Nigerian beverages market is heavily driven by the Beer and Carbonated Soft drink (CSD) with both controlling about 87 per cent of beverages consumption. Packaged Juice, Spirit, Wine and Other 'Ready-to-drink' beverages (RTDs) cover the remainder. Report by Heineken quoted CSP magazine and indicated that, of the total beverage volume in Nigeria, 45.29 per cent is attributed to the beer segment, 42.06 per cent goes to CSDs, Packaged Juice takes 10.29 per cent whilst Spirit, Wine and RTDs takes the remaining 2.35 per cent in 2010 (Vetiva 2010)

The Soft Drink Market: The CSD segment of the market is dominated by the Nigerian bottling company (NBC- bottles Coca-Cola and Fanta brands 7UP Plc

(PepsiCo franchise bottler) in conjunction with a rising number of fringe players. Notable among the domestic players is the La Casera Co, Ltd (formerly known as Classic Beverages Nigeria Ltd)the producer of the La Casera brand, with innovative marketing strategy such as beauty contests (Miss La Casera) continue to gain a distinct proportion of the market. The company recently introduced the first sugar-free carbonate with real fruit, Latina. According to Euro-monitor, the company was one of the first to use PET (Polyethylene Terephthalate) bottles and has introduced a new 'Ice Feel' bottle to raise the stakes. Brewers are increasingly exploring the soft drink market by enlarging their product portfolios, through their non-alcoholic product variants and capturing an increasing share of consumers' discretionary spending. A classic instance is the drive of NB toward product portfolio optimization by the introduction of the Fayrouz brand to its product kit. Being a non-alcoholic brand, such products have a strong potential to permeate a broader market (breaking religion boundaries – a key factor in the Nigerian brewery market) and pose good competition to the key CSD producers.

The Packaged Juice segment: Awareness about Health and Nutritional balance (better education about nutrition and risk factor embedded in high sugar consumption which may lead to diabetes, obesity and hypertension) is growing amongst Nigerians. This has so far led to a sustained growth in the fruit juice consumption as against CSDs. Other notable factors include busier life style amongst the rising middle class has left majority with less time to prepare balance nutrition for their family hence juice consumption is resorted to as a suitable way of ensuring the intake of essential nutrients.

Also, the sophisticated social life style and the value Nigerians placed on social occasions also serve as contributory factor driving the growth of juice consumption amongst Nigerians. Hence, more consumers generally favour packaged juice to CSDs. Chi Nigeria Ltd (45 per cent volume share) dominates the segment with varieties of the Chivita brand, ahead of NBC's 5-Alive brand (35 per cent volume share). Other players in the segment include GlaxoSmithKline Nigeria Plc, Dansa Foods, Cway Food & Beverages Co Nig Ltd, Frutta Juice & Services Ltd and Fumman Foods Industries Nigeria Ltd.

The Spirit and Wine Segment: A phenomenal game changer in the spirit segment of the alcoholic drink market was the introduction of Alomo bitters in 2010, an alcoholic herbal drink that challenged the dominance of all other alcoholic drinks (other spirit) including beer. The product was favoured by the majority as a result of the perceived medicinal benefits and virility in men accorded to herbal products.

The product is inexpensive (NGN180 to NGN250) compared to other spirits and Lagers. Growth in consumption of Alomo was partly responsible for the drag in the performance of beer in 2012 according to Euro-monitor. As a result of this trend, Guinness Nigeria Plc (a subsidiary of the Diageo group with key strength in the spirit segment in Africa) recently launched 'Orijin bitters', a blend of herbs and fruits with bitter-sweet flavor to challenge the dominance of Alomo bitters in the segment. Spirits, the key strength of the Diageo Group (the parent Company of the second largest Nigerian brewer - Guinness), is still a very shallow market in Nigeria as it remains unappealing in aggregate consumption basket. However its stout brand remains a market favorite, with Nigeria ranking as the second largest market for the Guinness Stout brand world-wide.

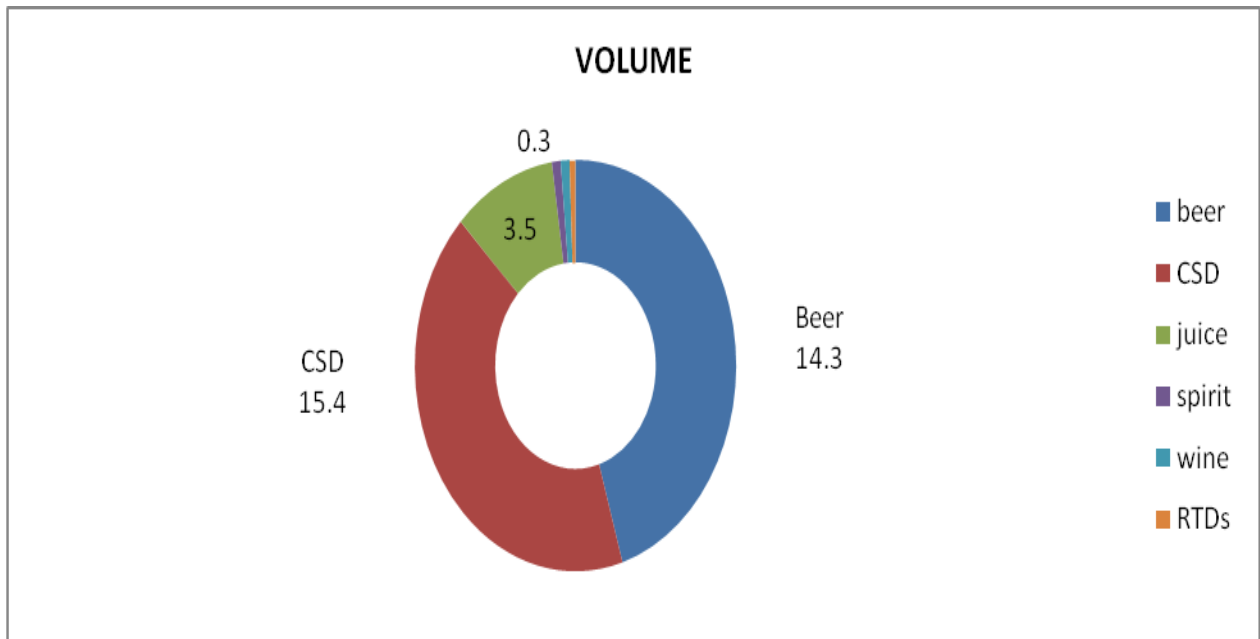


Figure 7: Nigeria Beverage Market Volume Share
Source: Researcher’s Construction (2015)

2.4.5 Structure of the Nigerian Beer Market

Growth: Though the history of the Nigerian Beer industry may be traced back to period prior to the independence of Nigeria. It was the establishment of Nigerian Breweries limited in 1946 that pioneered brewing in Nigeria. Based on the report by the Financial Derivative Company (FDC) on the Nigerian beer market, beer makes up 96 per cent of all alcohol sales in Nigeria, historical data suggests that beer consumption in Nigeria has been experiencing an average growth of 10 per cent for the last ten years (2002 – 2012) (Meristem 2014).

This growth hinges on the huge demographic features, a population of 170M people, growing middle class, abundant oil reserves, and an enormous consumer market. As at 2012 estimate, the value of the Nigerian beer market pegged at 20mhl. However, as a result of higher cost of living, slowing discretionary income pressuring spending and insecurity challenges, recent performance of the sector has recorded a drag. The industry climbed 3 per cent in 2012 compared with 11 per cent in 2011, while the 2013 performance declined by 3 per cent (Equity research 2014).

Segmentation and Market Channel: A further breakdown of the Nigerian beer market indicates that of the total beer consumption in Nigeria, Lager beer takes 58 per cent of the market share; Stout has 27 per cent while 15 per cent goes to Malt. In terms of consumption channels, majority of Nigeria beer consumers (40 per cent) drink in beer Parlours, 28 per cent through provisional store purchases, 13 per cent via informal convenience spots, while the rest go through kiosks, restaurants and hotels and others.

2.4.6 Agricultural Value Chain

Partnerships

Challenges such as water scarcity, unsustainable farming practices, competition for arable land from fuel crops, and climate change all pose potential risks to the supply of brewery raw materials and to the livelihoods of the farmers who produce them.

The future prosperity of farmers, suppliers, and brewery business is closely linked with the ability to create partnerships and generate joint business value in ways that are sustainable, secure, and mutually beneficial. Support for Sustainable sourcing and, where appropriate, local sourcing of raw materials which meet quality standards is inevitable. Local sourcing is a deliberate choice to ensure a reliable supply of raw materials from close to breweries and distilleries, while having a positive impact on the communities of operation.

Partnerships with farmers are the most effective way to promote sustainable farming practices and secure local supply networks as well as improve the country's economy.

Agricultural Suppliers

Raw materials such as barley, sorghum, maize, cassava and grapes are bought from suppliers ranging from sizeable commercial businesses to smallholders whose area of sorghum or barley might cover no more than an acre.

The development of a scalable barley value chain and the sugar cane value chain can help build capacity and develop local farming communities for the long-term future.

Nigerian Breweries (NB) Plc is said to have emerged as a top brewer of opportunities for wealth creation in Nigeria creating inroads into agriculture and agro allied services which is engaging over 250,000 people.

The company recently revealed that it has designed a corporate compliance agenda which drives to ensure that 100 per cent of its raw materials are sourced locally. This inevitably contributes to

the growth of local businesses within the agricultural sector, boosting the overall economy (NB PLC reports 2014).

Through the agriculture/agro allied sector, there is enhanced growth of high yield cassava, Sorghum and some other agricultural products. Its value chain generates raw materials for production of diverse beverages, foods and products.

Jamodu stated: “We have a commitment to ensure that the vast majority of our bought in materials and services are generated through local sources and to ensure 100 per cent compliance to our supply code procedures in 2013. We strengthened and sustained our sorghum value chain programme through the commercialization of two hybrid seeds previously developed (NB PLC annual reports 2013). He added that as part of their local sourcing agenda, 100 per cent of packaging materials requirements are now being fulfilled using local sources. Through the agricultural produces, many Nigerians have secured direct line of employment as well as opportunities for secondary and tertiary service providers which provide direct and indirect services to the retinue of framers linked to the NB’s agriculture/agroallied partnership. Interestingly, the product from the farm would not only serve the NB, but go a step further to produce market for cassava and sorghum value chains needed to boost operations of many Micro Small and Medium Scale industries(MSMEs), This of course lend credence to the federal governments’ initiative to boost industrialization in the country.

Mr. Nicholas Vervelde (2014), Managing Director/ Chef Executive officer, Nigerian Breweries Plc, Lagos said, it has remained focused on engaging over 250,000 Nigerians in agricultural productions of cassava and Sorghum. He noted that the mark recorded by the company in agriculture, boost to its different brands, innovations as well as modern acquisitions have sustained it as a leader in the Nigerian brewing sector.

2.5 Corporate Profile of Nigerian Breweries Plc. (NB Plc.)

Nigerian Breweries (NB) has over 6 decades history of operations in the Nigerian brewing space, the beer maker has sustained the position of both the pioneer and largest brewing company in the country. A subsidiary of Heineken N.V, one of the top four Brewing giants in the world.

Given the investment of Heineken Global in NB (54 per cent) and a total installed brewing capacity of 15.4mhl/pa, NB sustained dominance in the Nigerian beer market in terms of market

value and brewing plants. Heineken has further indicated its intention to merge the operations of Nigerian Breweries Plc and Consolidated Breweries Plc (Another subsidiary of Heineken in Nigeria). This merger brought total install capacity of NB to 19.1mhl and total market share to 71 per cent as at 2014. Both entities exist as Nigerian Breweries Plc. post the merger.

Currently, the premium brewer operates with 10 brewing and malting plants (Kakuri brewery, Kudenda brewery and Kudenda malting plant in the Northern part of Nigeria, Lagos, Ota and Ibadan Breweries in the south-western part of Nigeria, Onitsha, Aba and Ama breweries and malting plants in south east Nigeria) to retain 61 per cent market share pre merger.

In terms of market capitalization and holding structure, NB is one of the top most capitalized stocks listed on the NSE with a total of NGN1.16trillion, representing 9.30 per cent of total market capitalization. By product portfolio, the company operates a broad base product portfolio across all the segments of the market from international premium (IPS), national premium (NPS) to mainstream and savings segment. In the IPS segment, Heineken lager sells at NGN260, Gulder lager beer sells at NGN210 in the NPS segment, while Star lager (NGN200), Legend extra stout (NGN200) and Maltina-non-alcoholic malt drink (NGN100/120) sell within the mainstream segment. Others include Amstel malta, Goldenberg, Malta gold, Climax and Fayrouz. The most recent innovation to the portfolio is the introduction of Star Lite Ice Cold Filtered lager, an extension line of Star lager. *“The temperature sensitive labeled beer contains no additives and preservatives and is a healthy offering for all our health conscious consumers”*, according to management.

Ownership

The shareholding structure of NB has Heineken with 54 per cent majority holding, Stanbic Nominees as the second largest shareholder with 32 per cent while other holders share the remaining 14 per cent.

Expansion

After its first brewery in Lagos in 1949, Nigerian Breweries commissioned its second brewery in Aba. Kaduna Brewery was commissioned in 1963 while Ibadan Brewery came on stream in 1982. In 1993, the company acquired its fifth brewery in Enugu. In October 2003, a sixth brewery, sited at Ameke, in Enugu State was commissioned and christened Ama Brewery.

Operations in the Old Enugu Brewery were however discontinued in 2004, while the company acquired a malting plant in Aba in 2008.

Ama Brewery is designed with the best cutting edge technology and world-class standard processes. The company has a production capacity of 3 million hectoliter per annum (Meristem 2014).

Merger and Acquisitions

Nigerian Breweries Plc has acquired Sona Systems Associates Business Management Limited and Life Breweries Company Limited. Sona Systems has two breweries in Ota Ogun State and Kaduna, while Life Breweries is based in Onitsha, Anambra State.

According to Managing Director of Nigerian Breweries Plc Mr. Nicolaas Vervelde (2013):

...alternative to acquiring the breweries to meeting growing demand, was building a new brewery, which he said, would have taken a period of not less than 24 months. The acquisition is therefore, a good business decision.

In 2012, the Company sought and obtained shareholders' and regulatory approval to merge with both Sona Systems Associates Business Management Limited and Life Breweries Company Limited, which were acquired from Heineken N.V. in October 2011.

The Merger was effected during the year 2012 and the financial and operational integration of the acquired entities was completed in 2012. In 2014, the merger with consolidated breweries was also completed.

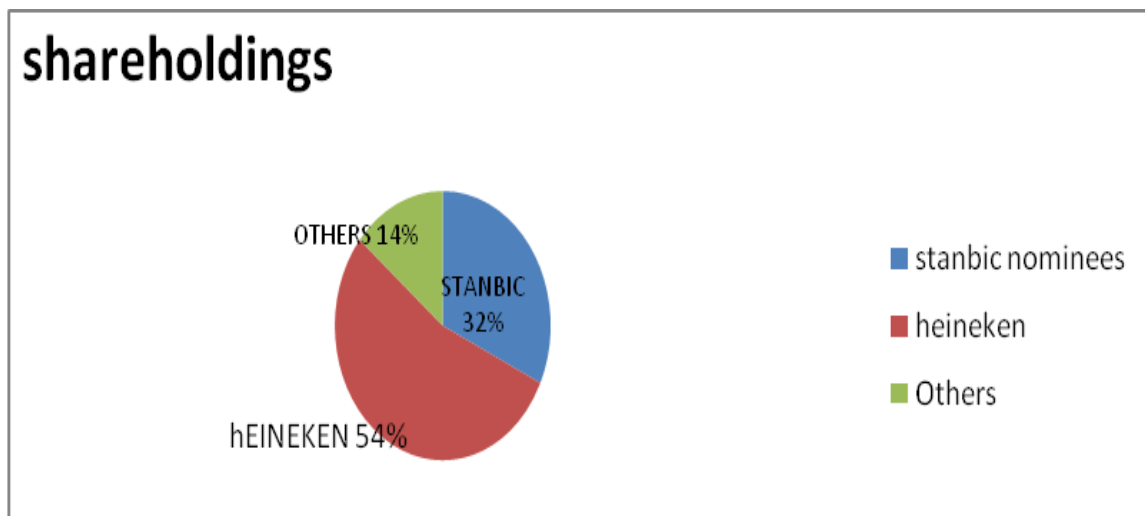


Figure 8: NB's shareholding structure
Source: Researcher's View (2015)

Route to the Market

NB has a fully integrated route to the market that links production to retail outlets via key partners. This is conducted through direct sales from 150 key distributors and 2000 wholesalers to 52500 retail outlets through a channel of 35000 bulk breakers (Equity 2014). The company continues to grow cooling capacities in its outlets to give its customers increasing optimal satisfaction. Overall, 23 per cent of the outlets are located in Lagos, 31 per cent in South-West, 16 per cent in the South, 10 per cent in the East and 20 per cent across the Northern region (NB PLC report 2014). This is further supported with customer and consumer targeted reality shows for each of the brands to drive sales across each of the brand portfolios. Notable among these are, Maltina Dance All, Gulder Ultimate Search, Star Time, Real Deal, Heineken's sponsorship of the UEFA Champions League and the most recent hosting of the UEFA cup in Eko Hotel and Suites in Lagos to sustain consumers' loyalty.

Performance Outlook

We note the sustained dominance of Nigerian breweries Plc. in the Nigerian market and the impact of the support of Heineken global's commercial expertise on the performance of the Nigerian brewery giant. We think the enhanced route to the market coupled with the company's continuous investment in assets, people and brand innovation will continue to uphold future performance despite the challenges in the environment.

For the year-ended, December 31, 2013, Nigerian Breweries recorded a sales revenue of N268 billion, which was an increase of 6.3 per cent over the N252.67 billion realised in the preceding year while profit before tax, which stood at N55.624 billion in 2012 rose by 11.89 per cent to N62.240 billion. In the same vein, profit after tax in the review year was N43.080 billion, which increased by 13.24 per cent from N38.042 billion. A closer look revealed that on a quarterly basis, the company reported an increase of 38.6 per cent in revenue to N78.31billion in the fourth quarter of 2013 as against the N56.49billion in the third quarter of 2013 and 40.9 per cent higher than N55.59billion recorded in the fourth quarter of 2012.

Analysts at Dun Loren Merrified (DLM), a research and investment banking company, stated that the fourth quarter sales revenue was above their estimate of N72.50billion by 8.0 per cent. "In our view, the increase in the sales revenue was a result of increase in the volume of consumption of several brands within the company's product portfolio," they posited.

Following the full-year report, Nigeria Breweries released its latest financial results for the second quarter of 2014, which was published by the Nigerian Stock Exchange in July. The results showed that PBT and PAT grew by strong double-digits on a year-on-year and sequential basis.

Below is the table showing the financial performance of NB PLC from 1990 to 2015

Table 2.5: Performance Indicators of Nigerian Breweries in Thousands Naira from 1990 to 2015

Year	Turnover (N'000)	Investment (Nmillion)	Net profit (Nmillion)	stock (Nmillion)	PBT (Nmillion)	Net asset (Nmillion)	Fixed assets (Nmillions)	Current asset (Nmillion)	Working capital (Nmillion)
1990	27218012	112500	4109	8682	4978	12320	16296	23509	-3863
1991	25554104	112500	4105	9472	5310	16427	16497	25309	-4054
1992	28883255	112500	4114	12629	4646	16945	16094	21708	-5673
1993	31576475	112500	4095	12627	5973	15909	16901	28911	1566
1994	41756582	112500	4134	12632	7964	17981	18514	28985	1567
1995	42200374	112500	4211	12621	7986	19567	18344	28936	1663
1996	42348142	150000	4366	12643	7941	26089	18683	29034	1472
1997	42052257	150000	4056	12599	8031	26267	19362	29231	2247
1998	42644248	150000	4676	12688	7851	25912	18004	29624	1485
1999	41459147	150000	3437	12510	8212	26621	20721	28837	3008
2000	43828247	150000	5916	12865	8936	28039	26155	30411	-38
2001	39091860	150000	4,535	12155	7,489	25,203	15287	33557	12348
2002	29428645	150000	7296	13575	10382	30876	37022	27264	12425
2003	62975795	150000	7352	2767	10992	30346	50041	33753	18055
2004	73594394	150000	5086	18124	9148	31279	54448	26385	18221
2005	80130366	150000	8255	12342	12898	34724	52428	19685	-13442
2006	86322075	150000	10901	12671	16436	36249	49677	24917	1042
2007	111748297	150000	18943	16156	27876	43183	50194	39931	10517
2008	145461762	150000	25701	20741	37519	32229	63557	40625	-14150
2009	164206848	150000	27910	22064	41399	46570	69003	37629	-4689
2010	185862785	150000	30332	21231	44880	40172	87756	40284	-4595
2011	226229379	150000	38408	24056	57118	78436	96618	59999	7719
2012	252674213	150000	38043	24652	55624	93447	142348	56867	29967
2013	268614518	150000	43080	20643	62240	112359	153366	45285	-55010
2014	266,372475	829625	42520	28478	61461	171882	193569	56931	-57623
2015	293905792	829625	38049	24560	54508	172233	197109	51108	-56317

Source: Nigerian breweries annual report (various issues)
Nigerian stock exchange fact book (various issues)
Publications and financial reports of NB PLC(various issues)
Publications From African Financials(various issues)

Table 2.6: Performance Indicator (N) and Growth Rate (%) of Nigerian Breweries from 1990 to 2015

Year	Turnover (Nmillion)	Growth %	Investment (Nmillion)	Growth %	Net profit (Nmillion)	Growth %	stock (Nmillion)	Growth %	PBT (Nmillion)	Growth %	Net asset (Nmillion)	Growth %	Fixed assets (Nmillions)	Growth %	Current asset (Nmillion)	Growth %
1990	27218		112500		4109		8682		4978		12320		16296		23509	
1991	25554	-6.11	112500	0.0	4105	-0.1	9472	9.1	5310	6.7	16427	33.33	16497	1.2	25309	7.7
1992	28883	13.02	112500	0.0	4114	0.22	12629	33.33	4646	-12.50	16945	3.15	16094	-2.44	21708	-14.22
1993	31576	23.6	112500	0.0	4095	-0.46	12627	-0.02	5973	28.56	15909	6.11	16901	5.01	28911	33.18
1994	41756	32.2	112500	0.0	4134	0.95	12632	0.04	7964	33.33	17981	13.02	18514	9.54	28985	0.26
1995	42200	1.06	112500	0.00	4211	1.86	12621	-0.09	7986	0.28	19567	8.82	18344	-0.92	28936	-0.17
1996	42348	0.35	150000	33.3	4366	3.68	12643	0.17	7941	-0.56	26089	33.3	18683	1.84	29034	0.34
1997	42052	-0.69	150000	0.0	4056	-7.10	12599	-0.35	8031	1.13	26267	0.68	19362	3.63	29231	0.68
1998	42644	1.41	150000	0.0	4676	15.29	12688	0.71	7851	-2.24	25912	-1.35	18004	-7.01	29624	1.34
1999	41459	-2.78	150000	0.0	3437	-26.49	12510	-1.40	8212	4.59	26621	2.74	20721	15.09	28837	-2.66
2000	43828	5.71	150000	0.0	*5916	72.13	12865	2.84	8936	8.82	28039	5.33	26155	26.22	30411	5.46
2001	39091	-10.8	150000	0.0	4,535	-23.34	12155	-5.52	7,489	-16.19	25,203	-10.11	15287	-4.16	33557	10.34
2002	48565	24.2	150000	0.0	7296	60.9	13575	10.6	10382	38.6	30876	22.5	37022	142.2	27264	-18.8
2003	62975	29.7	150000	0.0	7352	0.8	2767	79.6	10992	5.8	30346	-1.7	50041	35.2	33753	23.8
2004	73594	16.9	150000	0.0	5086	-30.8	18124	34.7	9148	-6.8	31279	3.1	54448	8.8	26385	-21.8
2005	80130	8.9	150000	0.0	8255	62.3	12342	32.0	12898	40.9	34724	11.0	52428	-3.7	19685	-25.5
2006	86322	7.7	150000	0.0	10901	32.1	12671	3.3	16436	27.4	36249	4.4	49677	-5.2	24917	26.6
2007	111748	29.4	150000	0.0	18943	73.8	16156	27.5	27876	69.6	43183	19.1	50194	1.0	39931	-60.3
2008	145461	30.2	150000	0.0	25701	35.7	20741	28.6	37519	34.6	32229	-25.4	63557	26.6	40625	1.7
2009	164206	12.9	150000	0.0	27910	8.6	22064	6.3	41399	10.3	46570	44.5	69003	8.6	37629	-7.4
2010	185862	13.2	150000	0.0	30332	8.7	21231	-3.8	44880	8.4	40172	-13.7	87756	27.1	40284	7.1
2011	226229	21.7	150000	0.453.1	38408	26.6	24056	13.3	57118	27.3	78436	95.3	96618	40.0	59999	48.9
2012	252674	11.7	150000	0.0	38043	0.01	24652	2.4	55624	-2.6	93447	19.1	142348	47.3	56867	-5.2
2013	268614	6.31	150000	0.0	43080	13.2	20643	-16.3	62240	11.9	112359	20.2	153366	7.7	45285	-20.4
2014	266,372	-0.83	829625	0.0	42520	-1.3	28478	37.9	61461	-1.3	171882	52.9	193569	26.2	56931	25.7
2015	293906	0.42	829625	0.0	38049	0.7	24560	-13.8	54508	0.6	172233	17.3	197108	-10.4	51108	-10.2

Source: Nigerian Breweries Annual Report (various issues)
 Nigerian Stock Exchange Fact Book (various issues)
 Publications and financial reports of NB PLC

2.6 Guinness Nigeria Plc.

Guinness operates as the second largest brewer in the country (after Nigerian breweries Plc), with operating plants in four sites, (Ogba and Ikeja in Lagos, as well as Benin and Aba). In the last two years, GUINNESS launched five innovative products to support its weakening performance (Malta Guinness Low Sugar, Dubic Extra Lager, SNAPP, Alvaro and the recent Orijin) in a campaign tagged the '*colourful world of more*'. In order to enhance revenue and profit, the company has invested NGN52bn to expand its breweries and distribution network. Although we expect these huge investments is expected to begin to strengthen performance, recent numbers indicate sustained performance drags.

GUINNESS is a subsidiary to the Diageo Group (46 per cent stake), the fourth largest brewer in Africa and a world's leading premium drinks producer with a broad base portfolio of spirits, beers and wines with popular brands like Johnnie Walker, Crown Royal, J&B, Windsor, Buchanan's and Bushmills whiskies, Smirnoff, Ciroc and Ketel One vodkas, Baileys, Captain Morgan, Tanqueray and Guinness. Guinness Nigeria remains Diageo's largest market for the sale of the GUINNESS stout brand.

In terms of market capitalization and holding structure, GUINNESS represents 2.18 per cent of NSE market capitalization with a market cap of NGN 301.2. While 46 per cent of the shares of the premium brewer is held by its parent company, Guinness Overseas Ltd; other major stake holders include Atlantaf (8 per cent) and the Nigerian public (46 per cent).

Ownership

Guinness Nigeria established in 1962 is owned by Diageo Guinness Overseas Limited (46 per cent), Atalantaf Ltd. (7.8 per cent) Nigerian Citizens (46.2 per cent).

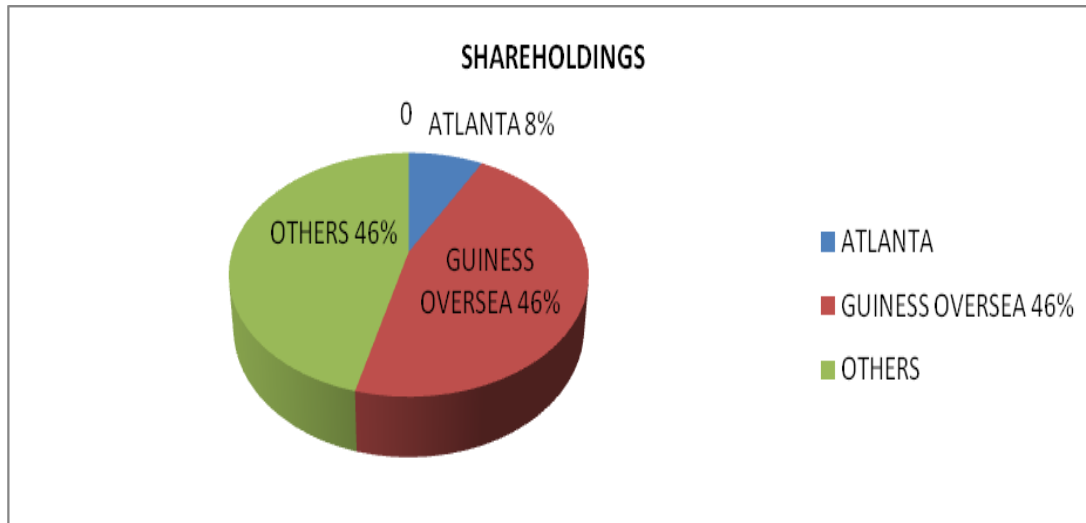


Figure 9: Guinness Shareholding Structure
Source: Researcher's View (2015)

Product portfolio: The company's products include, Guinness Foreign Extra Stout, Guinness Extra Smooth, Malta Guinness, and Harp Lager beer. Other brands include Gordon's Spark, Smirnoff Ice, Armstrong Dark Ale, Satzenbrau Pilsner, Top Malt, Harp Lime, and more recently introduced Malta Guinness Low Sugar. In response to the competition in the industry and the growing challenges resulting from volume softness and slowing consumption the company recently launched a number of innovative products to support its performance (Malta Guinness Low Sugar, Dubic Extra Lager, SNAPP, Alvaro and Orijin).

Expansion

Guinness built its first brewery in Ikeja in 1963. By 1974, it built a second brewery in Benin, where it produced Harp lager beer. This facility was later expanded to accommodate a second stout brewery, commissioned in 1978. In 1982, a fourth Guinness brewery was built in Ogba, Lagos to brew Harp Premium Lager beer. The facility was later expanded to include Guinness Stout. In 2004, Guinness Nigeria commissioned a new brewery at Aba, Abia State.

Sometimes in 2011, the Benin and Ogba breweries were expanded to further increase capacity and meet the growing demand for more brands of Guinness Nigeria products.

Distribution strategies

The overall goal of increasing the availability of its brands in key outlets is the major thrust of the company's strategy to increase market share. The company intends to achieve this by

increasing its direct coverage by increasing the number of its sales personnel as well as dedicated teams to drive distribution, and Increase availability in rural areas (Oyegun 2012). The brewer boasts of over 200 Guinness distribution centers and a plan to continue to increase the number of distributors. Sufficient distributors’ funding and financing scheme, and new credit terms are other means the company adopts for working capital management (Guinness annual report 2013).

Apart from the above, GUINNESS also tries to stay in the sights of consumers through sponsorship of popular events like the Barclay’s Premier League, FIFA World cup and the likes. With this, the company continues to catch the awareness of its teeming consumers via beer parlours, viewing centers and other sporting gatherings (Equity research 2014).

Table 2.7: Route to the Market

Outlet Coverage	Rural Distribution	Off Trade Mgt Increase	Sales Effectiveness	Working Capital
<ul style="list-style-type: none"> •Increased availability of brands & share in key outlets •Substantially increased direct coverage •Increase in sales people •Pilot further increases in Lagos 	<ul style="list-style-type: none"> •Increase availability in rural areas •Over 200 Guinness Distribution Centers •Substantial rise in number of distributors •Dedicated teams driving distribution 	<ul style="list-style-type: none"> Share in the growing off trade channel •Dedicated Key Account Structure for modern retail •Piloting alternative off trade route to consumer 	<ul style="list-style-type: none"> •Improving the efficiency of distributors sales force •Improve the efficiency & effectiveness of sales organization •Sales Academy 	<ul style="list-style-type: none"> •Sufficient distributor funding to support growth ambition •Distributor financing scheme •New Credit Terms

Source: Equity research 2014

2.6.1 Performance Outlook

The financial results of Guinness recently published by Nigeria Stock Exchange showed that the company realized sales revenue of N109.202 billion as at the year-end June 30, 2014 as against N122.463 billion of the preceding year. The amount represented a decrease of 10.83 per cent. Operating profit dropped by 22.98 per cent from N20.933 billion in 2013 to N16.123 billion this year. While profit before tax (PBT) also dropped from N17.008 billion in 2013 to N11.681

billion this year, plummeting by 31.32 per cent, profit after tax (PAT) stood at N9.573 billion in the current year having dropped by 19.30 per cent from N11.863 billion of the previous year.

Further analysis revealed that PBT decline was greater than sales due to a 13 per cent year-on-year rise in interest expense to N4.4billion, offsetting a 122 basis points year- on-year gross margin expansion (Guinness annual report 2014).

Income

Guinness posted a turnover of N126.2 billion, a decline of 2.1 per cent from the same period in 2011. This drop is paltry when you consider the rise in preceding years; in 2011 revenue was up by 13 per cent, 23 per cent in 2010 and 28 per cent in 2009 respectively. A drop of 2.1 per cent, however, portends a market that is caving under the pressure of competition and discretionary consumer spending (Equity 2014).

Profitability

The company posted an operational profit of N22.8 billion for the year ended June 2012. This was a 14 per cent decline when compared to the prior year. A further analysis showed increased operational cost. The company spends N60 for every N100 of gross profit generated a fact that weighs down heavily on efficiency. Advertising and promotional expenses alone gulped off 44 per cent of gross profit. The year under review has also mostly being marked with high inflationary pressures and various security threats in major parts of the country.

Without the buffer of increased top line revenue it is difficult to achieve improved efficiency with operating costs such as this. The company's earnings from its line of product may well be heavily dependent on the famed Stout and less on the other products (Equity research 2014).

Below is the table showing the financial performance of Guinness Nigeria PLC from 1990 to 2015

Table 2.8: Performance Indicators for Guinness Breweries in Thousands NGN 1990 To 2015

Year	Turnover (N'000)	Investment (Nmillion)	Net profit (N'000)	Working capital (N'000)	Stock (N'000)	PBT (N'000)	Net asset (Nmillion)	Fixed assets (N'000)	Current asset (N'000)
1990	41087012	13737	4119347	3288787	13502235	5137953	16369	13819247	23650794
1991	41089158	13737	4119519	3288429	13502262	5151007	16371	13820049	23650497
1992	41085092	13737	4119489	3289145	13502209	5124899	16368	13818445	23651091
1993	41094274	13737	4119364	3287717	13502314	5177116	16374	13821655	23649903
1994	41076364	13737	4120470	3290574	13502106	5072681	16362	13815234	23652279
1995	41112200	13737	4119437	3290574	13502522	5281552	16387	13828076	23647528
1996	41039738	13737	4121682	3298273	13501689	4863810	16336	13802392	23657029
1997	41186163	13737	4119534	3315808	13503356	5699293	16439	13853761	23638028
1998	40892837	13737	4122385	3327091	13500021	4028328	16232	13751023	23676030
1999	41480382	13737	4117741	3227719	13506691	7370258	16647	13956498	23600025
2000	40303910	13737	4128342	3410566	13493351	6863977	15817	13545548	23752035
2001	42658324	18316	4106427	3044874	13520032	7876540	17476	14367649	23448015
2002	47369221	18316	4149221	3766255	13466669	5851413	14158	12723046	24056055
2003	37949795	18316	6636335	10,655,899	13573395	9901668	20794	16012252	22839976
2004	47369394	18316	7913503	11,391,576	13359944	11687494	23103	24822548	25272133
2005	46859356	18316	4859019	5345966	13786846	6276167	21767	29179564	20467820
2006	53651781	18316	7440102	14,186,201	12933042	11436771	25668	29531969	30136445
2007	62265413	18316	10691060	14,848,004	12720898	14884450	31638	30124847	41416320
2008	69172852	18316	11861880	10,759,465	12,867,442	17092950	36863	36733310	34,612,598
2009	89148207	18316	13541189	4,622,693	16847699	18991762	31525	35897959	35764651
2010	109366975	18316	13736351	7,679,348	16152706	19988735	34199	38244541	38327725
2011	123663123	18316	17927934	7,833,871	17381132	26176966	40283	46,098,557	44,369,719
2012	126288184	18316	14671620	1373825	21998519	21074950	40353	76293851	37,622,976
2013	122464538	18316	11863726	(19036476	12400102	17008875	46039	88112852	121060621
2014	109202120	18316	9573480	(3408438)	13469248	11681560	45062	90683405	132328273
2015	11849588	18316	7794899	(4223055)	14627603	10795102	44026	87754074	136298121

Source: Guinness Breweries Annual Report (various issues)
 Nigerian Stock Exchange Fact Book (various issues)
 Publications and Financial Reports of GUINNESS NIGERIA PLC(various issues)
 Publications from African Financials(various issues)

Table 2.9: Performance Indicator (N) and Growth (%) For Guinness Breweries in Thousands NGN 1990 to 2015

Year	Turnover (Nmillion)	growth%	Investment (Nmillion)	growth %	Net profit (Nmillion)	growth%	Stock (Nmillion)	growth %	PBT (Nmillion)	growth%	Net asset (Nmillion)	growth %	Fixed assets (Nmillion)	growth%	Current asset (Nmillion)	Growth %
1990	41087		13737		4119		13502		5137		16369		13819		23650	
1991	41089	0.0	13737	0	4119	0.0	13502	0.0	5151	0.2	16371	0.0	13820	0.01	23650	0.0
1992	41085	0.01	13737	0	4119	0.0	13502	0.0	5124	-0.5	16368	0.02	13818	-0.01	23651	0.0
1993	41094	0.04	13737	0	4119	0.0	13502	0.0	5177	0.8	16374	-0.04	13821	0.02	23649	0.01
1994	41076	-0.01	13737	0	4120	0.02	13502	0.0	5072	-2.0	16362	-0.1	13815	-0.05	23652	0.01
1995	41112	0.1	13737	0	4119	-0.02	13502	0.0	5281	4.1	16387	0.2	13828	0.1	23647	-0.02
1996	41039	-0.2	13737	0	4121	0.05	13501	-0.01	4863	-7.9	16336	-0.3	13802	-0.2	23657	0.04
1997	41186	0.4	13737	0	4119	-0.04	13503	0.01	5699	17.1	16439	0.6	13853	0.4	23638	-0.1
1998	40892	-0.7	13737	0	4122	0.1	13500	-0.02	4028	-29.3	16232	-1.3	13751	-0.7	23676	0.2
1999	41480	1.4	13737	0	4117	-0.1	13506	0.05	7370	82.9	16647	2.6	13956	1.5	23600	-0.3
2000	40303	-2.8	13737	0	4128	0.3	13493	0.1	6863	-6.9	15817	-4.9	13545	-2.9	23752	0.6
2001	42658	5.8	18316	0	4106	-0.5	13520	0.2	7876	14.8	17476	10.5	14367	6.1	23448	1.3
2002	47369	11.0	18316	0	4149	1.0	13466	-0.4	5851	-25.7	14158	-18.9	12723	-11.4	24056	2.6
2003	37947	-19.9	18316	0	6636	59.9	13573	0.8	9901	69.2	20794	46.9	16012	25.9	22839	-5.1
2004	47369	24.8	18316	0	7913	19.2	13359	-1.6	11687	18.0	23103	11.1	24822	55.0	25272	10.7
2005	46859	-1.1	18316	0	4859	-38.6	13786	3.2	6276	-54.9	21767	-5.8	29179	17.6	20467	-19.0
2006	53651	14.5	18316	0	7440	53.	12933	-6.2	11436	82.4	25668	17.9	29531	1.2	30136	47.2
2007	62265	16.1	18316	0	10691	4.3	12720	-1.6	14884	30.1	31638	23.3	30124	2.0	41416	37.4
2008	69173	11.1	18316	0	11861	10.9	12,867	1.2	17092	14.8	36863	13.5	36733	21.9	34,612	-16.4
2009	89148	28.9	18316	0	13541	14.2	16847	30.9	18991	11.1	31525	-14.5	35897	-2.3	35764	3.3
2010	109367	22.7	18316	0	13736	1.4	16152	-4.1	19988	5.2	34199	8.5	38244	6.5	38327	7.2
2011	123663	13.1	18316	0	17928	30.5	17381	7.6	26176	30.9	40283	17.8	46,098,	20.5	44,369,	15.8
2012	126288	2.1	18316	0	14671	-18.2	21998	26.6	21074	-19.5	40353	0.2	76293	65.5	37,622,	-15.2
2013	122464	-3.0	18316	0	11863	-19.1	12400	-43.6	17008	-19.3	46039	14.1	88112	15.5	121060	221.7
2014	109202	-10.8	18316	0	9573	-19.3	13469	8.6	11681	-31.3	45062	-2.1	90683	2.9	132328	9.3
2015	118495	9.9	18316	0	7794	-19.0	14627	8.6	10795	19.5	44026	-2.3	87754	2.9	136298	3.0

Source : Guinness Breweries Annual Report (various issues)

Nigerian stock exchange fact book (various issues)

Publications and financial reports of GUINNESS NIGERIA PLC(various issues)

Publications From African Financials(various issues)

2.7 International Breweries Plc. (INTBREW)

International Breweries Plc is a Nigeria-based company active in the brewing industry. The Company is primarily engaged in the brewing, packaging and marketing of beer and non-alcoholic malt drinks. IB Plc is the 3rd largest quoted brewer in Nigeria with a market cap of N14bn (US\$93mn). The share price has gained 207 per cent year to date on the heels of company-wide restructuring, capacity expansion and successful turnaround in volume growth and profitability (Equity research 2014).

International Breweries Plc was incorporated in December 1971 by its founder and first Chairman, Dr. Lawrence Omole in collaboration with some of his business associates, under the name International Breweries Limited. With adequate back-up having been provided by the initial corporate and private investors, the Company commenced production in December 1978 with an installed capacity of 200,000 hectolitres of TROPHY lager beer per annum. Following the increasing demand for its product, in December 1982 the Company embarked upon an expansion programme to increase its brewing capacity to 500,000 hectolitres annually. In terms of capacity, INTBREW currently has a total installed brewing capacity of 0.5mhl. By market capitalization, INTBREW is worth NGN79.25bn. This represent 0.65% of the NSE market capitalization which places the company as the third largest brewer in Nigeria by market Capitalization (Equity research 2014).

International Breweries Plc has a Technical Services Agreement with Brauhaase International Management BGI, a subsidiary of Warsteiner Group of Germany, which owned 72.03 per cent equity. 1 January 2012 SABMiller took operational management control of International Breweries from BGI.

Ownership

Key Stakeholder: By ownership structure, Brauhaase Intl Mgt hold 46% of the company's shares, L.A. Pro Shares Limited held another 46% while the remaining 8% is held by the general public.

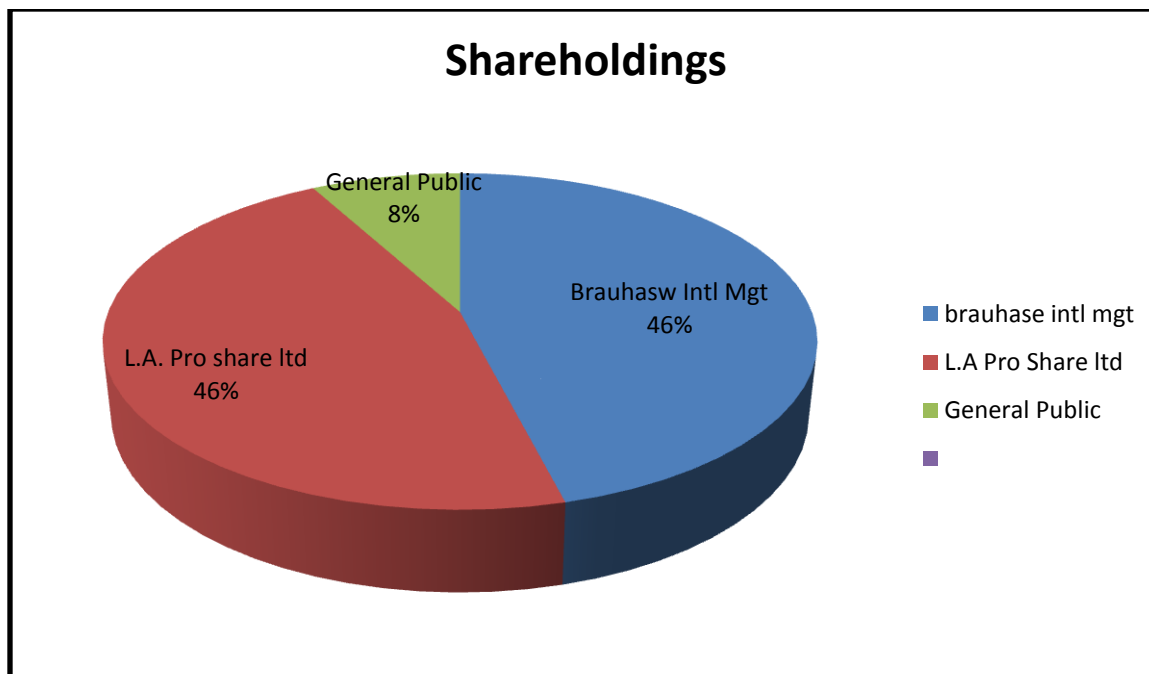


Figure 10: International Breweries Shareholding Structure
Source: Researcher's View (2015)

Recapitalization:

In a move to rebuild the capital base of the Company and to carry out restructuring, staff right-sizing, improvement and expansion of production facilities, the Company recently successfully raised N1.3 billion from the Nigerian Capital Market. Following the rejuvenation of the brewing plant in Ilesha, Osun State after more than 2 decades of sustained losses, INTBREW has regained renewed impetus for revenue growth in the last 2 financial years. In the late 1980s, the company's performance was fraught by deteriorating fortune. Consequent on this, INTBREW moved to increase share capital in 2008 given a turnaround prospect for a better future. This move has been remarkable in the transformation, expansion and renewed profitability in the company in recent time.

From a unit price of 87kobo in 2007 the company's share price has risen to as high as NGN30 in January 2014. This overwhelming price performance is attributable to number of factors. The most notable of these factors include the combination of the Castel and SABMiller businesses in Nigeria and Angola which caused a takeover of operational management control of Castel's Nigerian business, International Breweries (INTBREW), by SABMiller which took place on the 1st of January 2012, a deal worth over £6bn. SABMiller, the second largest brewing company in

the world by volume, and largest in Africa, has brewing or beverage interests in 32 African countries. The Global brewing giant entered the Nigerian market in 2009 with the purchase of a controlling interest in Pabod Breweries, based in the southern oil hub.

Product Portfolio (Products and Services): Notable amongst the product portfolio includes Trophy lager (1978) which is currently a regional premium with growing popularity among the south-western consumers, Pale Lager, Betamalt (1988) - Non-alcoholic Malt drink and Trophy Black (2013)- Black Lager, Castle Stout milk, Castle Lager, Grand malt, Beta malt and Voltic water.

In April 2010, the Company launched Kronenbourg, Wilfort and Castel beer, an offshoot of a new partnership with Calsberg and plans to reintroduce its malt drink (Beta Malt).

Distribution strategies

INTBREW's Strategy is based on SABM's objective to make beer more affordable to the average African consumer, which the global beer maker sees as a medium to boost sales volumes. SABM believe majority of the alcoholic beverages consumed in Africa are home-brewed and informally produced and its strategy is to lure consumers into the formal beer market. The company believes that as incomes rises, consumers will move onto higher priced brands (Equity research 2014).

SABM therefore introduced 'affordable beer' as part of its overall product offering to win the market. To achieve this objective, the company has a plan that proposes negotiating lower tax rates with governments, on the agreement of buying grains from local farmers. A proposal that is believed to play an important role in attracting government support. In sum, to halve beer prices in Africa (where it is believe that beer is quite expensive). SABM leverages on win-win propositions; attempts in negotiating lower tax rates with government and subsequently generating revenue stream for the government through beer productions; cutting costs and expanding volume growth with a view to slicing prices by working with a strong group of farmers who are contracted to produce grains in whatever form for brewing.

Branches

Apart from the factory and corporate headquarters located at Omi-Asoro, Ilesa, which also services the Ilesa/Ile-Ife sector of its market, the Company maintains depots/branches in all the states in the South Western region of Nigeria.

Performance Outlook:

As stated Earlier, INTBREW operates via a regional route to the market. Major product portfolio concentrates on the lower end/ value segment of the market, which currently accounts for overall growth in the sector. In line with recent performance, the company's 2014Q3 turnover jumped by 30.40 per cent. This however translate to a 2014 full year growth of 6.36 per cent.

Earnings:

INTBREW posted PAT growth of 9.08% as of 2013FY result. The company continued its trend of reporting impressive declines in cost to sales ratio over the last seven quarters (2014Q3:49.25 per cent vs. 2013Q3: 50.87 per cent, 2014Q2: 50.55 per cent vs. 2013Q2: 52.15 per cent etc), which continues to boost operating profits (Equity research 2014). In H1'10, the South-West based brewer recorded its highest profit in many years of losses. PAT climbed to N983 million from loss position of N66million in H1'09, just as turnover jumped 166.14per cent to N1.88 billion (IB PLC 2010).

INTBREW grew its 2014 full year turnover by 6.36 per cent per cent, a huge deviation from five year historical average growth of 103.62 per cent.

The performance within 26year period is shown in the table below:

Table 2.10: Performance Indicators for International Breweries in Thousands NGN From 1990 To 2015

Year	Turnover (N'000)	Investment (N'000)	Net profit (N'000)	Stock (N'000)	PBT (N'000)	Net asset (N'000)	Fixed assets (N'000)	Current asset (N'000)
1990	180607	1000	60636	77567	44927	31095	81099	111328
1991	191245	1000	65677	89111	51667	41084	93264	120228
1992	227793	1000	98258	100917	58453	38017	105490	130302
1993	303391	1000	78607	120238	69587	45281	125565	194782
1994	233797	1000	85843	135290	78628	51037	142001	155826
1995	372985	1000	114458	148141	85595	55752	154396	170601
1996	94608	1000	114127	197521	114126	74335	205862	227468
1997	311549	1000	114789	195500	114789	74059	207744	225235
1998	339813	1000	-113465	199542	113465	74612	203980	229701
1999	453084	1000	-116112	191458	116112	73505	211507	226769
2000	453300	1000	-110818	207627	110818	75719	196454	238632
2001	452867	1000	-121407	175289	121407	71293	226559	202908
2002	453732	1000	-100228	239964	100228	80144	166349	274355
2003	452002	1000	-142586	110615	-142586	62442	286769	131461
2004	594704	1000	-242388	132252	-218349	304830	299583	154428
2005	401399	1000	-523657	117682	-152810	828487	56682	142837
2006	313048	1000	-361360	133579	361360	1189847	243943	681420
2007	561669	1000	-118215	218547	118215	1308062	202516	404342
2008	931921	1000	63505	977717	63505	795709	952776	652837
2009	1616503	1000	285546	1736887	285546	283356	3069113	2005059
2010	4794946	1000	2800036	1837316	199133	2516959	7323499	2439821
2011	9908167	1000	-2172888	1636459	190341	1583323	9662962	3053452
2012	1326987	1000	205627	2038172	284266	5481748	12579658	4838000
2013	17388632	1000	2327342	2439885	3555546	9380173	15496354	6624318
2014	18493907	1000	2105500	2236649	3925500	11269923	18677771	5575071
2015	20649295	1000	1946490	1632753	2815554	12168259	22679843	5930000

Source: International Breweries Annual Report (various issues)
Nigerian Stock Exchange Fact Book (various issues)
Publications from African Financials(various issues)

Table 2.11: Performance Indicators (N) And Growth Rate (%) of International Breweries in Thousands NGN from 1990 to 2015

Year	Turnover (N'000)	growth %	Investment (N'000)	growth %	Net profit (N'000)	growth %	Stock (N'000)	growth %	PBT (N'000)	growth %	Net asset (N'000)	growth %	Fixed assets (N'000)	growth %	Current asset (N'000)	growth %
1990	180607		1000	0.0	60636		77567		44927		31095		81099		111328	
1991	191245	58.9	1000	0.0	65677	8.3	89111	14.9	51667	15.0	41084	32.1	93264	15.0	120228	7.9
1992	227793	19.1	1000	0.0	98258	49.6	100917	13.2	58453	13.1	38017	-7.5	105490	13.1	130302	8.4
1993	303391	33.2	1000	0.0	78607	-19.9	120238	19.1	69587	19.0	45281	19.1	125565	19.0	194782	49.5
1994	233797	-22.9	1000	0.0	85843	9.2	135290	12.5	78628	12.9	51037	50.8	142001	13.1	155826	-19.9
1995	372985	59.5	1000	0.0	114458	33.3	148141	9.5	85595	8.9	55752	9.2	154396	8.7	170601	-9.5
1996	94608	-74.6	1000	0.0	114127	-0.3	197521	33.3	114126	33.3	74335	33.3	205862	33.3	227468	9.5
1997	311549	229.3	1000	0.0	114789	0.6	195500	-1.0	114789	0.6	74059	-0.4	207744	0.9	225235	33.3
1998	339813	33.3	1000	0.0	113465	-1.2	199542	2.1	113465	-1.2	74612	0.7	203980	-1.8	229701	-0.9
1999	453084	33.3	1000	0.0	116112	2.3	191458	-4.1	116112	2.3	73505	-1.5	211507	3.7	226769	-3.8
2000	453300	0.04	1000	0.0	110818	4.6	207627	8.4	110818	-4.6	75719	3.0	196454	-7.1	238632	8.1
2001	452867	-0.1	1000	0.0	121407	9.6	175289	-15.6	121407	9.5	71293	-5.8	226559	15.3	202908	-14.9
2002	453732	0.2	1000	0.0	100228	-182.6	239964	36.9	100228	-182.6	80144	12.4	166349	-26.6	274355	35.2
2003	452002	-0.38	1000	0.0	-142586	42.3	110615	-53.9	-142586	42.3	62442	-390.3	286769	72.4	131461	-52.1
2004	594704	31.6	1000	0.0	-242388	69.9	132252	20.0	-242388	70.4	304830	-668.3	299583	4.5	154428	17.8
2005	401399	-32.5	1000	0.0	-523657	116.0	117682	-11.4	-152810	116.1	828487	-172.4	56682	-81.1	142837	-7.5
2006	313048	-22.0	1000	0.0	-361360	-30.9	133579	13.7	-218349	-30.9	1189847	-43.6	243943	330.9	681420	-377.1
2007	561669	79.4	1000	0.0	-118215	67.3	218547	63.9	-26917	-67.3	1308062	-10.0	202516	-16.9	404342	-40.7
2008	931921	65.9	1000	0.0	63505	208.8	977717	348.2	63505	-46.6	795709	-39.2	952776	370.5	652837	61.5
2009	1616503	73.5	1000	0.0	285546	-549.6	1736887	77.7	285546	352.3	283356	-64.4	3069113	222.1	2005059	207.1
2010	4794946	196.7	1000	0.0	2800036	880.6	1837316	5.8	199133	-30.2	2516959	792.2	7323499	138.6	2439821	21.7
2011	9908167	106.6	1000	0.0	-2172888	-177.6	1636459	-65.4	190341	-4.5	1583323	-69.7	9662962	31.9	3053452	21.7
2012	1326987	33.9	1000	0.0	205627	90.5	2038172	24.6	284266	49.5	5481748	246.2	12579658	30.2	4838000	58.5
2013	17388632	31.1	1000	0.0	2327342	1031.8	2439885	19.7	3555546	1151.7	9380173	71.1	15496354	23.2	6624318	36.9
2014	18493907	6.4	1000	0.0	2105500	-9.5	2236649	-8.3	3925500	10.4	11269923	20.1	18677771	20.5	5575071	-15.8
2015	20649295	6.5	1000	0.0	1946490	31.6	1632753	-27.0	2815554	1.6	12168259	12.3	22679843	19.9	5930000	6.4

Source: International Breweries Annual Report (various issues)
Nigerian Stock Exchange Fact Book (various issues)
Publications from African Financials(various issues)

2.8. Brewing Industry Market and Competitive Landscape for NB Plc, Guinness Nigeria Plc and International Breweries Plc

Financial Ratio analysis

Cost to sales ratio: 5-year average cost to sales ratio for the Nigerian beer market settles at 52.63 per cent. Common size analysis of the major players indicates that NB holds cost leadership (51 per cent 5Yr average cost to sales) compared to GUINNESS (53.46 per cent 5Yr average cost to sales). (Equity, 2014)

OPEX Margin (operational expenditure): The Nigerian beer market is highly advert intensive, with keen competition between dominant player to expand or retain market share. As a result of this, OPEX margin (sales and Distribution expenses) averaged 24.51 per cent among key players. 5yr average OPEX margin shows that NB stayed dominant in terms of OPEX efficiency with 23.54 per cent, compare to GUINNES (25.47 per cent). (Meristem research (2014)

Market share - The table and chart below shows that Nigeria breweries PLC retained market leadership in terms of market share acquisition for the period studied.

Table 2.12. Aggregated market share distribution for NB PLC, GUINNESS NIGERIA AND INTBREW for the period 1990-2015.

Year	Market share (%)	Market share (%)	Market share (%)
	NBPLC	GUINNESS	INTBREW
1990	39.7	5.9	0.3
1995	50.4	49.1	0.5
2000	52.3	48.2	0.6
2005	62.9	36.8	0.3
2010	61.9	36.5	1.6
2015	68.7	30.8	0.6

Source: Company's Annual Financial Report (Various Issues)

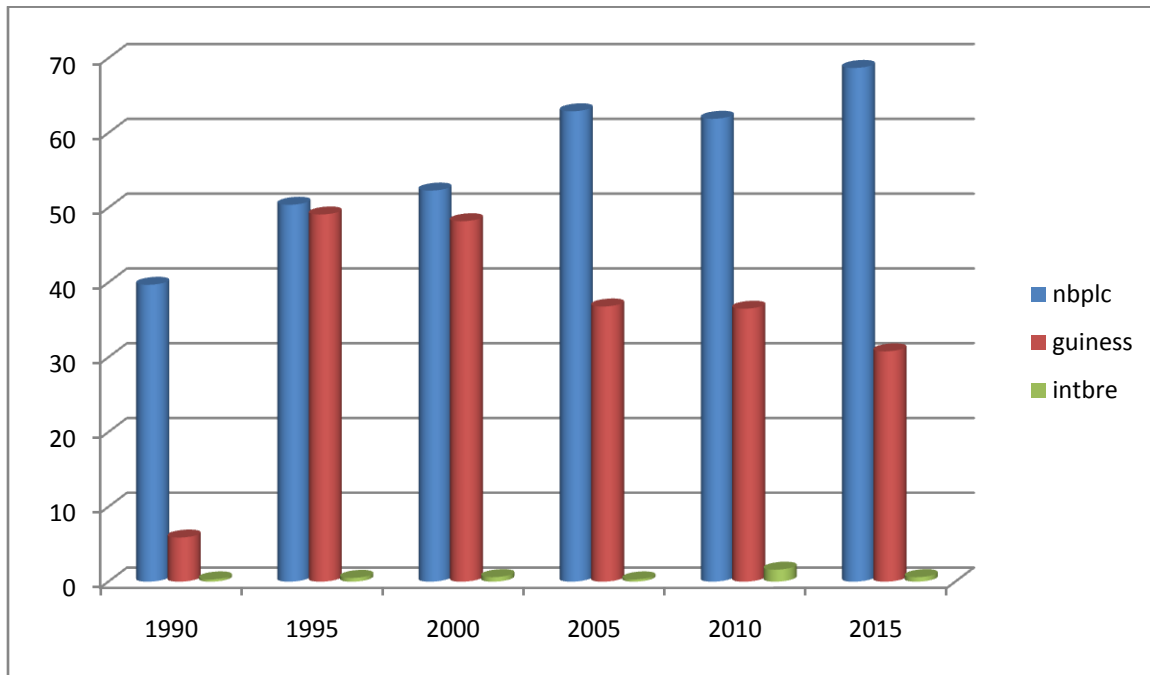


Figure 11: Bar chat representing Market Share of NB PLC, Guinness Nigeria and International Breweries for the period 1990-2015

Source: Researcher’s Construction (2015)

2.9. Analysis of Industry Competitiveness using Porter Five Forces Industry competitiveness

Analysis of Industry Competitiveness using Porter Five Forces Industry competitiveness is said to be determined by bargaining power of buyers, power of suppliers, threats of new competitors, threat of substitute products and rivalry among existing firms. The profitability of the industry is determined by these five Forces as they influence prices, costs and required investment (Porter, 1985).

Threat of new entrants

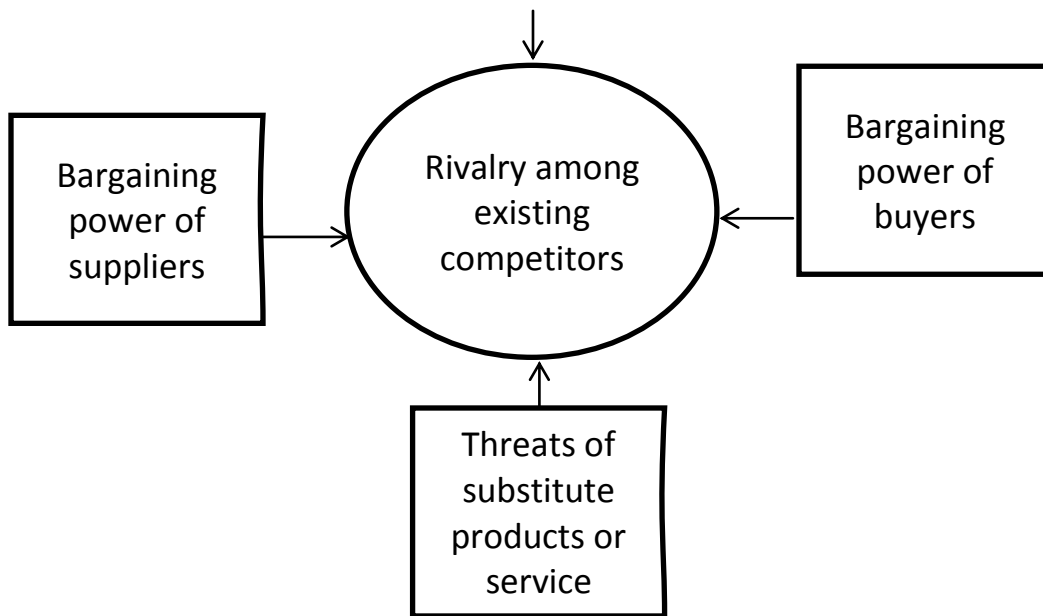


Figure 12: The five forms of competitive analysis and their interaction.

Source: The five competitive forces that shape strategy by M.E Porter.

The five forces model was used to analyse the competitive landscape of the brewery industry in Nigeria:

Bargaining Power of Buyers

Buyers create demand in the market and their bargaining power would represent a strong competitive force if they have sufficient bargaining leverage to influence and obtain price concessions and other favourable terms and conditions of sale (Thompson et al, 2010). In the case of the brewery industry, consumers are scattered across specific regions in the country. Some states in the Northern part of Nigeria do not permit the sale of alcoholic beverages due to religious beliefs.

The industry has good distribution networks, in fact, they are the buyers in the industry as they control movement of the products from the producer to the retailers, and thus determine the price of the products to a certain extent. This unfortunately does not allow interaction between the producers and the consumers; however the players in the industry especially the two big players strive to maintain contact with their consumers by advertisements, promotion of events and also sponsorships of various programmes and activities (Jernigan &Obot, 2006). The buyers of beer

are represented by alcoholic beverage wholesalers, supermarkets, as well as beer parlours, restaurants and clubs.

Bargaining Power of Suppliers

Suppliers in the industry include distributors of raw materials, components and finished products. Such components include bottles, crown corks, labels e.t.c. These services are outsourced because the Nigerian law does not permit the brewery firms to produce them (Equity Research report, 2006).

There are more distributors and suppliers than existing brewery firms in existence. The raw materials and components being undifferentiated give the manufacturers the luxury to choose their suppliers at will (Equity Research report, 2006).

Nigerian Breweries alone has about 150 key distributors and 2000 wholesalers within the country (Famurewa & Orekoya, 2008). However the distributors may pose a threat to the industry during industrial actions.

- The power of suppliers is Moderate
- Beer producers need the same input to produce beer (Malted barley, hops, sugar and water)
- No raw materials differentiation.
- Innovation and creativity are the key sources competitive advantage.

Threat of new Entrants

According to Porter, the threat of new entrants will affect the profitability of an industry (Porter, 1985) as the incumbents may be forced to lower their prices in order to discourage new entrants thereby reducing profitability. In the Nigerian Brewery industry, some factors which help to raise barrier to entry include capital requirements, legal costs, economies of scale, distribution networks (oppapers.com, 2011). Nigerian Breweries and Guinness both have foreign technical partners who provide the needed technical and financial assistance (Corporate Nigeria, 2010/2011). The other companies are mainly public or state owned and are localised within their region. There were no new entrant into the business, until 2009 when SABMiller a South African company came on stream with the acquisition of Peabody Breweries and Standard Breweries.

SABMiller strategy in gaining part of the market share was to produce low cost beer for a segment of the market who could not afford the premium brand of the existing market. However Nigeria Breweries was already producing such through Consolidated Breweries one of its subsidiary (Corporate Nigeria, 2010/2011).

- This threat is moderate given that major regulation

is the possession of the license requirements to operate in Nigeria. •Apart from states with Sharia laws that forbid alcoholic products, there are no strict law regulations on alcoholic products in Nigeria. •Though CAPEX requirement is huge, it is not a major challenge to global player with eyes on developing markets.

Threat of Substitute

The availability of substitute may impact an industry's profitability as consumers may decide to switch to a substitute product (Boeing et al, 2008). In Nigeria the consumption of traditional drinks such as burukutu, palm wine and ogogoro has a cultural affinity among consumers in the rural and urban areas. Other potential substitutes include alcoholic drinks such as wine, brandy, vodka and non-alcoholic drinks such as malt, juice, soft and energy drinks. The alcoholic drinks are known to be consumed by a higher segment of the society (Jernigan & Obot, 2006), while the non-alcoholic drinks are to target the non-beer consuming religious groups. Beer however remains the beverage of choice as some studies carried out have shown its predominant preference over other alcoholic beverages (Obot, 2000). Beer is known to account for 96 per cent of alcoholic sales in Nigeria (Corporate Nigeria, 2010/2011). •This is high given a large diversity of substitutes to beer •Other alcoholic and non-alcoholic beverages and soft drinks (CSD, Wines, spirit and juicie). •Cheaper prices of other alcoholic beverages •Rising health concerns of the consumers.

Intensity of Rivalry among existing firms

This is a measure of the extent to which existing firms compete among each other for customers, this could be price and non-price based (Boeing et al, 2008). In the industry as mentioned earlier, competition is between the two major players, however there are no price wars as the products are differentiated and price differences are insignificant. The industry produces 22 brands of lager and 4 brands of stout besides other non-alcoholic drinks, Nigerian Breweries dominates the market in the larger (Star) segment while Guinness dominates the stout (Guinness) segment (Corporate Nigeria, 2010/2011). For non-priced based competition, the two companies compete on product innovations, such as packaging, branding and advertisements. Consumers have witnessed innovation of packaging from bottle to can, plastic bottles and sip-it packs. •Rivalry is high •Industry is oligopolistic.

2.10 Theoretical Framework

This section of the study reviews the main theory on the dynamics of firm's environment in relation to their survival and performance. Thus this study is anchored on systems theory.

The Systems Theory

This study is grounded in the Systems Theory. According to Gartenstein (2012)), the Systems Theory is concerned with understanding the nature of systems, which is defined broadly as an integrated whole comprising of interrelated parts. In business management the organisation is an entity that is built of individuals grouped together for a common cause but in the endeavour to achieve that common cause, the organisation is affected by other organizations and the environment (Leader 2007; Macpherson and Holt 2007; Kotler 2003; Zoephel 2011). This implies that the business system receives input from the environment, transforms these inputs and release outputs back into the environment (Armstrong 2009; Brammer, Hoejmoose and Marchant 2011). The breweries employ resources obtained from the environment and transform these inputs into out puts that eventually find their way into the environment (Mele, Pels and Polese 2010). The nature of the inputs determines the output and the reaction of the customers who finally consume the products. Therefore it is expected that managers of brewing firms understand fully the operations of the systems that impact on the performance of their firms (Bowen et al 2009; Barney and Clark 2007; Bozbura 2007). Without the necessary skills and knowledge to scan and carry out feasibility study, the brewers remain challenged by the systems working for and against them (Yan 2010; Zindiye 2008). The basic principle of the systems theory is that the whole is more than the sum of its parts (Polese 2010), which the whole determines the nature of the parts, and the parts are dynamically interrelated and cannot be understood in isolation of the whole (Chadamoyo & Dumbu 2012). It is synergistic! The interaction between the environmental factors, both internally and externally have an effect on the existence and performance of the brewing sub sector. Systems, (as brewery organisations) have four major characteristics which are systems are goal oriented, systems have inputs from the environment, have outputs to achieve the desired goals and there is feedback from the environment about the outputs (Chadamoyo & Dumbu 2012). The operations of business organisation cannot be avoided from the open system theory.

The Open Systems Theory

The Open Systems Theory is the major grounding theory in this current research. Open systems theory is a way of thinking about dynamic systems or systems that interact with their

environments (Chadamoyo & Dumbu 2012). All businesses are dynamic systems, evolving and changing in response to the general patterns and obstacles in the environment. Open systems theory is useful in breweries because it provides a framework for thinking about processes such as change which is a regular part of running a business (Meadows 2008). Change in open systems is the process of adapting to shift circumstances (Golinelli 2010). Open systems theory provides tools for thinking about change, such as descriptions and explanations of general patterns and obstacles. Successful dynamic change involves being preemptive, paying attention to feedback, and integrating this information rather than proceeding with a rigid idea of how change should occur. For example, Nigerian brewing industries are affected by the political environment in Nigeria because at times Government actions can result to change in the political environment at all levels, from the federal level to the local level. The political environment existing in a country primarily affects both the economic and technological environment which may also affects the performance of breweries. Hence, the changes in government rules, regulations and economic policies may have adverse effects on breweries. With the constant change in rules and regulations, this can relatively have an effect on performance. For example, a decrease in the price of oil can cause economic instability and increase the costs of firms. This can cause inflation, changes in exchange rate, interest rates and austerity measures which can lead to corruption and lower growth of firms. In the management of the breweries, it is important to note that there exist loops and link between elements of a system. Brewing businesses are series of links that mutually reinforce one another (Gartenstein 2012). They can face a decline in sales and demand of their products as a result of changes in the macro environment of Nigeria. The developments in the global brewing market also stays consistent with trends in domestic economies. Thus Mergers and Acquisitions (M&As) appear to be the most remarkable trend in the global beer industry. To stay dominant, profitable and more competitive, top players are expanding into markets with the highest potential for growth via M&As. The four global players are operational in the Nigerian market with Diageo and Heineken as the most active players through their majority-controlled subsidiaries: Guinness Nigeria Plc (Guinness) for Diageo; and Nigerian Breweries Plc (NB) for Heineken. Castel and SABmiller also launched their foray into the Nigerian market through the acquisition of a majority stake in International Breweries Plc (Meristem equity research 2014). It is all a web of interdependence relationship among the brewers the world over.

However, these external circumstances that organizations confront from the system have important effects on organizational outcomes and performance. Thus, to understand how to succeed in exploiting the opportunities contingent on the open brewery business environment, the knowledge of how the system works is pertinent.

2.11 Empirical Literature

Onwuchekwa (2000) opined that the rapid and often discontinuous change taking place in the environment has a direct impact on the manner in which businesses are managed. Environments are constantly evolving as government regulations, competitive forces, technological advancement, and sociopolitical elements interact with the strategic capabilities of industries.

According to Adeoye (2012), in his study on the impacts of external business environment on organizational performance in the food and beverage industry in Nigeria, the external business environment of Nigerian organisation impinges upon the operations of a business other than the availability of capital and the ability of the manager or businessman himself. He used questionnaire to collect data from three companies with 150 sample size and he used multiple regression for analysis.

He measured organizational performance in terms of efficiency, effectiveness, increase in sales, achievement of short and long term goals and achievement of customer client satisfaction; he measured the dependent variable – organizational performance (OP) against the explanatory variables – economic environment (monetary policies, interest rates, availability of funds), and political environment (political terrain in the country, legal framework authority relationship). He measured the above variables to test his hypothesis which stated that the economic and political environment has no impact on organizational performance (OP).

He found that economic environment has 93 per cent impact on OP while political environment has 68 per cent impact on OP. that means that external environment as measured by Adeoye has 128 per cent impact on the organizational performance i.e. they have combined effect on OP in the food and beverage industry in Nigeria.

His study also revealed that all things being equal, controlling of the external business environment can be done to some extent. This entails and calls for constant monitoring and conducting environmental scanning always.

During the same period, Okwo, Ugwunta & Agu (2012), in their study examined the internal factors that determine the profitability of the beer brewing firms in Nigeria. They used OLS in the form of multiple regressions that covered annual data generated from the annual statements and accounts of the sampled beer brewing firms covering a period of 2000 to 2011. The correlation and regression results identified the ratios of inventory to cost of goods sold; account receivables to sales; and sales and general administrative expenses to sales to have statistically significant impact on gross profit margin. Their paper concluded the internal factors mentioned are the internal factors that determine the profitability of beer brewing firms in Nigeria.

Azeez, Kolapo & Ajayi (2012) in their study on effects of exchange rate volatility on macroeconomic performance in Nigeria employed OLS and found that exchange rate volatility contributes positively to the GDP in the long run though not significant. They recommend that monetary authorities should pursue policies that would ensure stability of exchange rate.

David, Umeh and Ameh (2010) also examined the effect of exchange rate fluctuations on Nigerian manufacturing industries using multiple regression econometric tools. They found a negative relationship between exchange rate volatility and performance of manufacturing sector. Eme and Johnson (2012) in their study on the effect of exchange rate movement on real output growth in Nigeria for the period 1986 to 2010 revealed that there is no evidence of a strong direct relationship between changes in exchange rate and output growth.

Adjeii (2010) carried out a study on the evaluation of the financial position of Accra Brewery limited (ABL). The study was designed to evaluate the financial position and the profitability position of Accra Brewery Limited, a public company whose stock is listed and traded on the Ghana Stock Exchange over seven year period from 2000 – 2006. The study used traditional ratios analysis in appraising the financial performance of ABL focusing on the assessment of liquidity, solvency and financial profitability. Based on the ratios analysis, the study revealed trends of ABL's financial ratio and the results showed both an impressive and unimpressive performance.

The Equity Research Report (2006) carried out a comparative analysis of the performance of selected Breweries in Nigeria. These Breweries are Nigerian Breweries Plc, Guinness Nigeria Plc, Champion Breweries Plc and Jos International Breweries Plc. The criteria for the comparison are based on market share by turnover, profit after tax, latest stock price, price earning ratio, profit

sales ratio, twelve months trading earning per share, market capitalization, share outstanding, Return on Equity, Return on Asset, Net asset per share, profit margin, shareholders' fund, Beta, Dividend yield, and 5-year Dividend yield Average percentage, derived from 2005 financial reports of the Breweries. The analysis yielded varying degree of performance for the studied firms. They opined that the importance of cost of input in a manufacturing company especially the brewing industry cannot be over emphasized. Input in form of materials, labour, investments in fixed asset, taxes in one way or the other have an effect on the performance of the industry.

Alex (2008) commented on the effect of scarcity of the major ingredients of beer- barley and hops. The input price on barley and hops hit small breweries the hardest... which recently raised the price of its pints from \$2 to \$6. He further explained that the beer industry is experiencing cost increases in raw materials. This is just one of the many factors that contribute to beer costs and reduction in profit.

Adeoti (2012) investigated investment in technology by manufacturing firms in Southwest Nigeria and how technology investment related factors affect the performance of manufacturing firms. He used data obtained from a survey of Nigerian firms in 2011 and found that investments in technology are dominated by imported technologies, and technology investments are not directly targeted at export potentials and global competitiveness of firms. He found that the technology investment related factors that impact positively on performance and competitiveness include skills intensity and investment in skills upgrading.

Mital, Pennathur, Huston, Thompson, Pittman, Markle & Kaber, (1999) looked at the need for workers training in advanced manufacturing technology (AMT) environments. Their review focused on manufacturing and the need for developing and evaluating generic, consistent, and standardized on-site industrial training programs in manufacturing industry to upgrade workers skills to levels that are compatible with the needs of advanced manufacturing technologies. They studied manufacturing firms in the United States and found that they are losing competitiveness to other countries as a result of poor worker training on advanced manufacturing technology. They maintained that investment in workforce skill is of great importance if the US industry is to remain competitive in the global economy. According to Hajipour, Talare and Shahin (2011), As the organizational structure of firms is evolutionary, rather than being revolutionary, in many

industrial firms, the match between structure and technology takes several years after implementation.

Linking structure to technology, they opined that the acceptance of new technology in the organizations, which are naturally reactive to technological adoption and have no organized effort to exercise organizational change, would take longer time compared with more proactive and organizationally flexible firms. Preparing employees for the adoption, prior the start of the process, seems essential to reach desired goals.

Peter & Duray (2,000) looked at the manufacturing strategy in context of environment, technology, competitive strategy and manufacturing strategy. They used data from a sample of manufacturers in three industries in United States. They found a positive link between environmental dynamism and quality and delivery capabilities among high performers. They used path models to establish that environmental factors such as technology affect manufacturing strategy and performance.

Acevedo (2002) in her paper titled Technology and Firm Performance in Mexico investigated the relationship between a firm's adoption of new manufacturing technology and its performance. Using a panel of firms with observations in 1992, 1995, and 1999, she sought to understand how new technology correlates with the performance of Mexican manufacturing firms, measured by wages, productivity, net employment, job creation, and job destruction. She used fixed effects models to estimate firm performance and determine wage inequality. Her results suggest that controlling for relevant variables, technology is positively related to firm performance. The effect of new technology on firm performance also correlates positively and strongly with firm size, and proximity to the U.S. border or location in Mexico City. In fact maximizing the performance of employed AMTs does not depend on technology itself, how well it is implemented, is a crucial factor (Acevedo 2002). However, the earlier studies by Cotsomitis *et al* (1991) and Kumar (1993) indicated that the technology variable has no role to play in performance.

Booze (2009) also explored the impact of inflation of the inputs costs on the gross margins of brewers in the liquor industry. He found that the inflation in prices of barley and aluminum led to steep rises in the input costs of the alcohol brewers. He reported that in the last two years

brewer's gross margin fell by 350 billion pounds due to inflation in inputs. Thus, high inflation has a negative impact on breweries performance.

According to Johansen and Rhys. (2012), in their study on organizational environment and performance: a linear or nonlinear relationship, there is a strong straightforward linear relationship between organizational environment and performance. They used both objective and subjective measure of the environment to study over five hundred organisations in Texas, in the United States. They found strong support for the presence of linear relationship between each environmental dimension and type of measure and performance but no evidence of statistically significant nonlinear environmental effects. Their paper explored the linear and nonlinear effects of organizational environments on performance.

They measured the subjective complexity (harmonious groups, complex environment, and educational conflict), objective dynamism (stable environment, environmental uncertainty), subjective dynamism (harmonious relationship within group, complex environment and educational conflict) and subjective munificence (buildings and facilities, community support)

They found that Manager's perception of the relative munificence of the environment may have a larger impact on organizational outcomes than an objective measurement of that munificence. Perhaps because a feeling of environmental supportiveness is especially likely to prompt innovative actions that benefits the organization.

There is a significant relationship for objective complexity but not for subjective complexity. Objective complexity exerts a negative impact on performance.

Objective and subjective measures of environmental munificence and dynamism have a linear positive relationship with organizational outcomes while only the objective complexity measures exhibits a statistically significant and linear influence on performance.

Thus, in sum, five out of the six possible environment-performance relationships are statistically significant but none of them follow a non linear pattern.

The statistical results indicate that organizations operating in a munificent context perform better than their counterparts in less favourable circumstances, irrespective of how munificence is measured. By contrast, those operating in a rapidly changing and unpredictable environment (or one that is perceived by managers to be dynamic in this way) do worse than their counterparts in a more stable and predictable context. Managers operating in an environment that they believe to be complex actually do no better or worse than managers in a less complex environment.

However, organizations operating in an “objectively” complex environment do not perform as well.

The statistical results they presented have important theoretical and practical implications. Because variations in the organizational environment appear to have predictable effects on performance, organizations may not need to make fine-grained judgements about optimum levels of munificence, complexity and dynamism beyond which point serious remedial interventions are required. Rather, the linear relationships that are uncovered suggest that organizations are able to plan out their response to the environment with great strategic clarity.

However, their findings show that it remains conceivable that the effects of different dimensions of the environment are not straightforwardly positive or negative. The benefits of environmental munificence may turn negative as organizations become complacent or overconfident in their capacity to keep on doing what they did well in the past. Likewise, at low-medium levels, complexity and dynamism may actually sharpen managerial awareness of the challenges to be confronted, at least until the environment becomes too complicated or unpredictable to manage effectively.

They opined that it is quite conceivable that other facets of managerial activity will be more or less successful at very high or very low levels of environmental dynamism and therefore recommended much more work to be done to analyse the full scope of nonlinearity in the organizational environment-performance relationship.

From the above review, the researchers found a statistical relationship between business environment and business performance. However, Adeoye (2012) didn't specifically study the environmental challenges of brewing industry and he also neglected the other environmental factors that can affect the performance of breweries in Nigeria like technological, social factors, and other macroeconomic factors. He also studied both the food and beverage industry in Nigeria which is very broad and his work covered only the period between 2011 and 2012 while Johansen et al (2012) studied businesses in the USA, Thus, their statistical result may equally be a product of where and when the research was concluded. It is therefore important to identify whether environmental instability's effects on the performance of organisations differ over other time periods and in other organizational settings both in Nigeria and elsewhere. Evidence of the impact of environmental turbulence and the performance of breweries in Nigeria is also limited. Therefore there is model shortcoming in existing studies and weak causal relationships between,

environment and performance of breweries in Nigeria. Thus, this study seeks to bridge these gaps in knowledge.

CHAPTER THREE

METHODOLOGY

3.1 Research Design

This chapter sets out the procedure, research design and methodology involved in the study. The study draws information from secondary sources – journals and articles relating to previous researches on environmental instability and performance. In order to provide possible solutions to the research question contained herein, model specification in line with the objectives of the study becomes essential. The secondary data collected were classified and tabulated after which the multiple regression technique was used to estimate the respective relationships. This showed to what extent the dependent variable influence the independent variables. The study adopted multiple regression analysis through the use of secondary data. The Ordinary Least Square (OLS) is the best linear unbiased estimator (BLUE) as it possesses the desirable qualities of unbiasedness, consistency, and efficiency.

3.1.1 Model Specification

In order to compliment the study, regression models are specified for environmental instability and performance of selected breweries in Nigeria for the period 1990-2015. Specifically the research aims at variables such as net profit, exchange rate, industrial production, technology, net assets, unemployment rate, investment, turnover, export at a particular point in time, import at a particular point in time, inflation, market share, manufacturing hour loss, work stoppages and conflict.

The aim is to specify a model that serves as guide for providing solutions to the research questions and the objectives. The OLS technique is used to determine the equation in respect of objective 1-5. The OLS is preferred because it guards against bias and also obtains the direct relationship between variables measured. The models which form the framework for the study are as stated below:

PROFITABILITY EQUATION (Equation 1)

This equation assesses the extent to which exchange rate instability influence the profitability of selected breweries in Nigeria. The estimation model is as stated below:

$$PRT = f(EXCHR, INV, IMP_{t-1}, EXP_{t-1}, INDP)e_t \text{ -----} \quad (1)$$

This can be restated thus:

$$PRT = a_0 + a_1 \text{LEXCHR} + a_2 \text{LINV} + a_3 \text{LIMP}_{t-1} + a_4 \text{LEXP}_{t-1} + a_5 \text{LINDP} + e_t \dots \dots \dots \quad (2)$$

Where:

- e_t = error term
- $a_0 - a_6$ = parameter estimates/structure
- PRT = Profit
- LEXCHR = log of exchange rate
- LINV = log of investment
- LIMP_{t-1} = log of import at a particular point in time
- LEXP_{t-1} = log of export at a particular point in time
- LINDP = log of industrial production

Profitability is presented in this equation as the dependent variable while exchange rate, investment, import at a particular point in time, export and industrial production are the independent variables. Profit making is very important to breweries. Profit or bottom line is a measure of profitability of a venture after accounting for all costs. It is calculated by subtracting a company's total expenses from total revenue, thus showing what the company has earned (or lost) in a given period of time (usually one year). Company profits before income tax is equivalent to the accounting term 'earnings before taxes' (EBT). This measure is often used to monitor company profits without the impact of changes in tax rates or differences between tax jurisdictions. Company profits before income tax is measured as net operating profit or loss before income tax and extraordinary items and is net of capital profits or losses arising from the sale of businesses' own capital goods and dividends received. Profit is the dependent variable and has a functional relationship with the explanatory variables explained below as the independent variables. Exchange rate serves as one of the explanatory variables and it's the price for which the currency of a country can be exchanged for another country's currency. Factors that influence exchange rate include interest rate, inflation rates, trade balance, political stability, internal harmony, high degree of transparency in the conduct of leaders and administrators, general state of the economy and quality of governance (business dictionary, 2015). Currency exchange rates can either help or hurt the exporting of firms' products to specific foreign markets. The brewing industry is highly capital intensive. This accounts for the reason why the ownership structure is either public and/or state-owned with/without foreign partnership. The technology for the industry, spare parts and expert technicians are rarely available in the country

and therefore highly dependent on foreign exchange. When the exchange rate increases, it affects the purchasing power of breweries and the profitability of the business. Because about 40 per cent of brewing materials and services are imported from outside the country, they are exposed to exchange rate risks Adetu (2013). The vulnerability of brewing companies earnings to exchange rates movements cannot be over emphasised as many of their raw material inputs as well as production costs are directly impacted by the exchange rate volatility. The brewers for instance have to manage the exchange rate volatility, expected to reflect in the costs of raw materials such as barley and hops. Investment is the money committed or property acquired for future income (business dictionary, 2015). The study used the variability in exchange rate to measure exchange rate instability. Investment in breweries annual reports are stated at the lower of cost or net realizable value. The amount invested in breweries may be a determinant of the profitability of the brewing firms. Export is a function of international trade whereby goods produced in one country are shipped to another country for future sale or trade. The sale of such goods adds to the producing nation's gross output. If used for trade, exports are exchanged for other products or services. Most of the largest brewing companies derive a substantial portion of their annual revenues from exports to other countries. The ability to export goods helps companies to grow by selling more overall goods and services and this seems important for increased profitability. Importation by breweries may also have a significant influence on their productivity considering the fact that most of their technologies are imported. Export and import may lead to an increase in productivity at firm level in breweries in Nigeria.

Industrial production is a measure of output of the industrial sector of the economy. Industrial Production figures are used by organisations and the central banks to measure inflation, as high levels of industrial production can lead to uncontrolled levels of consumption and rapid inflation and this may have adverse effect on the profitability of breweries in Nigeria.

GROWTH EQUATION (Equation 2)

This equation ascertains the influence of technological changes on the growth of selected breweries in Nigeria.

$$NASST = f(\text{TECH, MAN, EXCHR, CAPU, INV, INDP,})e_t \dots\dots \tag{3}$$

The above equation can be stated thus:

$$NASST = b_0 + b_1 L\text{TECH} + b_2 L\text{MAN} + b_3 L\text{EXCHR} + b_4 L\text{CAPU} + b_5 L\text{INV} + b_6 L\text{INDP} + e_t \dots\dots\dots \tag{4}$$

Where:

e_t	= error term
b_0 - b_6	= parameter estimates/structure
NASST	= Net asset
LTECH	= log of technology
LMAN	= log of manufacturing
LEXCHR	= log of exchange rate
LCAPU	= log of capacity utilisation
LINV	= log of investment
LINDP	= log of industrial production

In this equation, growth proxied by net assets serves as the dependent variable and has a functional relationship with the independent variables which include technology, manufacturing, exchange rate, capacity utilization, investment and industrial production. Net asset is defined as total assets minus total liabilities. In a corporation the amount is reported as shareholder's equity. It represents the difference between what the company owns and what it owes. The higher the company's net assets value, the higher the value of the company (Averkamp 2015). Thus, net assets is one of the performance indicators used to determine if a company is growing or declining.

Technology represents focus on improvement of manufacturing processes, techniques, or equipment in order to reduce cost, increase efficiency, enhance reliability or to incorporate safety and anti-pollution measures. Technology provides the tools that enable production of all manufactured goods, these master tools of industry magnify the effort of individual workers and give an industry the power to turn raw materials into the affordable, quality goods essential to today's society. Technology affects the quality and quantity of brewer's product and performance. Technology is proxied by obsolete equipments in this study. Manufacturing involves the conversion of raw materials into finished consumer goods. Manufacturing creates avenues for more employment, enables labour to acquire more skills while helping the firm to increase its foreign exchange earnings and improve their performance. Manufacturing also serves as an explanatory variable in this study.

PRODUCTIVITY EQUATION (Equation 3)

This equation assesses the influence of insecurity on the productivity of selected breweries in Nigeria.

$$NPRT = f(CONF, UNEMP, MHL, CAPU, WSTP) e_t \dots \quad (5)$$

The above equation can be stated thus:

$$NPRT = c_0 + c_1 LCONF + c_2 LUNEMP + c_3 LMHL + c_4 LCAPU + c_5 LWSTP + e_t \dots \quad (6)$$

Where:

e_t	= error term
c_0-c_5	= parameter estimates/structure
NPRT	= Net asset
LCONF	= log of conflict
LUNEMP	= log of unemployment
LMHL	= log of man hour lost
LCAPU	= log of capacity utilization
LWSTP	= log of work stoppages

Productivity proxied by net profit is the dependent variable and has a functional relationship with insecurity proxied by conflict, man hour losses, unemployment, capacity utilization and work stoppages. Capacity utilization is the extent to which an enterprise or a nation actually uses its installed productive capacity. It is the relationship between actual output that 'is' actually produced with the installed equipment, and the potential output which 'could' be produced with it, if capacity was fully used. If market demand grows, capacity utilization will rise. If demand weakens, capacity utilization will slacken. Capacity utilisation is computed by dividing the total capacity with the portion being utilized. Increased capacity utilization may help brewer's productivity. "Unemployed" is defined by ILO as those who are currently not working but are willing and able to work for pay, currently available to work and have actually searched for work. Unemployment can lead to youth restiveness and insecurity which may affect the productivity of breweries in Nigeria.

Insecurity/conflict is seen as "the state of fear or anxiety stemming from a concrete or alleged lack of protection." It refers to lack or inadequate freedom from danger. Insecurity creates chaos and can lead to loss of lives and properties of organizational workers and equipments. Man hour loss is the total hours lost due to conflicts within the productive hours and work stoppages is referred to as the number of time work was stopped in the manufacturing sector due to conflicts. These independent variables were included in the equation alongside insecurity/conflict because they either lead to conflict or they are experienced as a result of conflict.

TURNOVER EQUATION (Equation 4)

The Equation determines the influence of inflation on turnover of selected breweries in Nigeria.

$$TNOR = f(\text{INFL}, \text{EXCHR}, \text{EXP}_{t-1}, \text{IMP}_{t-1}, \text{INV}) e_t \dots\dots (7)$$

The above equation can be stated thus:

$$TNOR = d_0 + d_1 \text{LINFL} + d_2 \text{LEXCHR} + d_3 \text{LEXP}_{t-1} + d_4 \text{LIMP}_{t-1} + d_5 \text{LINV} + e_t \dots\dots (8)$$

Where:

- e_t = error term
- m_0 - m_5 = parameter estimates/structure
- n_0 - n_5 = parameter estimate/structure
- o_0 - o_5 = parameter estimate/structure

- TNOR = Turnover
- LINFL = log of inflation
- LEXCHR = log of exchange rate
- LEXP_{t-1} = log of export at a particular point in time
- LIMP_{t-1} = log of import at a particular point in time
- LINV = log of investment

Here turnover serves as the dependent variable and has functional relationship with inflation, exchange rate, export at a particular point in time, import and investment. Inflation can mean either an increase in the money supply or an increase in price levels. Generally, when we hear about inflation, we are hearing about a rise in prices compared to some benchmark. This affects the growth of some businesses.

MARKET SHARE EQUATION (Equation 5)

This equation examines the value added by investment on market share of selected breweries in Nigeria.

$$\text{MKTSH} = f(\text{INV}, \text{EXP}_{t-1}, \text{IMP}_{t-1}, \text{MAN}, \text{INDP}) e_t \dots\dots (9)$$

The above equation could be restated as follows:

$$\text{MKTSH} = e_0 + e_1 \text{LINV} + e_2 \text{LEXP}_{t-1} + e_3 \text{LIMP}_{t-1} + e_4 \text{LMAN} + e_5 \text{LINDP} + e_t \dots\dots (10)$$

Where:

- e_t = error term
- e_0 - e_5 = parameter estimates/structure
- MKTSH = Market share

- LINV = log of investment
- LEXP = log of export at a particular point in time
- LIMP = log of import at a particular point in time
- LMAN = log of manufacturing
- LINDP = log of industrial production

Market share is the dependent variable in this equation and has a functional relationship with investment, export, import, manufacturing and industrial production. Market share is the percentage of a market (defined in terms of either units or revenue) accounted for by a specific brewery. Increasing market share is one of the most important objectives of businesses. Market share is a key indicator of market competitiveness – that is how well a firm is doing against its competitors (Wikipedia.com2015).

3.1.2. SUMMARY OF COMPLETE EQUATION

$$PRT = a_0+a_1 LEXCHR + a_2 LINV + a_3 LIMP_{t-1} + a_4 LEXP_{t-1} + a_5 LINDP+ e_t..... \tag{1}$$

$$NASST = b_0+b_1LTECH + b_2LMAN + b_3LEXCHR + b_4LCAPU + b_5 LINV + b_6 LINDP+e_t \tag{2}$$

$$NPRT = c_0+c_1 LCONF + c_2LUNEMP + c_3 LMHL + c_4 LCAPU + c_5 LWSTP+e_t.... \tag{3}$$

$$TNOR = d_0+d_1 LINF + d_2LEXCHR + d_3 LEXP_{t-1} + d_4LIMP_{t-1} +d_5 LINV+e_t \tag{4}$$

$$MKTSH = e_0 +e_1LINV +ep_2LEXP_{t-1} + e_3 IMP_{t-1} +e_4LMAN + e_5INDP+e_t- \tag{5}$$

3.1.3. Structure of parameter estimates of complete equation

Where:

- a₀-a₅ = profitability equation
- b₀-b₆ = growth equation
- c₀-c₅ = productivity equation
- d₀-d₅ = turnover equation
- e₀-e₅ = market share equation

3.2 Justification for selection of breweries studied

In this study, the population includes firms whose primary business is brewing. The criteria for inclusion in the sample of brewing firms for this study are the following:

- The firm must have its primary business in brewing.
- The firm must be quoted with the Nigerian stock exchange
- The firm must have operated for at least 10 years in Nigeria

- The firm must have both malt and beer products

Therefore, three breweries were selected for this study and they include Nigerian breweries, Guinness breweries, and International breweries.

3.3. DATA REQUIRED

Data required for each of the variables in this study ranges from 1990 to 2015 (26years), thus the following data will be required for our analysis.

These are:

Data on exchange rate for 26 years

Data on net profit for 26 years

Data on investment for 26 years

Data on import for 26 years

Data on export for 26 years

Data on industrial production for 26 years

Data on turnover for 26 years

Data on technology for 26 years

Data on net assets for 26 years

Data on manufacturing for 26 years

Data on conflict for 26 years

Data on man hour lost for 26 years

Data on work stoppages for 26 years

Data on unemployment for 26 years

Data on market share for 26 years

Data on inflation for 26 years

Data on capacity utilisation for 26 years

3.4 Sources of Data

Data for the study were collected from secondary sources. The basic (secondary) statistical data were sourced from various publications of breweries which include:

- CBN statistical bulletin,
- Annual financial reports and accounts of the firms studied (various issues)
- Statistical Facts sheets of the National Bureau of Statistics (various issues)
- Nigerian dailies (various issues)

-Nigerian Security and Exchange Commission's publications (various issues) and
-other publications relating to the study were used in collecting the data
Time series data ranging from 1990 – 2015 were collected for this study.

3.5 Method of data collection

The study used the annual financial reports and other publications associated with the brewing firms for accessing the secondary data.

3.6 Validity of the Research Instrument

Validity test was carried out in order to ensure that the research instrument measured what it was meant to measure. Reliability refers to the extent to which measures are without error (Nunnally 1978). Reliability test ensures that the instrument measures consistently as required. It also shows the extent to which the researcher confidently relies on the information obtained through the use of the instrument adopted to gather data for the research work. The validity and reliability of the instrument was determined using ordinary least square (OLS) technique.

This technique is the best linear unbiased estimator (BLUE). To test the validity and reliability of the model, the following statistical econometric tests were conducted.

1. T-test is used to test for statistical significance of the estimated parameters
2. (R^2 Coefficient) is the adjusted coefficient of determination. It is used to judge fitness of the model.
3. F-test or f-ratio tests the overall significance of the regression
4. Dubin Watson enables us to examine extent of serial correlation in the study

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

Time series data spanning from 1990 – 2015 was used for the regression analysis. The method of analysis was the Ordinary Least Square technique. The dependent variables were regressed with independent variables and the results are presented below.

4.1 Data Presentation

The data used for model estimation of equation 1,2,3,4 and 5 in relation to environmental instability and performance of selected breweries in Nigeria is presented below. In the equations, the dependent variables include profitability, growth (net assets), productivity (net profit), turnover and market share. The independent variables include exchange rate, technology, conflict, inflation, man hour loss, work stoppages, manufacturing, import, export, unemployment and capacity utilization.

Table 4.1a: Profitability Equation for Nigeria Breweries Plc (Equation 1)

$$PRT = f(\text{EXCHR, INV, IMP, EXP, INDP})e_t \text{ ----- (1)}$$

Year	Profit (N'000)	Exchr (N)	Import (N'000)	Investment (N'000)	EXP(N'000)	Industrial production (N'000)
1990	4978280	8.0	34857	11250000	118205	14702
1991	5310027	9.9	139429	11250000	118202	19356
1992	4646993	17.3	273389	11250000	118209	27004
1993	5973183	22.1	525749	11250000	118194	38987
1994	7964381	21.9	808846	11250000	118224	62898
1995	7986920	21.9	1617694	11250000	118165	105290

1996	7941749	21.9	1941232	15000000	118283	132897
1997	8031403	21.9	1127167	15000000	118047	144107
1998	7851284	21.9	6262040	15000000	118519	141496
1999	8212839	92.7	2005884	15000000	117574	150947
2000	8936084	102.11	1203530	15000000	119464	168037
2001	7,489284	111.94	6017653	15000000	115684	199079
2002	10382438	120.98	915887	15000000	123245	236826
2003	10992037	129.36	1044832	15000000	108122	287739
2004	9148138	133.5	7313824	15000000	418720	349316
2005	12897746	131.66	8126471	15000000	569655	412707
2006	16436255	128.65	76323394	15000000	198864	478524
2007	27876336	117.97	1659607	15000000	231184	520883
2008	37519114	130.75	20751161	15000000	221481	585573
2009	41399796	147.6	23204399	15000000	183621	612614
2010	44880248	156	28555556	15000000	88687	647823
2011	57118228	151.8	31310201	15000000	182574	615235
2012	55624366	155.86	28145445	15000000	191396	625122
2013	62240317	158.63	19572067	15000000	253312	622650
2014	61461821	164.61	19540378	82962500	245008	621415
2015	54508368	197.07	19586413	82962500	234094	621415

Source: Nigerian Breweries Annual Report (various issues)
Nigerian Stock Exchange Fact Book (various issues)

KEYS:

PRT= Profit

EXCHR= Exchange rate

INV= investment

IMP_{t-1}= import at a particular point in time

EXP_{t-1} = export at a particular point in time

INDP= Industrial Production

Table 4.1b: Profitability equation for Guinness Breweries Plc (Equation 1)

$$PRT = f(EXCHR, INV, IMP, EXP, INDP)e_t \text{ ----- (11)}$$

Year	Profit (N'000)	Exchr (N)	Import (N'000)	EXP (N'000)	Investment (N'000)	Industrial production (N'000)
1990	5137953	8.0	5335	469033	1373700	14702
1991	5151007	9.9	21339	469029	1373700	19356
1992	5124899	17.3	62762	469038	1373700	27004
1993	5177116	22.1	169629	469020	1373700	38987
1994	5072681	21.9	434948	469056	1373700	62898
1995	5281552	21.9	483367	468983	1373700	105290

1996	4863810	21.9	115087	469130	1373700	132897
1997	5699293	21.9	255749	468835	1373700	144107
1998	4028328	21.9	532811	469425	1373700	141496
1999	7370258	92.7	1087370	468246	1373700	150947
2000	6863977	102.11	2132099	470604	1373700	168037
2001	7876540	111.94	4100191	465887	1831600	199079
2002	5851413	120.98	3280155	475321	1831600	236826
2003	9901668	129.36	2811561	456454	1831600	287739
2004	11687494	133.5	4217342	494188	1831600	349316
2005	6276167	131.66	46859356	418720	1831600	412707
2006	11436771	128.65	53651781	569655	1831600	478524
2007	14884450	117.97	8671339	749122	1831600	520883
2008	17092950	130.75	9257194	964694	1831600	585573
2009	18991762	147.6	16366451	808597	1831600	612614
2010	19988735	156	20192521	565718	1831600	647823
2011	26176966	151.8	24921059	355666	1831600	615235
2012	21074950	155.86	21363100	650273	1831600	625122
2013	17008875	158.63	29984338	2878221	1831600	622650
2014	11681560	164.61	22305881	2308192	1831600	621415
2015	10795102	197.07	21242675	2277095	1831600	621415

Source: Guinness Breweries Annual Report (various issues)
Nigerian Stock Exchange Fact Book (various issues)

KEYS:

PRT= Profit

EXCHR= Exchange rate

INV= investment

IMP_{t-1}= import at a particular point in time

EXP_{t-1}, = export at a particular point in time

INDP= Industrial Production

Table 4.1c Profitability Equation for International Breweries Plc (Equation 1)

$$PRT = f(EXCHR, INV, IMP, EXP, INDP)_{e_t} \text{ ----- III)}$$

Year	Profit (N'000)	Exchr (N)	Investment(N'000)	Import (N'000)	EXP (N'000)	Industrial production (N'000)
1990	44927	8.0	1000000	10192	1113	14702
1991	51667	9.9	1000000	12843	1202	19356
1992	58453	17.3	1000000	19107	1303	27004
1993	69587	22.1	1000000	25613	1947	38987
1994	78628	21.9	1000000	29853	1558	62898

1995	85595	21.9	1000000	31816	1706	105290
1996	114126	21.9	1000000	333811	2274	132897
1997	114789	21.9	1000000	35874	2252	144107
1998	113465	21.9	1000000	36182	2297	141496
1999	116112	92.7	1000000	14632	2267	150947
2000	110818	102.11	1000000	424162	2386	168037
2001	121407	111.94	1000000	548491	2029	199079
2002	100228	120.98	1000000	676447	2743	236826
2003	142586	129.36	1000000	698648	1314	287739
2004	242388	133.5	1000000	722890	1544	349316
2005	523657	131.66	1000000	726333	1428	412707
2006	361360	128.65	1000000	814421	6814	478524
2007	118215	117.97	1000000	8101437	4043	520883
2008	63505	130.75	1000000	8112381	6528	585573
2009	285546	147.6	1000000	894232	2005	612614
2010	199133	156	1000000	9267114	2439	647823
2011	190341	151.8	1000000	9385433	3532	615235
2012	284266	155.86	1000000	9576336	4880	625122
2013	3555546	158.63	1000000	1105189	6628	622650
2014	3925500	164.61	1000000	11603547	5575	621415
2015	2815554	197.07	1000000	12209641	59300	621415

Source: International Breweries Annual Report (various issues)
Nigerian Stock Exchange Fact Book (various issues)

KEYS:

PRT= Profit

EXCHR= Exchange rate

INV= investment

IMP_{t-1}= import at a particular point in time

EXP_{t-1}, = export at a particular point in time

INDP= Industrial Production

Table 4.1a, 4.1b and 4.1c presents the variables used for estimating the profitability equation. The first column on the table presents the years covered in the study; the second column presents the figures for profit of the breweries for the period under study. Columns three to seven present the figures for the environmental variables, exchange rate, investment, import, export and industrial production for the same period.

TABLE 4.2a: Growth equation for Nigeria breweries plc (Equation 2)

$$NASST = f(\text{TECH, MAN, EXCHR, CAPU, INV, INDP})_{e_t} \dots \dots \quad (\text{IV})$$

Year	Net asset (N'000)	Tech (Nmillions)	MAN (N'000)	Exchr (N)	Capacity utilization %	Investment (N'000)	Industrial production (N'000)
1990	12320836	16296	86821	8.0	52.0	11250000	14702

1991	16427937	16497	947245	9.9	52.8	11250000	19356
1992	16945483	16094	1262923	17.3	52.7	11250000	27004
1993	15909826	16901	1262723	22.1	52.7	11250000	38987
1994	17981048	18514	1263229	21.9	52.6	11250000	62898
1995	19567283	18344	1262103	21.9	52.5	11250000	105290
1996	26089748	18683	1264339	21.9	52.6	15000000	132897
1997	26267847	19362	1259949	21.9	52.4	15000000	144107
1998	25912637	18004	1268864	21.9	52.4	15000000	141496
1999	26621263	20721	1251084	92.7	51.1	15000000	150947
2000	28039784	26155	1286574	102.11	51.0	15000000	168037
2001	25203849	15287	1215547	111.94	51.8	15000000	199079
2002	14157810	37022	1357593	120.98	51.3	15000000	236826
2003	30346155	50041	2767240	129.36	50.8	15000000	287739
2004	16908244	54448	1812464	133.5	50.6	15000000	349316
2005	16227442	52428	1234292	131.66	51.4	15000000	412707
2006	36249393	49677	1267127	128.65	50.9	15000000	478524
2007	43183046	50194	1615628	117.97	51.0	15000000	520883
2008	32229181	63557	2074127	130.75	51.3	15000000	585573
2009	46570094	69003	2206401	147.6	51.3	15000000	612614
2010	40172162	87756	2123138	156	51.3	15000000	647823
2011	78436741	96618	2405632	151.8	51.1	15000000	615235
2012	93447 892	142348	2465234	155.86	51.2	15000000	625122
2013	112359185	153366	2064382	158.63	51.2	15000000	622650
2014	171882930	193569	2847828	164.61	51.1	82962500	621415
2015	172233465	173467	2456098	197.07	50.1	82962500	621415

Source: Nigerian breweries annual report (various issues)
Nigerian stock exchange fact book (various issues)

KEYS:

- NASST= Net assets
TECH= Technology
MAN= Manufacturing
EXCHR= Exchange rate
CAPU= Capacity utilisation
INDP= Industrial Production

Table 4.2b Growth Equation For Guinness Breweries Plc (Equation 2)

$$NASST = f(TECH, MAN, EXCHR, CAPU, INV, INDP)e_t \text{-----}(V)$$

Year	Net asset (N'000)	Tech (N'000)	MAN (N'000)	Exchr (N)	Capacity utilization %	Investment (N'000)	Industrial production (N'000)
1990	16369002	13819247	1350223	8.0	52.0	1373700	14702
1991	16371151	13820049	1350226	9.9	52.8	1373700	19356
1992	16368492	13818445	1350220	17.3	52.7	1373700	27004
1993	16374239	13821655	1350231	22.1	52.7	1373700	38987

1994	16362730	13815234	1350210	21.9	52.6	1373700	62898
1995	16387284	13828076	1350252	21.9	52.5	1373700	105290
1996	16336184	13802392	1350168	21.9	52.6	1373700	132897
1997	16439028	13853761	1350335	21.9	52.4	1373700	144107
1998	16232274	13751023	1350002	21.9	52.4	1373700	141496
1999	16647849	13956498	1350669	92.7	51.1	1373700	150947
2000	15817274	13545548	1349335	102.11	51.0	1373700	168037
2001	17476475	14367649	1352003	111.94	51.8	1831600	199079
2002	14157810	12723046	1346666	120.98	51.3	1831600	236826
2003	20794225	16012252	1357339	129.36	50.8	1831600	287739
2004	23103244	24822548	1335994	133.5	50.6	1831600	349316
2005	21767442	29179564	1378684	131.66	51.4	1831600	412707
2006	25667782	29531969	1293304	128.65	50.9	1831600	478524
2007	31638842	30124847	1272089	117.97	51.0	1831600	520883
2008	36862557	36733310	12,867.44	130.75	51.3	1831600	585573
2009	31524701	35897959	1684769	147.6	51.3	1831600	612614
2010	34199119	38244541	1615270	156	51.3	1831600	647823
2011	40283492	46,098,557	1738113	151.8	51.1	1831600	615235
2012	40353514	76293851	2199851	155.86	51.2	1831600	625122
2013	46039111	88112852	1240010	158.63	51.2	1831600	622650
2014	45061717	90683405	1346924	164.61	51.1	1831600	621415
2015	48341376	93313223	1462760	197.07	50.1	1831600	621415

Source: Guinness Breweries Annual Report (various issues)
Nigerian Stock Exchange Fact Book (various issues)

KEYS:

NASST= Net assets

TECH= Technology

MAN= Manufacturing

EXCHR= Exchange rate

CAPU= Capacity utilisation

INDP= Industrial Production

Table 4.2c: Growth equation for international breweries plc (Equation 2)

$NASST = f(TECH, MAN, EXCHR, CAPU, INV, INDP)e_t \dots (VI)$

Year	Net asset (N'000)	Tech (N'000)	Man (N'000)	Exchr (N)	Capacity utilization %	Investment(N'000)	Industrial production (N'000)
1990	31095	81099	7756	8.0	52.0	1000000	14702
1991	41084	93264	8911	9.9	52.8	1000000	19356
1992	38017	105490	10091	17.3	52.7	1000000	27004
1993	45281	125565	12023	22.1	52.7	1000000	38987
1994	51037	142001	13529	21.9	52.6	1000000	62898
1995	55752	154396	14814	21.9	52.5	1000000	105290
1996	74335	205862	19752	21.9	52.6	1000000	132897
1997	74059	207744	19550	21.9	52.4	1000000	144107

1998	74612	203980	19954	21.9	52.4	1000000	141496
1999	73505	211507	19145	92.7	51.1	1000000	150947
2000	75719	196454	20762	102.11	51.0	1000000	168037
2001	71293	226559	17528	111.94	51.8	1000000	199079
2002	80144	166349	23996	120.98	51.3	1000000	236826
2003	62442	286769	11061	129.36	50.8	1000000	287739
2004	304830	299583	13225	133.5	50.6	1000000	349316
2005	828487	56682	11768	131.66	51.4	1000000	412707
2006	1189847	243943	13357	128.65	50.9	1000000	478524
2007	1308062	202516	21854	117.97	51.0	1000000	520883
2008	795709	952776	97771	130.75	51.3	1000000	585573
2009	283356	3069113	173688	147.6	51.3	1000000	612614
2010	2516959	7323499	183731	156	51.3	1000000	647823
2011	1583323	9662962	163645	151.8	51.1	1000000	615235
2012	5481748	12579658	203817	155.86	51.2	1000000	625122
2013	9380173	15496354	243988	158.63	51.2	1000000	622650
2014	11269923	18677771	223664	164.61	51.1	1000000	621415
2015	12168259	22413325	163275	197.07	50.1	1000000	621415

Source: International Breweries Annual Report (various issues)
Nigerian Stock Exchange Fact Book (various issues)

KEYS:

KEYS:

NASST= Net assets
TECH= Technology
MAN= Manufacturing
EXCHR= Exchange rate
CAPU= Capacity utilisation
INDP= Industrial Production

Tables 4.2a, 4.2b and 4.2c above presents the variables used for estimating the growth equation. Columns 2-6 presents the yearly data for net assets, technology, manufacturing, exchange rate, capacity utilization, investment and industrial production for NB PLC, GUINNESS NIGERIA PLC AND INTBREW. Column 1 covers the years under study.

Table 4.3a: Productivity Equation for Nigeria Breweries Plc. (Equation 3)

$NPRT = f(\text{CONF, MHL, WSTP, CAPU, UNEMP}) e_t \dots$ (VII)

Year	Net Profit (N'000)	CONFL	MHL	Capacity utilization %	WSTP	Unemployment (%)
1990	4109630	28	12	52.0	46	3.5
1991	4105267	16	17	52.8	14	3.1
1992	4114293	1	124	52.7	17	3.5
1993	4095274	43	90	52.7	12	3.4
1994	4134983	13	110	52.6	28	3.2
1995	4211275	7	26	52.5	32	1.9

1996	4366027	0	24	52.6	28	2.8
1997	4056837	0	31	52.4	35	3.4
1998	4676926	4	11	52.4	38	3.5
1999	3437469	6	27	51.1	45	17.5
2000	5916435	32	47	51.0	12	13.1
2001	4,535249	69	36	51.8	33	13.6
2002	7296940	0	42	51.3	45	12.6
2003	7352287	5	66	50.8	34	14.8
2004	5086403	19	108	50.6	40	13.4
2005	8254557	21	212	51.4	35	11.9
2006	10901524	82	102	50.9	38	12.3
2007	18943856	32	33	51.0	124	12.7
2008	25701593	51	42	51.3	81	14.9
2009	27910091	1000	112	51.3	21	19.7
2010	30332198	14	30	51.3	117	21.1
2011	38408033	293	26	51.1	53	23.9
2012	38043714	341	81	51.2	29	23.4
2013	43080349	773	73	51.2	38	19.0
2014	42520253	2475	44	51.1	101	17.8
2015	38049510	2588	17	50.1	35	21.6

Source: Nigerian Breweries Annual Report (various issues)
Nigerian Stock Exchange Fact Book (various issues)
National Dailies (various issues)

KEYS:

- NPRT= Net profit
- CONF= Conflict
- MHL= Man hour loss
- WSTP= Work stoppages
- CAPU= Capacity utilisation
- UNEMP= Unemployment

Table 4.3b: Productivity equation for Guinness Breweries Plc. (Equation 3)

$$NPRT = f(CONF, MHL, WSTP, CAPU, UNEMP) e_{t----}(VIII)$$

Year	Net Profit (Nmillion)	CONFL	MHL	WSTP	Capacity utilization %	Unemploye nt rate (%)
1990	4119002	28	12	46	52.0	3.5
1991	4119930	16	17	14	52.8	3.1
1992	4119009	1	124	17	52.7	3.5
1993	4119192	43	90	12	52.7	3.4
1994	4120738	13	110	28	52.6	3.2
1995	4119284	7	26	32	52.5	1.9
1996	4121649	0	24	28	52.6	2.8
1997	4119283	0	31	35	52.4	3.4
1998	4122647	4	11	38	52.4	3.5
1999	4117920	6	27	45	51.1	17.5

2000	4128164	32	47	12	51.0	13.1
2001	4106263	69	36	33	51.8	13.6
2002	4149536	0	42	45	51.3	12.6
2003	6636335	5	66	34	50.8	14.8
2004	7913503	19	108	40	50.6	13.4
2005	4859019	21	212	35	51.4	11.9
2006	7440102	82	102	38	50.9	12.3
2007	10691060	32	33	124	51.0	12.7
2008	11861880	51	42	81	51.3	14.9
2009	13541189	1000	112	21	51.3	19.7
2010	13736359	14	30	117	51.3	21.1
2011	17927934	293	26	53	51.1	23.9
2012	14671620	341	81	29	51.2	23.4
2013	11863726	773	73	38	51.2	19.0
2014	9573480	2475	44	101	51.1	17.8
2015	7794899	2588	17	35	50.1	21.6

Source: Guinness Breweries Annual Report (various issues)
Nigerian Stock Exchange Fact Book (various issues)
National Dailies (various issues)

KEYS:

- NPRT= Net profit
CONF= Conflict
MHL= Man hour loss
WSTP= Work stoppages
CAPU= Capacity utilisation
UNEMP= Unemployment

Table 4.3c: Productivity Equation for International Breweries Plc. (Equation 3)

$$NPRT = f(CONF, MHL, WSTP, CAPU, UNEMP) e_t \text{------(IX)}$$

Year	Net Profit(N'000)	CONFL	MHL	Capacity utilization %	WSTP	Unemployment rate (%)
1990	60636	28	12	52.0	46	3.5
1991	65677	16	17	52.8	14	3.1
1992	98258	1	124	52.7	17	3.5
1993	78607	43	90	52.7	12	3.4
1994	85843	13	110	52.6	28	3.2
1995	114458	7	26	52.5	32	1.9
1996	114127	0	24	52.6	28	2.8
1997	114789	0	31	52.4	35	3.4
1998	113465	4	11	52.4	38	3.5
1999	116112	6	27	51.1	45	17.5
2000	110818	32	47	51.0	12	13.1

2001	121407	69	36	51.8	33	13.6
2002	100228	0	42	51.3	45	12.6
2003	142586	5	66	50.8	34	14.8
2004	242388	19	108	50.6	40	13.4
2005	523657	21	212	51.4	35	11.9
2006	361360	82	102	50.9	38	12.3
2007	118215	32	33	51.0	124	12.7
2008	63505	51	42	51.3	81	14.9
2009	285546	1000	112	51.3	21	19.7
2010	2800036	14	30	51.3	117	21.1
2011	2172888	293	26	51.1	53	23.9
2012	205627	341	81	51.2	29	23.4
2013	2327342	773	73	51.2	38	19.0
2014	2105500	2475	44	51.1	101	17.8
2015	1946490	2588	17	50.1	35	21.6

Source: International Breweries Annual Report (various issues)
Nigerian Stock Exchange Fact Book (various issues)
National Dailies (various issues)

KEYS:

- NPRT= Net profit
CONF= Conflict
MHL= Man hour loss
WSTP= Work stoppages
CAPU= Capacity utilisation
UNEMP= Unemployment

The tables 4.3a, 4.3b and 4.3c presented above shows the variables used in estimating the productivity equation. The first column presents the range of years which the study covers. Columns 2 -7 presents the net profit, conflict, man hour lost, work stoppages, capacity utilization and unemployment rate data for the years studied.

Table 4.4a: Turnover Equation for Nigeria Breweries Plc (Equation 4)

$$TNOR = f(INFL, EXCHR, EXP, IMP, INV) e_t \dots\dots (X)$$

Year	Turnover (N'000)	INFL (%)	EXCHR (N)	EXP(N'000)	Import (N'000)	Investment(N'000)
1990	27218850	7.5	8.0	118205	34857	11250000
1991	25554094	12.7	9.9	118202	139429	11250000
1992	28883684	44.8	17.3	118209	273389	11250000
1993	31576583	57.2	22.1	118194	525749	11250000
1994	41756837	57	21.9	118224	808846	11250000
1995	42200905	72.8	21.9	118165	1617694	11250000
1996	42348673	29.3	21.9	118283	1941232	15000000
1997	42052673	10.7	21.9	118047	1127167	15000000
1998	42644904	7.9	21.9	118519	6262040	15000000
1999	41459100	6.6	92.7	117574	2005884	15000000
2000	43828759	6.9	102.11	119464	1203530	15000000
2001	39091730	18.9	111.94	115684	6017653	15000000

2002	48565423	12.9	120.98	123245	915887	15000000
2003	62975996	14	129.36	108122	1044832	15000000
2004	73594134	15.4	133.5	138369	7313824	15000000
2005	80130968	17.8	131.66	77874	8126471	15000000
2006	86322075	8.2	128.65	198864	76323394	15000000
2007	111748297	5.4	117.97	231184	1659607	15000000
2008	145461762	11.6	130.75	221481	20751161	15000000
2009	164206848	12.4	147.6	183621	23204399	15000000
2010	185862785	13.8	156	88687	28555556	15000000
2011	226229379	10.3	151.8	182574	31310201	15000000
2012	252674213	15	155.86	191396	28145445	15000000
2013	268614518	9.50	158.63	253312	19572067	15000000
2014	266,372475	8.20	164.61	245008	19540378	82962500
2015	295905792	9	197.07	234094	19586413	82962500

Source: Nigerian Breweries Annual Report (various issues)
Nigerian Stock Exchange Fact Book (various issues)

KEYS:

TNOR= Turnover

INFL= Inflation

EXCHR= Exchange rate

IMP_{t-1}= Import at a particular point in time

EXP_{t-1}, = Export at a particular point in time

INV= Investment

Table 4.4b: Turnover Equation for Guinness Breweries Plc (Equation 4)

$$TNOR = f(INFL, EXCHR, EXP, IMP, INV) e_t \dots\dots (XI)$$

Year	Turnover (N'000)	INFL (%)	EXCHR (N)	EXP(N'000)	Import (N'000)	Investment(N'000)
1990	41087012	7.5	8.0	469033	5335	1373700
1991	41089026	12.7	9.9	469029	21339	1373700
1992	41085015	44.8	17.3	469038	62762	1373700
1993	41094002	57.2	22.1	469020	169629	1373700
1994	41076101	57	21.9	469056	434948	1373700
1995	41112002	72.8	21.9	468983	483367	1373700
1996	41039100	29.3	21.9	469130	115087	1373700
1997	41186012	10.7	21.9	468835	255749	1373700
1998	40892002	7.9	21.9	469425	532811	1373700
1999	41480101	6.6	92.7	468246	1087370	1373700
2000	20303400	6.9	102.11	470604	2132099	1373700
2001	22658000	18.9	111.94	465887	4100191	1831600
2002	29428645	12.9	120.98	475321	3280155	1831600

2003	37949796	14	129.36	456454	2811561	1831600
2004	47369244	15.4	133.5	494188	4217342	1831600
2005	46859356	17.8	131.66	418720	46859356	1831600
2006	53651781	8.2	128.65	569655	53651781	1831600
2007	62265417	5.4	117.97	749122	8671339	1831600
2008	69173852	11.6	130.75	964694	9257194	1831600
2009	89148207	12.4	147.6	808597	808597	1831600
2010	109366975	13.8	156	565718	565718	1831600
2011	123663125	10.3	151.8	355666	355666	1831600
2012	126288882	15	155.86	650273	650273	1831600
2013	122463538	9.50	158.63	2878221	2878221	1831600
2014	109202120	8.20	164.61	2308192	2308192	1831600
2015	118495882	9	197.07	2277095	1869636	1831600

Source: Guinness Breweries Annual Report (various issues)
Nigerian Stock Exchange Fact Book (various issues)

KEYS:

TNOR= Turnover

INFL= Inflation

EXCHR= Exchange rate

IMP_{t-1}= Import at a particular point in time

EXP_{t-1}, = Export at a particular point in time

INV= Investment

Table 4.4c: Turnover Equation for International Breweries Plc (Equation 4)

$$TNOR = f(INFL, EXCHR, EXP, IMP, INV) e_t \dots\dots (XII)$$

Year	Turnover(N'000)	INFL(%)	EXCHR (N)	EXP (N'000)	Import (N'000)	Investment (N'000)
1990	180607	7.5	8.0	1113	10192	1000000
1991	191245	12.7	9.9	1202	12843	1000000
1992	227793	44.8	17.3	1303	19107	1000000
1993	303391	57.2	22.1	1947	25613	1000000
1994	233797	57	21.9	1558	29853	1000000
1995	372985	72.8	21.9	1706	31816	1000000
1996	94608	29.3	21.9	2274	333811	1000000
1997	311549	10.7	21.9	2252	35874	1000000
1998	339813	7.9	21.9	2297	36182	1000000
1999	453084	6.6	92.7	2267	14632	1000000
2000	453300	6.9	102.11	2386	424162	1000000
2001	452867	18.9	111.94	2029	548491	1000000
2002	453732	12.9	120.98	2743	676447	1000000
2003	452002	14	129.36	1314	698648	1000000

2004	594704	15.4	133.5	1544	722890	1000000
2005	401399	17.8	131.66	1428	726333	1000000
2006	313048	8.2	128.65	6814	814421	1000000
2007	561669	5.4	117.97	4043	8101437	1000000
2008	931921	11.6	130.75	6528	8112381	1000000
2009	1616503	12.4	147.6	2005	894232	1000000
2010	4794946	13.8	156	2439	9267114	1000000
2011	9908167	10.3	151.8	3532	9385433	1000000
2012	1326987	15	155.86	4380	9576336	1000000
2013	17388632	9.50	158.63	6648	1105189	1000000
2014	18493907	8.20	164.61	5571	11603547	1000000
2015	20649295	9	197.07	5930	12209641	1000000

Source: International Breweries Annual Report (various issues)
Nigerian Stock Exchange Fact Book (various issues)

KEYS:

TNOR= Turnover
INFL= Inflation
EXCHR= Exchange rate
IMP_{t-1}= Import at a particular point in time
EXP_{t-1}, = Export at a particular point in time
INV= Investment

Table 4.4a, 4.4b and 4.4c above presents the variable for estimating turnover equation. Column 1 of the table presents the range of years covered by the study. Column 2-5 presents the yearly data for turnover, inflation, exchange rate, export, import at a particular point in time, and investment.

Table 4.5a: Market Share Equation for Nigeria Breweries Plc (Equation 5)

$$MKTSH = f (INV, EXP, IMP, MAN, INDP) \dots\dots\dots (XIII)$$

Year	Market share (%)	Investment(N'000)	EXP(N'000)	Import (N'000)	Manufacturing (N'000)	Industrial production (N'000)
1990	39.7	11250000	118205	34857	86821	14702
1991	38.8	11250000	118202	139429	947245	19356
1992	41.1	11250000	118209	273389	1262923	27004
1993	87.7	11250000	118194	525749	1262723	38987
1994	50.3	11250000	118224	808846	1263229	62898
1995	50.4	11250000	118165	1617694	1262103	105290
1996	50.7	15000000	118283	1941232	1264339	132897
1997	50.3	15000000	118047	1127167	1259949	144107
1998	51.0	15000000	118519	6262040	1268864	141496
1999	51.7	15000000	117574	2005884	1251084	150947
2000	52.3	15000000	119464	1203530	1286574	168037
2001	52.0	15000000	115684	6017653	1215547	199079
2002	50.4	15000000	123245	915887	1357593	236826
2003	62.1	15000000	108122	1044832	2767240	287739
2004	60.5	15000000	138369	7313824	1812464	349316
2005	62.9	15000000	77874	8126471	1234292	412707
2006	61.5	15000000	198864	76323394	1267127	478524
2007	64.0	15000000	231184	1659607	1615628	520883
2008	67.5	15000000	221481	20751161	2074127	585573
2009	64.4	15000000	183621	23204399	2206401	612614
2010	61.9	15000000	88687	28555556	2123138	647823
2011	62.9	15000000	182574	31310201	2405632	615235
2012	66.4	15000000	191396	28145445	2465234	625122
2013	65.8	15000000	253312	19572067	2064382	622650
2014	67.6	82962500	245008	19540378	2847828	621415
2015	68.7	82962500	234094	19586413	2456098	621415

Source: Nigerian Breweries Annual Report (various issues)
Nigerian Stock Exchange Fact Book (various issues)

KEYS:

- MKTSH= Turnover
 INV= Investment
 EXP_{t-1} = Export at a particular point in time
 IMP_{t-1}= Import at a particular point in time
 MAN= Manufacturing
 INDP= Industrial production

Table 4.5b: Market Share Equation for Guinness Breweries Plc (Equation 5)
 MKTSH = f (INV, EXP, IMP, MAN, INDP) (XIV)

Year	Market share (%)	Investment (N'000)	EXP(N'000)	Import (N'000)	Manufacturing (N'000)	Industrial production (N'000)
1990	5.9	1373700	469033	5335	1350223	14702
1991	6.2	1373700	469029	21339	1350226	19356

1992	5.9	1373700	469038	62762	1350220	27004
1993	11.4	1373700	469020	169629	1350231	38987
1994	49.4	1373700	469056	434948	1350210	62898
1995	49.1	1373700	468983	483367	1350252	105290
1996	49.2	1373700	469130	115087	1350168	132897
1997	49.2	1373700	468835	255749	1350335	144107
1998	48.1	1373700	469425	532811	1350002	141496
1999	47.7	1373700	468246	1087370	1350669	150947
2000	48.2	1373700	470604	2132099	1349335	168037
2001	47.5	1831600	465887	4100191	1352003	199079
2002	49.1	1831600	475321	3280155	1346666	236826
2003	37.4	1831600	456454	2811561	1357339	287739
2004	38.9	1831600	494188	4217342	1335994	349316
2005	36.8	1831600	418720	46859356	1378684	412707
2006	38.2	1831600	569655	53651781	1293304	478524
2007	35.7	1831600	749122	8671339	1272089	520883
2008	32.1	1831600	964694	9257194	12,867,44	585573
2009	34.9	1831600	808597	16366451	1684769	612614
2010	36.5	1831600	565718	20192521	1615270	647823
2011	34.4	1831600	355666	24921059	1738113	615235
2012	33.2	1831600	650273	21363100	2199851	625122
2013	29.9	1831600	2878221	29984338	1240010	622650
2014	27.7	1831600	2308192	22305881	1346924	621415
2015	30.8	1831600	2277095	21242675	1462760	621415

Source: Guinness Breweries Annual Report (various issues)
Nigerian Stock Exchange Fact Book (various issues)

KEYS:

MKTSH= Turnover

INV= Investment

EXP_{t-1} = Export at a particular point in time

IMP_{t-1} = Import at a particular point in time

MAN= Manufacturing

INDP= Industrial production

Table 4.5c: Market Share Equation for International Breweries Plc (Equation 5)
MKTSH = f(INV, EXP, IMP, MAN, INDP) (XV)

Year	Market share (%)	Investment (N'000)	EXP (N'000)	Import (N'000)	Manufacturing (N'000)	Industrial production (N'000)
1990	0.3	1000000	1113	10192	7756	14702
1991	0.3	1000000	1202	12843	8911	19356
1992	0.3	1000000	1303	19107	10091	27004

1993	0.8	1000000	1947	25613	12023	38987
1994	0.3	1000000	1558	29853	13529	62898
1995	0.5	1000000	1706	31816	14814	105290
1996	0.1	1000000	2274	333811	19752	132897
1997	0.4	1000000	2252	35874	19550	144107
1998	0.9	1000000	2297	36182	19954	141496
1999	0.5	1000000	2267	14632	19145	150947
2000	0.6	1000000	2386	424162	20762	168037
2001	0.6	1000000	2029	548491	17528	199079
2002	0.5	1000000	2743	676447	23996	236826
2003	0.4	1000000	1314	698648	11061	287739
2004	0.5	1000000	1544	722890	13225	349316
2005	0.3	1000000	1428	726333	11768	412707
2006	0.2	1000000	6814	814421	13357	478524
2007	0.3	1000000	4043	8101437	21854	520883
2008	0.4	1000000	6528	8112381	97771	585573
2009	0.7	1000000	2005	894232	173688	612614
2010	1.6	1000000	2439	9267114	183731	647823
2011	2.8	1000000	3532	9385433	163645	615235
2012	0.4	1000000	4380	9576336	203817	625122
2013	4.3	1000000	6648	1105189	243988	622650
2014	4.7	1000000	5571	11603547	223664	621415
2015	0.6	1000000	5930	12209641	163275	621415

Source: International Breweries Annual Report (various issues)
Nigerian Stock Exchange Fact Book (various issues)

KEYS:

MKTSH= Turnover
INV= Investment
 EXP_{t-1} , = Export at a particular point in time
 IMP_{t-1} = Import at a particular point in time
MAN= Manufacturing
INDP= Industrial production

Table 4.5a, 4.5b and 4.5c presents the variables used for estimating the market share equation. The first column on the table presents the years covered in the study; the second column presents the market share data for the period under study. Columns 3-7 present the figures for, investment, export, import, manufacturing and industrial production for the same period.

4.2 Presentation of Results

The research focused on environmental instability and performance variables and the regression results shown below was obtained using the Ordinary Least Square technique.

Table 4.6a RESULTS ON PROFIT EQUATION (NB PLC)

Regression result of the influence of exchange rate instability on the profitability of Nigeria Breweries PLC.

Dependent variable: PRT

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 10.6159

Jarque-Bera test = 14,26060 [.001]

Sum of squared residuals = 15.2738

std. dev. Of dep. Var =2.21737

Std error of regression = .152128

Variance of residuals = 565696

Adjusted r-squared = .984945

R-squared = .899791

Durbin-Watson = 2.15973 [.350,.907]

LM het. Test = .899791

Ramsey's RESET2 = .293879 [.592]

F statistics= 60.609 [.001]

Schwarz B.I.C = 42.2368

Log likelihood = .33.5725

R = -0.873452

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	3.91534	3.60048	2.3619	[.183]
$\Delta EXCHR$	-1.43381	2.76488	-2.518581	[.008]
$\Delta LINV$	.385398	1.75352	2.19728	[.000]
$\Delta LIMP_{t-1}$	.013046	.016981	-.868282	[.000]
$\Delta LEXP_{t-1}$	.660997	.159042	4.55263	[.000]
$\Delta LINDP$	-347878	.18792	-.98722	[.000]

Source: Gret L. Package

Table 4.6b RESULTS ON PROFITABILITY EQUATION (GUINNESS PLC)

Regression result of the influence of exchange rate instability on the profitability of Guinness breweries plc.

Dependent variable: PRT

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 11.1849

Sum of squared residuals = 9.18888

Std error of regression = .606263

Adjusted r-squared = .872548

Durbin-Watson = 2.18375 [.208,773]

Ramsey's RESET2 = 3.20454 [.086]

Schwarz B.I.C = 37.5722

R = -0.663396

Jarque-Bera test = 1.15252 [.562]

std. dev. Of dep. Var =1.69819

Variance of residuals =

R-squared = .9348327

LM het. Test = 2.65808 [.103]

F statistics = 363714 [.000]

Log likelihood = .25.4422

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	244.098	497.122	1.491022	[.627]
$\Delta LXCHR$	-268.351	791.836	4.338897	[007]
$\Delta LINV$	391.948	1103.46	7.355200	[.000]
$\Delta LIMP_{t-1}$	287.030	121.193	-2.36837	[.000]
$\Delta LEXP_{t-1}$	.13993E-02	.011201	.116949	[.000]
$\Delta LINDP$	.228917	0.231185	1.99872	[.000]

Source: Gret L. Package

Table 4.6c RESULTS ON PROFITABILITY EQUATION (INTBREW PLC)

Regression result of the influence of exchange rate instability on the profitability of international breweries plc.

Dependent variable: PRT

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 15.0886

Sum of squared residuals = 2.60787

Std error of regression = .310786

Adjusted r-squared = .974689

Durbin-Watson = 1.45978 [.006,227]

Ramsey's RESET2 = 199374 [.659]

Schwarz B.I.C = 13.9551

R = -0.750932

Jarque-Bera test = .503095 [.778]

std. dev. Of dep. Var =1.95346

Variance of residuals =.096588

R-squared = .977955

LM het. Test = .779561 [.377]

F statistics = 299.437 [.000]

Log likelihood = 5.29079

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	33.7875	63.4163	.532788	[.599]
$\Delta LEXCHR$	-2.90529	5.18621	-.560195	[.000]
$\Delta LINV$	.17767	1.63076	2.110895	[.000]
$\Delta LIMP_{t-1}$	.054903	.947989	2.057916	[.000]
$\Delta LEXP_{t-1}$	1.41947	3.19415	1.66397	[.000]
$\Delta LINDP$	76.1360	3.40986	2.23282	[.000]

Source: Gret L. Package

Table 4.7a RESULTS ON GROWTH EQUATION (NB PLC)

Regression result of the influence of technological changes on the growth of Nigeria breweries plc.

Dependent variable: NASST

Current Sample: 1990-2015

Number of Observations: 26

R= 0.769301

Mean of dep. Var. 13.7242
 Sum of squared residuals = 17.2865
 Std error of regression = .772067
 Adjusted r-squared = .054667
 Durbin-Watson = 1.219588 [.000,054]
 Ramsey's RESET2 = 7.95839 [.009]
 Schwarz B.I.C = 45.5604

Jarque-Bera test = 2.17151 [.321]
 std. dev. Of dep. Var =1.03677
 Variance of residuals =.596087
 R-squared = .912660
 LM het. Test = 1.03035 [.310]
 F statistics = 7.62668 [.000]
 Log likelihood = -36.7445

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	15.5529	3.98060	3.90718	[.001]
ΔLTECH	.579034	.281993	3.58816	[.000]
ΔLMAN	.014780	.026302E-02	-2.78871	[.000]
ΔLEXCHR	.48792	.041235	2.116138	[.004]
ΔLCAPU	.528917	0.331185	1.99872	[.000]
ΔLINV	.704261	0.332464	2.99344	[.000]
ΔLINDP	.646928	0.52146	2.66731	[.000]

Source: Gret L. Package

Table 4.7b RESULTS ON GROWTH EQUATION (GUINNESS PLC)

Regression result of the influence of technological changes on the growth of Guinness breweries plc.

Dependent variable: NASST

Current Sample: 1990-2015

Number of Observations: 26

R= 0.640795

Mean of dep. Var. 11.4088
 Sum of squared residuals = 9.74113
 Std error of regression = .600652
 Adjusted r-squared = .744638
 Durbin-Watson = 1.85501 [.100,665]
 Ramsey's RESET2 = .444827 [.511]
 Schwarz B.I.C = 35.0403

Jarque-Bera test = .93.6968 [.000]
 std. dev. Of dep. Var =.645272
 Variance of residuals =.600652
 R-squared = .945327
 LM het. Test = .952353E-03 [.975]
 F statistics = 2.19421 [.096]
 Log likelihood = -26.3760

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	11.9486	1.60526	4.443666	[.000]
ΔLTECH	.01449	0.38174	.377724	[.000]
ΔLMAN	.52447	.219705	.237817	[.000]
ΔLEXCHR	.6411821	.318604	-2.18920	[.000]
ΔLCAPU	.0823618	.046412	2.18920	[.001]
ΔLINV	.04331631	.046824	1.181176	[.003]
ΔLINDP	.6812322	.063141	-2.34350	[.000]

Source: Gret L. Package

Table 4.7c RESULTS ON GROWTH EQUATION (INTBREW PLC)

Regression result of the influence of technological changes on growth of INTBREW PLC.

Dependent variable: NASST

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 11.4088

R= 0.847601

Ramsey's RESET2 = 7.95839 [.009] std.

Variance of residuals = .596087
 Std error of regression = .772067
 LM het. Test = .952353E-03 [.975]
 R-squared = .742668
 Jarque-Bera test = 2.17151 [.321]
 Schwarz B.I.C = 45.5604

Sum of squared residuals = 17.2865
 dev. Of dep. Var = 1.03677
 Durbin-Watson = 1.21968 [.000,054]
 Adjusted r-squared = .848817
 F statistics = 7.62668 [.000]
 Log likelihood = -36.7445

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	15.5520	3.98060	4.90718	[.001]
$\Delta LTECH$	.589034	.181993	2.58816	[.023]
$\Delta LMAN$	614780	026302R-02	-1.78871	[.000]
$\Delta LEXCHR$	.48792	.041235	2.116138	[.000]
$\Delta LCAPU$	.228917	0.231185	1.99871	[.000]
$\Delta LMKTSH$	294261	0.332464	1.99344	[.000]
$\Delta LINDP$	-346728	0.52146	2.66731	[000]

Source: Gret L. Package

Table 4.8a RESULTS ON PRODUCTIVITY EQUATION (NB PLC)

Regression result of the influence of insecurity on the productivity of NB plc.

Dependent variable: NPRT

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 11.1657

R = -0.658210

Jarque-Bera test = 2.17151 [.321]

Sum of squared residuals = 17.2865
 Std error of regression = .772067
 Adjusted r-squared = .845441
 Durbin-Watson = 1.21968 [.000,054]
 Ramsey's RESET2 = 7.95839 [.009]
 Schwarz B.I.C = 45.5604

std. dev. Of dep. Var =1.03677
 Variance of residuals =.596087
 R-squared = .512660
 LM het. Test = 1.03035 [.310]
 F statistics = 7.62668 [.000]
 Log likelihood = -36.7445

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	15.5529	3.98060	3.90718	[.001]
$\Delta LCONF$	.179243	.171230	-1.04680	[.000]
$\Delta LMHL$	-228917	0.231185	1.99872	[.000]
$\Delta LWSTP$	-294261	0.332464	1.99344	[.006]
$\Delta LCAPU$	-346728	0.52146	2.66731	[000]
$\Delta LUNEMP$	-1.69249	.745011	-227177	[.000]

Source: Gret L. Package

Table 4. 8b RESULTS ON PRODUCTIVITY EQUATION (GUINNESS PLC)

Regression result of the influence of insecurity on the productivity of Guinness breweries plc.

Dependent variable: NPRT

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 11.4088

R = -0.741092

Jarque-Bera test = .93.6968 [.000]

Sum of squared residuals = 9.74113
 Std error of regression = .600652
 Adjusted r-squared = .744319
 Durbin-Watson = 1.85501 [.100,665]
 Ramsey's RESET2 = .444827 [.511]
 Schwarz B.I.C = 35.0403

std. dev. Of dep. Var =.645272
 Variance of residuals =.600652
 R-squared = .745321
 LM het. Test =.952353E-03 [.975]
 F statistics = 2.19421 [.096]
 Log likelihood = -26.3760

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	11.9486	1.60526	7.44336	[.000]
$\Delta LCONF$	-119611	.092745	-1.28968	[.000]
$\Delta LMHL$	-.0623618	.046412	1.18920	[.000]
$\Delta LWSTP$	-0.04331631	.046824	1.181176	[.003]
$\Delta LCAPU$	.0012322	.063141	-2.34350	[.000]
$\Delta LUNEMP$	-182497	.092997	1.96240	[.040]

Source: Gret L. Package

Table 4.8c RESULTS ON PRODUCTIVITY EQUATION (INTBREW PLC)

Regression result of the influence of insecurity on the productivity of international breweries plc.

Dependent variable: NPRT

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 13.7242

R = -0.563209

Jarque-Bera test = 229.878 [.000]

Sum of squared residuals = 48.4249
 Std error of regression = 1.36473
 Adjusted r-squared = .644613
 Durbin-Watson = 2.13692 [.243, .935]
 Ramsey's RESET2 = .852349 [.365]
 Schwarz B.I.C = 62.4317

std. dev. Of dep. Var = 2.28953
 Variance of residuals =1.86250
 R-squared = .702000
 LM het. Test = 1.88187 [.170]
 F statistics = 12.497 [.000]
 Log likelihood = 52.0345

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	12.1673	1.63992	7.41946	[.000]
$\Delta LCONF$	-.149544	.105400	-1.41882	[.000]
$\Delta LMHL$	-.73358	.216470	1.93426	[.031]
$\Delta LWSTP$	.162425	.0314620	.416182	[.007]
$\Delta LCAPU$	-185658	.0718510	2.359651	[.000]
$\Delta LUNEMP$	-194749	.094557	2.05959	[.000]

Source: Gret L. Package

Table 4.9a RESULTS ON TURNOVER EQUATION (NB PLC)

Regression result of the influence of inflation on turnover of Nigeria breweries plc.

Dependent variable: TNOR

Current Sample: 1990-2015

Number of Observations: 26

R = -0.970318

Mean of dep. Var. 15.0886

Jarque-Bera test = .503095 [.778]

Sum of squared residuals = 2.60797
 Std error of regression = .310786
 Adjusted r-squared = .8857289
 Durbin-Watson = 1.45978 [.006,227]
 Ramsey's RESET2 = .199374 [.659]
 Schwarz B.I.C =13.9551

std. dev. Of dep. Var =1.03677
 Variance of residuals =.096588
 R-squared = .78485
 LM het. Test = .779561 [.377]
 F statistics = 299.437 [.000]
 Log likelihood = -5.29079

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	14.1654	.571100	4.5506	[.000]
$\Delta LINFL$	-.48667	0.28143	2.32181	[000]
$\Delta LEXCHR$	.755756	.061733	-2.52305	[.018]
$\Delta LEXP_{t-1}$	.530516	.048762	3.77817	[.000]
$\Delta LIMP_{t-1}$	-.812749	.050016	.254903	[.001]
$\Delta LINV$	.642831	.32262	-2.4181	[.000]

Source: Gret L. Package

Table 4.9b RESULTS ON TURNOVER EQUATION (GUINNESS PLC)

Regression result of the influence of inflation on turnover of Guinness breweries plc

Dependent variable: TNOR

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 13.7242

std. dev. Of dep. Var = 2.28953

R = -0.898931

Jarque-Bera test = 229.878 [.000]

Sum of squared residuals = 48.4249

Std error of regression = 1.36473

Adjusted r-squared = .611783

R-squared = .9025060

LM het. Test = 1.88187 [.170]

Schwarz B.I.C = 62.4317

Variance of residuals = 1.86250

Durbin-Watson = 2.13692 [.243, .935]

Ramsey's RESET2 = .852349 [.365]

F statistics = 12.497 [.000]

Log likelihood = 52.0345

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	24.0821	5.71094	4.21683	[.000]
$\Delta LINFL$	-.681459	.384020	2.00831	[002]
$\Delta LEXCHR$	-.64435	.258218	-.171697	[.000]
$\Delta LEXP_{t-1}$	.639169	.302385	2.129534	[.000]
$\Delta LIMP_{t-1}$	-5.57325	1.27755	-2.01420	[.000]
$\Delta LINV$	.419814	.235599	-.508551	[.000]

Source: Gret L. Package

Table 4.9c RESULTS ON TURNOVER EQUATION (INTBREW PLC)

Regression result of the influence of inflation on the turnover of international breweries plc

Dependent variable: TNOR

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 9.555138

Sum of squared residuals = 13.3457

R = -0.562530

Jarque-Bera test = 2.60401 [.272]

std. dev. Of dep. Var = 1.64374

Std error of regression = .716447
 Adjusted r-squared = .810023
 Durbin-Watson = 1.09514 [.000, .045]
 Ramsey's RESET2 =8.02300 [.009]
 Schwarz B.I.C = 41.8106

Variance of residuals =.513296
 R-squared = .840664
 LM het. Test = 3.11649 [.078]
 F statistics = 27.4355 [.000]
 Log likelihood = -31.4134

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	14.5633	3.338629	4.30066	[.000]
$\Delta LINFL$	.487582	.19678	-2.781436	[.003]
$\Delta LEXCHR$	-582913	.283081	-2.05918	[.001]
$\Delta LEXP_{t-1}$	.83083E-02	.424216R-02	-2.617434	[.000]
$\Delta LIMP_{t-1}$	.861513	.184599	4.66695	[.000]
$\Delta LINV$	4.336741	.124438	-2.52025	[.141]

Source: Gret L. Package

Table 4.10a RESULTS ON MARKET SHARE EQUATION (NB PLC)

Regression result of the value added by investment on market share of Nigeria breweries plc

Dependent variable: MKTSH

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 10.6159

Sum of squared residuals = 15.2738

R = 0.601352

Jarque-Bera test = 14,26060 [.001]

std. dev. Of dep. Var =2.21737

Std error of regression = .152128
 Adjusted r-squared = .875648
 Durbin-Watson = 2.15973 [.350,.907]
 Ramsey's RESET2 = .293879 [.592]
 Schwarz B.I.C = 42.2368

Variance of residuals = 565696
 R-squared = .978466
 LM het. Test = .083897 [.772]
 F statistics = 60.6091 [.000]
 Log likelihood = .33.5725

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	6.91534	3.60048	1.3619	[.183]
$\Delta LINV$	.425384	1.82476	2.99341	[.008]
$\Delta LEXP_{t-1}$	.585298	1.75352	3.19728	[.000]
$\Delta LIMP_{t-1}$	-613046	.016981	-.768282	[.004]
$\Delta LMAN$	.256671	.07672	2.25831	[.000]
$\Delta LINDP$	.8123481	2.01382	2.01833	[.000]

Source: Gret L. Package

Table 4.10b RESULTS ON MARKET SHARE EQUATION (GUINNESS PLC)

Regression result of the value added by investment on market share of Guinness breweries plc

Dependent variable: MKTSH

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 11.1849

Sum of squared residuals = 9.18888

R = 0.572902

Jarque-Bera test = 1.15252 [.562]

std. dev. Of dep. Var = 1.69819

Std error of regression = .606263

Adjusted r-squared = .872548

Durbin-Watson = 2.18375 [.208,773]

Ramsey's RESET2 = 3.20454 [.086]

Schwarz B.I.C = 37.5722

Variance of residuals =

R-squared = .8947216

LM het. Test = 2.65808 [.103]

F statistics = 363714 [.000]

Log likelihood = .25.4422

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	244.098	497122	1.491022	[.627]
$\Delta LINV$	6.123216	0.41201	1.991872	[.000]
$\Delta LEXP_{t-1}$	-391.948	1.10346	2.355200	[.000]
$\Delta LIMP_{t-1}$	-287.030	121.193	-2.36837	[.000]
$\Delta LMAN$	.687928	0.412358	2.1161381	[.000]
$\Delta LINDP$	7.647302	0.232276	2.227241	[.004]

Source: Gret L. Package

Table 4.10c RESULTS ON MARKET SHARE EQUATION (INTBREW PLC)

Regression result of the value added by investment on market share of International Breweries Plc

Dependent variable: MKTS

Current Sample: 1990-2015

Number of Observations: 26

R = 0.687159

Mean of dep. Var. 15.0886

Jarque-Bera test = .503095 [.778]

Sum of squared residuals = 2.60787

std. dev. Of dep. Var =1.95346

Std error of regression = .310786

Variance of residuals =.096588

Adjusted r-squared = .974689

R-squared = .977955

Durbin-Watson = 1.45978 [.006,227]

LM het. Test = .779561 [.377]

Ramsey's RESET2 = 199374 [.659]

F statistics = 299.437 [.000]

Schwarz B.I.C = 13.9551

Log likelihood = 5.29079

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	33.7875	03.4163	.532788	[.599]
$\Delta LINV$	4.13622	1.987821	1.712416	[0.00]
$\Delta LEXP_{t-1}$	.7767	1.633076	2.010895	[.000]
$\Delta LIMP_{t-1}$	.054903	.447989	2.057916	[.000]
$\Delta LMAN$	6.28722	2.38711	2.92134	[.000]
$\Delta LINDP$	7.32711	2.89242	2.046321	[.001]

Source: Gret L. Package

4.3. TESTING OF HYPOTHESIS

4.3.1. Test of Hypothesis One

The results of data analysis and estimation via ordinary least Square in Tables 4.6a, 4.6b and 4.6c were used to test hypotheses one. The hypothesis states that no significant relationship exists between exchange rate instability and profitability of breweries in Nigeria. The hypothesis is

tested using F statistics. For Nigeria breweries Plc, the F statistics is 60.609 of exchange rate instability and it's significant at 0.001 per cent. We therefore reject the null hypothesis. In the case of Guinness Nigeria Plc, the F statistics is 36.3714 and it is statistically significant at better than 1 per cent. This implies that the null hypothesis is rejected. For International breweries, the F statistics is 299.437 at better than 1 per cent. The null hypothesis was rejected; hence we accepted the alternate hypothesis which states that there is a significant relationship between exchange rate instability and profitability of selected breweries in Nigeria.

Based on this result, objective 1 which is to determine the extent to which exchange rate instability influence the profitability of selected breweries in Nigeria is achieved.

4.3.2. Test of Hypothesis Two

Hypothesis two which states that there is no significant relationship between technological change and growth of selected breweries in Nigeria is tested using F statistics. For Nigeria breweries Plc, the F statistics is 7.62668 of technology and it's significant at better than 0.1 per cent. We therefore reject the null hypothesis. In the case of Guinness Nigeria Plc, the F statistics is 2.19421 and it is statistically significant at 0.1 per cent. This implies that the null hypothesis is rejected. For International breweries, the F statistics is 7.62668 at better than 0.1 per cent. The null hypothesis was rejected; hence we accepted the alternate hypothesis which states that technological change have a significant relationship with the growth of selected breweries in Nigeria. The results of data analysis and estimation via ordinary least Square in Tables 4.7a, 4.7b and 4.7c were used to test hypotheses two.

Based on this result, objective 2 which is to ascertain the influence of technological change on the growth of selected breweries in Nigeria is achieved.

4.3.3. Test of Hypothesis Three

Hypothesis three which states that insecurity has no significant influence on the productivity of breweries in Nigeria is tested using F statistics. The results of data analysis and estimation via ordinary least Square in Tables 4.8a, 4.8b and 4.8c were used to test hypotheses three. For Nigeria breweries Plc, the F statistics is 7.62668 of insecurity and it's significant at better than 0.1 per cent. We therefore reject the null hypothesis. In the case of Guinness Nigeria Plc, the F statistics is 2.19421 and it is statistically significant at 0.1 per cent. This implies that the null hypothesis is rejected. For International breweries, the F statistics is 12.497 at better than 0.1 per

cent. The null hypothesis was rejected; hence we accepted the alternate hypothesis which states that insecurity has a significant influence on the productivity of selected breweries in Nigeria.

Based on this result, objective 3 which is to determine the influence of insecurity on the productivity of selected breweries in Nigeria is achieved.

4.3.4. Test of Hypothesis Four

Hypothesis four which states that there is no significant relationship between inflation and turnover of selected breweries is tested using F statistics. For Nigeria breweries Plc, the F statistics is 299.437 of inflation and it's significant at better than 0.1 per cent. We therefore reject the null hypothesis. In the case of Guinness Nigeria Plc, the F statistics is 12.497 and it is statistically significant at better than 0.1 per cent. This implies that the null hypothesis is rejected. For International breweries, the F statistics is 27.4355 at better than 0.1 per cent. The null hypothesis was rejected; hence we accepted the alternate hypothesis which states that there is a significant relationship between inflation and turnover of breweries in Nigeria. The results of data analysis and estimation via ordinary least Square in Tables 4.9a, 4.9b and 4.9c were used to test hypotheses four.

Based on this result, objective 4 which is to ascertain the influence of inflation on turnover of selected breweries in Nigeria is achieved.

4.3.5. Test of Hypothesis Five

Hypothesis five which states that investment by breweries does not add any significant value on market share of breweries in Nigeria is tested using F statistics. For Nigeria breweries Plc, the F statistics is 60.6091 of investment and it's significant at better than 0.1 per cent. We therefore reject the null hypothesis. In the case of Guinness Nigeria Plc, the F statistics is 36.3714 and it is statistically significant at better than 0.1 per cent. This implies that the null hypothesis is rejected. For International breweries, the F statistics is 299.437 at better than 0.1 per cent. The null hypothesis was rejected; hence we accepted the alternate hypothesis which states that investment by breweries adds a significant value on market share of selected breweries in Nigeria. The results of data analysis and estimation via ordinary least Square in Tables 4.10a, 4.10b and 4.10c were used to test hypotheses five.

Based on this result, objective 5 which is to examine the value added by investment on market share of selected breweries in Nigeria is achieved.

CHAPTER FIVE

DISCUSSION OF FINDINGS

This chapter presents the discussion of the empirical results of the statistical analysis in chapter four. The goal of this study was to examine the influence of environmental instability on the performance of breweries in Nigeria. The study modeled the environment of breweries and performance by making use of a time-series data from 1990 to 2015 to analyse the influence of environmental instability on performance of breweries. These findings are then related to the review of literature in chapter two of this thesis.

5.1 Influence of Exchange Rate instability on Profitability of Breweries

Tables 4.6a, 4.6b and 4.6c present the result on the extent to which exchange rate instability influence the profitability of selected breweries in Nigeria. The regression result for profitability versus exchange rate, investment, import, export at a particular point in time and industrial production for the three companies indicates that there exist a negative relationship between exchange rate instability and profitability. The result revealed that the estimated coefficient in the case of investment for the three companies are all statistically significant. The result of the estimated coefficient of the constant term is positively signed (3.91534) and it is statistically significant at 0.2 percent in the case of Nigeria breweries PLC. This implies that any percentage increase in exchange rate, holding other variables constant will decrease the profitability of Nigeria breweries by 4 percent. This is because there are other extrogenous variables outside the scope of the study which may have affected their profitability.

However, investment is both positively signed and statistically significant at better than 0.1 percent. implying that increase in investment results in subsequent increase in profitability of both NB PLC, Guinness Breweries and Intbrew. This is in line with management expectation. The result in the case of NB PLC shows that investment and export improve with increase in profitability, while profitability decreases by 1 percent as a result of exchange rate instability.

For Guinness breweries, the result shows that profit decreases with increase in exchange rate instability.

For INTBREW, investment, export and industrial production increase as profit increases as shown in the regression result.

A close inspection of the result indicates that the specified model has a high coefficient of determination. This can be seen from R-squared of .899791 (89 percent), .934832(93 percent) and .977955 (98 percent) for NB PLC, Guinness Nigeria and INTBREW respectively. The R-squared shows the percentage variation in the dependent variable that was accounted for by variations in the explanatory variables. The fitness of every regression model is based on its R-squared.

The f-statistics value 60.6091, 36.3714 and 299.437 shows that the overall model is statistically significant for the three companies.

Exchange rate instability is expected to have an influence on the profitability of breweries since it is unpredictable and brewing equipment are mostly imported and capital intensive. This study was carried out to know the extent to which exchange rate affects the profitability of breweries. The empirical evidence shows that increase in exchange rate instability actually has over 80 percent negative influence on brewer's profit.

The correlation coefficient (r) shows that there is a huge relationship between exchange rate and profitability of breweries as the result shows that exchange rate has .873452 (87 percent), .963396 (96 percent) and .750932 (75) percent relationship with profitability for NB PLC, Guinness and INTBREW respectively. This indicates that there is a significant negative relationship between exchange rate instability and the profitability of these brewing firms.

Though Aliyu (2011) and Azeez et al (2012) found that exchange rate volatility contribute positively to performance of manufacturing firms in the long run, this research finding shows that the reverse is the case. This finding is therefore in line with the findings of David et al (2010), Adeoye (2012) and Eme and Johnson (2012), in their studies, they revealed a negative relationship between exchange rate volatility and manufacturing sector performance. From our findings, Exchange rate instability remains one of the major environmental factors hampering the performance of brewing industries in Nigeria.

5.2 Influence of Technological Change on Growth of Breweries

In examining the influence of technological change on the growth of breweries in Nigeria, crucial facts emerged in the case of NB PLC, Guinness Nigeria PLC, and INTBREW. Thus, the estimated coefficient of the constant term is statistically significant at 0.001 per cent, better than 0.1 per cent and 0.001 respectively. This shows that the goodness of the fit of the model under focus is high.

In this study, Log is included to achieve linearity between the dependent and independent variables. Homoscedasticity shows the presence of multi colinearity which is used when there is error specification in the model but given the value of dubin Watson, it tells us that there is no presence of auto correlation.

From the result in the case of Nigeria breweries, technology, exchange rate, investment and industrial productions are positively signed and statistically significant implying that an increase in the variables results in subsequent increase in net assets of Nigeria breweries Plc. The result also shows that increased capacity utilization results in increased net assets for Guinness Nigeria Plc while increased technology and industrial production leads to increase in net assets of INTBREW.

The greater the technological change in a market, the more diverse will be the opportunity to create value for buyers (Wen-wu 2003). This study supports this view.

This empirical evidence finds that growth as a result of technological changes demonstrated a significant positive relationship with net assets of NB PLC and INTBREW.

The coefficient of multiple determinations R^2 indicate how much of the variation in the dependent variable - growth can be explained by the independent variables and in this finding; it is .9127, .9453 and .7427. This indicates that 91 percent, 94 percent and 74 percent of the variation in the dependent variable can be explained by the predictor or independent variables while the remaining percentage could be explained by other factors probably other macroeconomic factors or performance indicators. A more conservative way of assessing the coefficient of multiple determinations, the adjusted R^2 is at .54667 (55 per cent), .744638 (74 per cent) and .848817 (85 per cent) for NB PLC, Guinness and INTBREW respectively. This strengthens the result of the R^2 as it is greater than 50 percent. This shows that the goodness of the fit of the analysis is very high.

The correlation coefficient (r) of the three firms were 0.769301 for Nigeria breweries PLC, $r=$ 0.640795 for Guinness Breweries PLC and $r=$ 0.847601 for Int. Breweries PLC, respectively, which indicate that there is a strong (positive) significant relationship between technological changes and the growth of Nigeria Breweries.

This finding is in concert with the work of Acevedo (2002) that technological changes are associated with high performance and productivity. The effect of new technology on productivity is larger for NB PLC and intbrew with 80 per cent and 85 percent relationship respectively.

Higher performance happens when a company opts for a new technology that fits its structure and its employees. (Hajipur et al., 2011). Peter et al (1999) also found a positive link between environmental dynamism and quality and delivery capabilities among high performers revealing that environmental factors such as technology affect manufacturing performance positively.

According to Meristem (2014), the brewing process is highly technical and hugely capital intensive, this has to a large extent ensured that the volume and thus market share has remained with the most technologically advanced manufacturers with cutting edge technology and up to date expertise. Owing to the highly assets intensive with heavy economies of scale and other internal and external environmental factors alongside the aforementioned, new entrants and small firms often times are highly disadvantaged.

Investment in advanced technology is an important factor that has enabled the competitiveness of many successful firms in recent decades (Adeoye 2012). This result is also in consonance with the findings of the studies of Mustapha and Ekpunobi (2011) which ranked technology first among other environmental factors in terms of its impact on organisational activities. Manufacturing inevitably has been influenced by re-definition of competitiveness and evolved to keep abreast of the latest market demands and arisen technologies.

5.3. Influence of Insecurity on Productivity of Breweries

In examining the influence of insecurity on the productivity of breweries, the analysis reveals that the estimated coefficient of the constant term in the case of NB PLC is statistically significant at 0.001 per cent. In examining the influence of insecurity on the productivity of breweries, the estimated coefficient of constant term in the case of Guinness breweries is statistically significant at better than 0.1 per cent. The regression result in examining the influence of insecurity on productivity of breweries shows that the estimated coefficient of the constant term in the case of INTBREW is statistically significant at better than 0.1 per cent.

Thus, the estimated coefficient of the constant term for the three companies is statistically significant at better than 0.1 percent.

From the estimated results, the R^2 of .512660 (51 per cent), .745321 (75 per cent) and .702000 (70 per cent) implies that more than 50 per cent of the variation in productivity are explained by the changes in the independent variables. Thus insecurity has 51 percent, 75 per cent and 70 per cent impact on the productivity of NB PLC, GUINNESS PLC and INTBREW PLC respectively.

The correlation of coefficient (r) of the three firms were -0.658210 for Nigeria breweries PLC, R= -0.741092 for Guinness Breweries PLC and R= -0.563209 for Int. Breweries PLC, respectively, which validates the alternate hypothesis that there is a strong significant (negative) relationship between insecurity and productivity of Breweries in Nigeria. This affirms the opinion of Jamodu that the problem of insecurity in the environment is one of the most disturbing problems hampering efficient and effective performance of the breweries in Nigeria (Jamodu 2013).

5.4 Influence of Inflation on turnover of Breweries

In examining the relationship between inflation and turnover of breweries in Nigeria, the regression result reveals the estimated coefficient of the constant term for the three companies under study to be positive and statistically significant at better than 0.1 per cent.

Inflation, exchange rate and export at a particular point in time are all statistically significant for the three companies. The result shows the estimated coefficient of inflation is negatively signed and statistically significant. This implies that reduced inflation leads to increased turnover for both NB PLC, Guinness And Intbrew studied. This is in concert with management expectation.

In the case of NB PLC and INTBREW, in regressing turnover with investment, the estimated coefficient is positively signed and statistically significant at 0.01 and better than 0.1 per cent respectively implying that increased investment results in increased turnover for NB plc and INTBREW. The result also shows that the estimated coefficient of investment in the case of Guinness breweries is positively signed but not statistically significant implying that increase in investment does not have any significant change in turnover of Guinness Nigeria.

The result revealed R² value of .78485, .9025060 and .840664 which implies that the extent of the influence of inflation on turnover is 74 per cent, 90 per cent and 84 per cent for NB PLC, GUINNESS PLC and INTBREW respectively.

The correlation of coefficient (r) of the three firms were R = -0.690318 for Nigeria breweries PLC, R= -0.658931 for Guinness Breweries PLC and R= -0.562530 for Int. Breweries PLC, respectively, which indicate that there is a significant negative relationship between inflation rate and the turnover of Breweries. This is in line with the findings of Booze (2009) that high inflation has a negative impact on the performance of breweries. He found that the inflation in prices of barley and aluminum led to steep rises in the input costs of the alcohol brewers. He reported that the rise in input costs led to a huge loss due to inflation in inputs.

5.5 Value added by investment on market share of breweries

In regressing investment and market share of breweries, the estimated coefficient of the constant term for the three companies is positively signed but statistically not significant. The estimated coefficient of market share when regressed with investment, export, manufacturing and industrial production for the three companies shows a significant relationship except for import in the case of Nigeria Breweries. The result indicates that investment adds a positive value to market share of breweries in Nigeria.

The adjusted coefficient of determination (adjusted R^2) value of .87564, .872548 and .974689 shows that 88 per cent, 87 per cent and 97 per cent systematic variation of market share is explained by changes in all the exogenous variables for NB PLC, GUINNESS and INTBREW. This is surely a good fit as only less than 15 per cent systematic variation is left unaccounted for by the model which we may attribute to the error term (e_t). This also shows a high confidence level that the variation of market share and investment is highly related.

According to Montgomery and Wernerfelt, (1991), there is a positive relationship between market share and firm performance. They maintained that firms earn higher profit and generally have high market share but only if they have better resources. A rapidly changing environment such as the one we find ourselves in, offers only very short-term victories to those organisations that set out to beat the opposition or to capture more market share. The long-term advantage lies with those organisations that focus on the environment as a whole and not just on the competition

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.1 Summary of Findings

To summarise the findings, attention is drawn to the initial objective of the study which is to determine the impact of environmental instability on the performance of brewing firms in Nigeria.

From the result of the data analysis, the study revealed as follows:

1. From the regression results on the extent to which exchange rate instability influence the profitability of breweries in Nigeria, there is a significant negative relationship between exchange rate instability and the profitability of breweries in Nigeria. The result revealed that exchange rate instability brings about decrease in the profitability of the three breweries studied. This implies that increased instability in exchange rate will result in 87 per cent, 96 per cent and 75 per cent decrease in the profitability of NB PLC, Guinness Nigeria Plc and International breweries Plc respectively.
2. The findings from the regression result on technological change and growth validated our second hypothesis which stated that technological changes have a significant influence on growth of breweries. We found a positive relationship between technological change and growth of breweries in Nigeria. Increase in technological changes will lead to subsequent increase in the growth of the breweries studied by 77 per cent, 64 per cent and 85 per cent for NB PLC, Guinness Nigeria Plc and International breweries Plc respectively.
3. When conflict was regressed with brewer's productivity, the findings revealed a significant relationship between conflict and productivity of the selected breweries. The result showed that there is negative relationship between conflict and productivity of breweries. Increased conflict results in 66 percent, 74 per cent and 56 per cent reduction in the productivity of NB PLC, Guinness Nigeria Plc and International breweries Plc respectively.
4. The Regression result on turnover versus Inflation, exchange rate, export, import and investment showed a significant relationship. The result showed that there is a negative relationship between inflation and turnover. Increase in inflation results in decrease in

turnover. Thus our hypothesis that inflation rate has a significant influence on sales growth has been validated. A unit increase in inflation will lead to a decrease in turnover of breweries by 97 per cent, 89 per cent and 56 per cent for NB PLC, Guinness Nigeria Plc and International breweries Plc respectively.

5. The study also found that increased investment in the selected breweries results in increased market share. Investment by the selected breweries adds significant value to brewer's market share by 60 percent, 57 per cent and 69 per cent for NB PLC, Guinness Nigeria Plc and International breweries Plc respectively.

6.2 Conclusion

The goal of the study was to examine the influence of environmental instability on the performance of breweries in Nigeria. In this study, significant relationship was established between the environment of breweries and organisations' performance. The findings of the study make several recommendations that have theoretical and practical implications. Theoretically, the findings of this study reinforces the view that environmental factors play a major role in performance of manufacturing firms and breweries are not exempted. By linking environmental factors to brewing firm performance, this study provides empirical support to systems theory that sees a system as an integrated whole comprising of interrelated parts which breweries must interrelate with for improved performance.

6.3 Recommendations

1. From our findings, Exchange rate instability remains one of the major environmental factors hampering the performance of brewing firms in Nigeria. Therefore breweries should emphasis substitution of imported with local raw materials to save the high cost of foreign exchange for procuring foreign raw materials, as well as save procurement time. They should also embark on backward and/or forward integration for easy and cost effective acquisition of input materials.
2. One of the important findings of the preceding analysis is that inflation rate plays the highest role in explaining the influence of environmental instability on the performance of breweries. Any policy measure that can curb inflation will surely lead to improved performance. Though People drink beer whether happy or sad, this research found that

inflation can slow sales turnover. Therefore, brewers should also continue to be innovative and throw up value brands to remain in business during inflation period.

3. Technology has a positive significant role to play in the performance of breweries. Brewer's should reassess their manufacturing processes and strategies and indispensably they should define an environment which is the result of integration of latest manufacturing strategies and business processes. Thus, breweries should stay abreast of the changing technology to remain trendy and productive.
4. As the result showed, profit of brewing firms decline with increase in conflict. Better conflict management approach should be adopted for improved performance. The government should provide employment and ensure adequate security of lives and properties for businesses to thrive well in Nigerian environment. Organisations should focus more on the environment as a whole and not just on the competitors as understanding the system gives long term advantage.
5. Organisations perform better when they understand the strength and weaknesses of their environmental. This study recommends environmental scanning to enhance performance. Brewers need to also consider the environmental factors prior to making any investment to avoid being adversely hit by environmental instability. Securing a high market share requires a long term corporate commitment and strategic investment. Considering the turbulent nature of the Nigeria business environment in which brewers operate, adapting well to changes and reacting quickly, aligning investment with the brewers strategies, structure, processes and people is germane to securing market leadership..

6.4 Suggestion for Further Studies

This dissertation has studied environmental instability and performance of selected breweries in Nigeria from 1990-2015. During the study the researcher came across various areas of interest for further investigation. There are several factors influencing performance and they vary within different sectors. Future studies should therefore empirically test our research model or expand the research model by introducing new variables. Consequently, it would be interesting to compare other sectors with brewing sector like service sector in order to identify specific problem areas within each sector. Further research could also be carried out to compare the situation for different countries. For instance, this dissertation could be used in a further study

where environmental factors hampering performance in breweries in neighbouring countries could be compared.

6.5 Contribution to Knowledge

1. The results obtained from the analysis of the hypothesis of this study have added value to the body of knowledge.
2. The dissertation presents an invaluable compendium of ideas, facts and figures that can be used in industrial research and by consultants and multinationals to re-strategise their positions for future growth and development.
3. The dissertation can be serially published in learned international journals as contribution to knowledge
4. The regression models developed in the process of this research can be developed into conceptual and theoretical framework on environment and organizational performance. The regression models are equations on:
 - Exchange rate instability and organizational profitability
 - Technological changes and organizational growth
 - Insecurity and organizational productivity
 - Inflation rate and turnover of breweries
 - Value added by market share to the performance of breweries in Nigeria

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APPENDIX I

RESULTS ON PROFIT EQUATION (NB PLC)

Regression result of the influence of exchange rate instability on the profitability of Nigeria Breweries PLC.

Dependent variable: PRT

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 10.6159

Sum of squared residuals = 15.2738

Std error of regression = .152128

Adjusted r-squared = .984945

Durbin-Watson = 2.15973 [.350,.907]

Ramsey's RESET2 = .293879 [.592]

Schwarz B.I.C = 42.2368

R = -0.873452

Jarque-Bera test = 14,26060 [.001]

std. dev. Of dep. Var =2.21737

Variance of residuals = 565696

R-squared = .899791

LM het. Test = .899791

f(Zero slopes) = 60.609 [.001]

Log likelihood = .33.5725

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	3.91534	3.60048	2.3619	[.183]
ΔLEXCHR	-.143381	2.76488	-2.518581	[.008]
ΔLINV	.385398	1.75352	2.19728	[.000]
ΔLIMP_{t-1}	.013046	.016981	-.868282	[.000]
ΔLEXP_{t-1}	.660997	.159042	4.55263	[.000]
ΔLINDP	-347878	.18792	-.98722	[.000]

Source: Gret L. Package

APPENDIX II

RESULTS ON PROFITABILITY EQUATION (GUINNESS PLC)

Regression result of the influence of exchange rate instability on the profitability of Guinness breweries plc.

Dependent variable: PRT

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 11.1849

Jarque-Bera test = 1.15252 [.562]

Sum of squared residuals = 9.18888

std. dev. Of dep. Var =1.69819

Std error of regression = .606263

Variance of residuals =

Adjusted r-squared = .872548

R-squared = .9348327

Durbin-Watson = 2.18375 [.208,773]

LM het. Test = 2.65808 [.103]

Ramsey's RESET2 = 3.20454 [.086]

f(Zero slopes) = 363714 [.000]

Schwarz B.I.C = 37.5722

Log likelihood = .25.4422

R = -0.663396

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	244.098	497.122	1.491022	[.627]
$\Delta LXCHR$	-268.351	791.836	4.338897	[007]
$\Delta LINV$	391.948	1103.46	7.355200	[.000]
$\Delta LIMP_{t-1}$	287.030	121.193	-2.36837	[.000]
$\Delta LEXP_{t-1}$	.13993E-02	.011201	.116949	[.000]
$\Delta LINDP$	.228917	0.231185	1.99872	[.000]

Source: Gret L. Package

APPENDIX III

RESULTS ON PROFITABILITY EQUATION (INTBREW PLC)

Regression result of the influence of exchange rate instability on the profitability of international breweries plc.

Dependent variable: PRT

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 15.0886

Sum of squared residuals = 2.60787

Std error of regression = .310786

Adjusted r-squared = .974689

Durbin-Watson = 1.45978 [.006,227]

Ramsey's RESET2 = 199374 [.659]

Schwarz B.I.C = 13.9551

R = -0.750932

Jarque-Bera test = .503095 [.778]

std. dev. Of dep. Var =1.95346

Variance of residuals =.096588

R-squared = .977955

LM het. Test = .779561 [.377]

f(Zero slopes) = 299.437 [.000]

Log likelihood = 5.29079

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	33.7875	63.4163	.532788	[.599]
$\Delta EXCHR$	-2.90529	5.18621	-.560195	[.000]
$\Delta LINV$	.17767	1.63076	2.110895	[.000]
$\Delta LIMP_{t-1}$	.054903	.947989	2.057916	[.000]
$\Delta LEXP_{t-1}$	1.41947	3.19415	1.66397	[.000]
$\Delta LINDP$	76.1360	3.40986	2.23282	[.000]

Source: Gret L. Package

APPENDIX IV

RESULTS ON GROWTH EQUATION (NB PLC)

Regression result of the influence of technological changes on the growth of Nigeria breweries plc.

Dependent variable: NASST

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 13.7242

Sum of squared residuals = 17.2865

Std error of regression = .772067

Adjusted r-squared = .054667

Durbin-Watson = 1.219588 [.000,054]

Ramsey's RESET2 = 7.95839 [.009]

Schwarz B.I.C = 45.5604

R= 0.769301

Jarque-Bera test = 2.17151 [.321]

std. dev. Of dep. Var =1.03677

Variance of residuals =.596087

R-squared = .912660

LM het. Test = 1.03035 [.310]

f(Zero slopes) = 7.62668 [.000]

Log likelihood = -36.7445

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	15.5529	3.98060	3.90718	[.001]
$\Delta LTECH$	.579034	.281993	3.58816	[.000]
$\Delta LMAN$	.014780	.026302E-02	-2.78871	[.000]
$\Delta LEXCHR$	.48792	.041235	2.116138	[.004]
$\Delta LCAPU$	.528917	0.331185	1.99872	[.000]
$\Delta LINV$	.704261	0.332464	2.99344	[.000]
$\Delta LINDP$	.646928	0.52146	2.66731	[.000]

Source: Gret L. Package

APPENDIX V

RESULTS ON GROWTH EQUATION (GUINNESS PLC)

Regression result of the influence of technological changes on the growth of Guinness breweries plc.

Dependent variable: NASST

Current Sample: 1990-2015

Number of Observations: 26

R= 0.640795

Mean of dep. Var. 11.4088

Jarque-Bera test = .93.6968 [.000]

Sum of squared residuals = 9.74113

std. dev. Of dep. Var =.645272

Std error of regression = .600652

Variance of residuals =.600652

Adjusted r-squared = .744638

R-squared = .945327

Durbin-Watson = 1.85501 [.100,665]

LM het. Test = .952353E-03 [.975]

Ramsey's RESET2 = .444827 [.511]

f(Zero slopes) = 2.19421 [.096]

Schwarz B.I.C = 35.0403

Log likelihood = -26.3760

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	11.9486	1.60526	4.443666	[.000]
$\Delta LTECH$	.01449	0.38174	.377724	[.000]
$\Delta LMAN$	.52447	.219705	.237817	[.000]
$\Delta LEXCHR$	.6411821	.318604	-2.18920	[.000]
$\Delta LCAPU$	.0823618	.046412	2.18920	[.001]
$\Delta LINV$	.04331631	.046824	1.181176	[.003]
$\Delta LINDP$	.6812322	.063141	-2.34350	[.000]

Source: Gret L. Package

APPENDIX VI

RESULTS ON GROWTH EQUATION (INTBREW PLC)

Regression result of the influence of technological changes on growth of INTBREW PLC.

Dependent variable: NASST

Current Sample: 1990-2015

Number of Observations: 26

R= 0.847601

Mean of dep. Var. 11.4088

Ramsey's RESET2 = 7.95839 [.009] std.

Variance of residuals =.596087

Sum of squared residuals = 17.2865

Std error of regression = .772067

dev. Of dep. Var =1.03677

LM het. Test = .952353E-03 [.975]

Durbin-Watson = 1.21968 [.000,054]

R-squared = .742668

Adjusted r-squared = .848817

Jarque-Bera test = 2.17151 [.321]

f(Zero slopes) = 7.62668 [.000]

Schwarz B.I.C = 45.5604

Log likelihood = -36.7445

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	15.5520	3.98060	4.90718	[.001]
$\Delta LTECH$	.589034	.181993	2.58816	[.023]
$\Delta LMAN$	614780	026302R-02	-1.78871	[.000]
$\Delta LEXCHR$	.48792	.041235	2.116138	[.000]
$\Delta LCAPU$	.228917	0.231185	1.99871	[.000]
$\Delta LMKTSH$	294261	0.332464	1.99344	[.000]
$\Delta LINDP$	-346728	0.52146	2.66731	[000]

Source: Gret L. Package

APPENDIX VII

RESULTS ON PRODUCTIVITY EQUATION (NB PLC)

Regression result of the influence of insecurity on the productivity of NB plc.

Dependent variable: NPRT

Current Sample: 1990-2015

Number of Observations: 26

R = -0.658210

Mean of dep. Var. 11.1657

Jarque-Bera test = 2.17151 [.321]

Sum of squared residuals = 17.2865

std. dev. Of dep. Var =1.03677

Std error of regression = .772067

Variance of residuals =.596087

Adjusted r-squared = .845441

R-squared = .512660

Durbin-Watson = 1.21968 [.000,054]

LM het. Test = 1.03035 [.310]

Ramsey's RESET2 = 7.95839 [.009]

f(Zero slopes) = 7.62668 [.000]

Schwarz B.I.C = 45.5604

Log likelihood = -36.7445

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	15.5529	3.98060	3.90718	[.001]
$\Delta LCONF$	.179243	.171230	-1.04680	[.000]
$\Delta LMHL$	-228917	0.231185	1.99872	[.000]
$\Delta LWSTP$	-294261	0.332464	1.99344	[.006]
$\Delta LCAPU$	-346728	0.52146	2.66731	[000]
$\Delta LUNEMP$	-1.69249	.745011	-227177	[.000]

Source: Gret L. Package

APPENDIX VIII

RESULTS ON PRODUCTIVITY EQUATION (GUINNESS PLC)

Regression result of the influence of insecurity on the productivity of Guinness breweries plc.

Dependent variable: NPRT

Current Sample: 1990-2015

Number of Observations: 26

R = -0.741092

Mean of dep. Var. 11.4088

Jarque-Bera test = .93.6968 [.000]

Sum of squared residuals = 9.74113

std. dev. Of dep. Var =.645272

Std error of regression = .600652

Variance of residuals =.600652

Adjusted r-squared = .744319

R-squared = .745321

Durbin-Watson = 1.85501 [.100,665]

LM het. Test =.952353E-03 [.975]

Ramsey's RESET2 = .444827 [.511]

f(Zero slopes) = 2.19421 [.096]

Schwarz B.I.C = 35.0403

Log likelihood = -26.3760

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	11.9486	1.60526	7.44336	[.000]
$\Delta LCONF$	-119611	.092745	-1.28968	[.000]
$\Delta LMHL$	-.0623618	.046412	1.18920	[.000]
$\Delta LWSTP$	-0.04331631	.046824	1.181176	[.003]
$\Delta LCAPU$	.0012322	.063141	-2.34350	[.000]
$\Delta LUNEMP$	-182497	.092997	1.96240	[.040]

Source: Gret L. Package

APPENDIX IX

RESULTS ON PRODUCTIVITY EQUATION (INTBREW PLC)

Regression result of the influence of insecurity on the productivity of international breweries plc.

Dependent variable: NPRT

Current Sample: 1990-2015

Number of Observations: 26

R = -0.563209

Mean of dep. Var. 13.7242

Jarque-Bera test = 229.878 [.000]

Sum of squared residuals = 48.4249

std. dev. Of dep. Var = 2.28953

Std error of regression = 1.36473

Variance of residuals = 1.86250

Adjusted r-squared = .644613

R-squared = .702000

Durbin-Watson = 2.13692 [.243, .935]

LM het. Test = 1.88187 [.170]

Ramsey's RESET2 = .852349 [.365]

f(Zero slopes) = 12.497 [.000]

Schwarz B.I.C = 62.4317

Log likelihood = 52.0345

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	12.1673	1.63992	7.41946	[.000]
$\Delta LCONF$	-.149544	.105400	-1.41882	[.000]
$\Delta LMHL$	-.73358	.216470	1.93426	[.031]
$\Delta LWSTP$	.162425	.0314620	.416182	[.007]
$\Delta LCAPU$	-185658	.0718510	2.359651	[.000]
$\Delta LUNEMP$	-194749	.094557	2.05959	[.000]

Source: Gret L. Package

APPENDIX X

RESULTS ON TURNOVER EQUATION (NB PLC)

Regression result of the influence of inflation on turnover of Nigeria breweries plc.

Dependent variable: TNOR

Current Sample: 1990-2015

Number of Observations: 26

R = -0.970318

Mean of dep. Var. 15.0886

Jarque-Bera test = .503095 [.778]

Sum of squared residuals = 2.60797

std. dev. Of dep. Var =1.03677

Std error of regression = .310786

Variance of residuals =.096588

Adjusted r-squared = .8857289

R-squared = .78485

Durbin-Watson = 1.45978 [.006,227]

LM het. Test = .779561 [.377]

Ramsey's RESET2 = .199374 [.659]

f(Zero slopes) = 299.437 [.000]

Schwarz B.I.C =13.9551

Log likelihood = -5.29079

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	14.1654	.571100	4.5506	[.000]
$\Delta LINFL$	-.48667	0.28143	2.32181	[000]
$\Delta LEXCHR$	.755756	.061733	-2.52305	[.018]
$\Delta LEXP_{t-1}$	.530516	.048762	3.77817	[.000]
$\Delta LIMP_{t-1}$	-.812749	.050016	.254903	[.001]
$\Delta LINV$	.642831	.32262	-2.4181	[.000]

Source: Gret L. Package

APPENDIX XI

RESULTS ON TURNOVER EQUATION (GUINNESS PLC)

Regression result of the influence of inflation on turnover of Guinness breweries plc

Dependent variable: TNOR

Current Sample: 1990-2015

Number of Observations: 26

R = -0.898931

Mean of dep. Var. 13.7242

Jarque-Bera test = 229.878 [.000]

std. dev. Of dep. Var = 2.28953

Sum of squared residuals = 48.4249

Std error of regression = 1.36473

Variance of residuals = 1.86250

Adjusted r-squared = .611783

Durbin-Watson = 2.13692 [.243, .935]

R-squared = .9025060

Ramsey's RESET2 = .852349 [.365]

LM het. Test = 1.88187 [.170]

f(Zero slopes) = 12.497 [.000]

Schwarz B.I.C = 62.4317

Log likelihood = 52.0345

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	24.0821	5.71094	4.21683	[.000]
$\Delta LINFL$	-.681459	.384020	2.00831	[002]
$\Delta LEXCHR$	-.64435	.258218	-1.171697	[.000]
$\Delta LEXP_{t-1}$	.639169	.302385	2.129534	[.000]
$\Delta LIMP_{t-1}$	-5.57325	1.27755	-2.01420	[.000]
$\Delta LINV$	.419814	.235599	-.508551	[.000]

Source: Gret L. Package

APPENDIX XII

RESULTS ON TURNOVER EQUATION (INTBREW PLC)

Regression result of the influence of inflation on the turnover of international breweries plc

Dependent variable: TNOR

Current Sample: 1990-2015

Number of Observations: 26

R = -0.562530

Mean of dep. Var. 9.555138

Jarque-Bera test = 2.60401 [.272]

Sum of squared residuals = 13.3457

std. dev. Of dep. Var = 1.64374

Std error of regression = .716447

Variance of residuals =.513296

Adjusted r-squared = .810023

R-squared = .840664

Durbin-Watson = 1.09514 [.000, .045]

LM het. Test = 3.11649 [.078]

Ramsey's RESET2 =8.02300 [.009]

f(Zero slopes) = 27.4355 [.000]

Schwarz B.I.C = 41.8106

Log likelihood = -31.4134

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	14.5633	3.338629	4.30066	[.000]
$\Delta LINFL$	.487582	.19678	-2.781436	[.003]
$\Delta EXCHR$	-582913	.283081	-2.05918	[.001]
ΔEXP_{t-1}	.83083E-02	.424216R-02	-2.617434	[.000]
$\Delta LIMP_{t-1}$	.861513	.184599	4.66695	[.000]
$\Delta LINV$	4.336741	.124438	-2.52025	[.141]

Source: Gret L. Package

APPENDIX XIII

RESULTS ON MARKET SHARE EQUATION (NB PLC)

Regression result of the value added by investment on the market share of Nigeria breweries plc

Dependent variable: MKTSH

Current Sample: 1990-2015

Number of Observations: 26

R = 0.601352

Mean of dep. Var. 10.6159

Jarque-Bera test = 14,26060 [.001]

Sum of squared residuals = 15.2738

std. dev. Of dep. Var =2.21737

Std error of regression = .152128

Variance of residuals = 565696

Adjusted r-squared = .875648

R-squared = .978466

Durbin-Watson = 2.15973 [.350,.907]

LM het. Test = .083897 [.772]

Ramsey's RESET2 = .293879 [.592]

f(Zero slopes) = 60.6091 [.000]

Schwarz B.I.C = 42.2368

Log likelihood = .33.5725

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	6.91534	3.60048	1.3619	[.183]
$\Delta LINV$	.425384	1.82476	2.99341	[.008]
$\Delta LEXP_{t-1}$	.585298	1.75352	3.19728	[.000]
$\Delta LIMP_{t-1}$	-.613046	.016981	-.768282	[.004]
$\Delta LMAN$	.256671	.07672	2.25831	[.000]
$\Delta LINDP$	.8123481	2.01382	2.01833	[.000]

Source: Gret L. Package

APPENDIX XIV

RESULTS ON MARKET SHARE EQUATION (GUINNESS PLC)

Regression result of the value added by investment on the market share of Guinness breweries plc

Dependent variable: MKTSH

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 11.1849

Sum of squared residuals = 9.18888

Std error of regression = .606263

Adjusted r-squared = .872548

Durbin-Watson = 2.18375 [.208,773]

Ramsey's RESET2 = 3.20454 [.086]

Schwarz B.I.C = 37.5722

R = 0.572902

Jarque-Bera test = 1.15252 [.562]

std. dev. Of dep. Var =1.69819

Variance of residuals =

R-squared = .8947216

LM het. Test = 2.65808 [.103]

f(Zero slopes) = 363714 [.000]

Log likelihood = .25.4422

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	244.098	497122	1.491022	[.627]
$\Delta LINV$	6.123216	0.41201	1.991872	[.000]
$\Delta LEXP_{t-1}$	-391.948	1.10346	2.355200	[.000]
$\Delta LIMP_{t-1}$	-287.030	121.193	-2.36837	[.000]
$\Delta LMAN$	.687928	0.412358	2.1161381	[.000]
$\Delta LINDP$	7.647302	0.232276	2.227241	[.004]

Source: Gret L. Package

APPENDIX XV

RESULTS ON MARKET SHARE EQUATION (INTBREW PLC)

Regression result of the value added by investment on the market share of International Breweries Plc

Dependent variable: MKTS

Current Sample: 1990-2015

Number of Observations: 26

Mean of dep. Var. 15.0886

Sum of squared residuals = 2.60787

Std error of regression = .310786

Adjusted r-squared = .974689

Durbin-Watson = 1.45978 [.006,227]

Ramsey's RESET2 = 199374 [.659]

Schwarz B.I.C = 13.9551

R = 0.687159

Jarque-Bera test = .503095 [.778]

std. dev. Of dep. Var =1.95346

Variance of residuals =.096588

R-squared = .977955

LM het. Test = .779561 [.377]

f(Zero slopes) = 299.437 [.000]

Log likelihood = 5.29079

VARIABLES	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTICS	P-VALUE
ΔC	33.7875	03.4163	.532788	[.599]
$\Delta LINV$	4.13622	1.987821	1.712416	[0.00]
$\Delta LEXP_{t-1}$	.7767	1.633076	2.010895	[.000]
$\Delta LIMP_{t-1}$	.054903	.447989	2.057916	[.000]
$\Delta LMAN$	6.28722	2.38711	2.92134	[.000]
$\Delta LINDP$	7.32711	2.89242	2.046321	[.001]

Source: Gret L. Package