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THE IMPERATIVES OF PLANNING FOR RURAL PEOPLE AND COMMUNITY DEVELOPMENT IN NIGERIA

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Abstract

The paper critically examined the relevance of systematic planning in the rural areas which has never been an issue worthy of serious consideration, not until recently. Apart from being a systematic application of knowledge to establishing and achieving the needs of the rural population, rural planning is also geared towards avoiding a destructive misuse of rural land and people. The study which relied on the secondary sources of data, identified the sources of projects in community development, characteristics and the relevance of planning as well as the problems militating against effective planning in community development in Nigeria. The study however, recommended that since a high level of interaction exists between urban and rural populations and environments, particularly those rural areas in proximity to urban areas, rural planning should of necessity include the consequences of urban-rural interaction.

Key Words: Planning, Rural People, Community, Development, Nigeria

Introduction

Rural areas in Nigeria are burdered by the non-responsiveness to the highest standards of physical planning system. The result, according to Odetoye (2019) is that over the years, the rural sector and cities have grown haphazardly without proper planning. Odetoye further alluded to the fact that planning is expected to precede development activities but the reverse is the case in Nigeria and as such, it becomes a herculean task to achieve projected results. A few decades ago, most third world nations had no doubt about the necessity of economic planning. Obi and Chukwuemeka (2006), observed that it was then felt that planning was the needed tonic for economic development. The reason they stressed, was because national planning was widely believed to offer the essential and perhaps the institutional and

organizational mechanisms for overcoming the major obstacles to development and for ensuring a sustained high rate of economic growth. However, these scholars lamented that the initial optimism about planning evaporated with the continual abysmal performance of most third world nations, despite the adoption and implementation of development plans.

The relevance of planning for rural-community development cannot be over-emphasized taking into cognizance that a plan helps individuals and communities to see where they want to go and make decisions on how to get there, apart from increasing the likelihood of success (Ojukwu, 2013). A community plan and an economic development strategy can empower communities to maintain a sense of place and become more resilient given the economic challenges and opportunities; which in turn can increase their well being, Ojukwu further observed. Innovative thinking, new ideas and attitudes are essential to the building and sustenance of the economic, environmental, social and health of the community. In addition, planning for the rural communities should entail the past; assess the present with a view to making projections for the future.

Planning: A Conceptual Note

Arriving at a generally accepted definition of planning is problematic, owing to the fact that there is no consensus among social scientists with regards to the meaning of planning. It is therefore from the maze of these different senses in which the term planning is used that this article will attempt a definition of the term "planning" which was derived from the French word 'purveyance', meaning to look ahead.

To Pfiffner and Presthus (1960), it is "a rational process associated with all human behavior" while Dimock and Dimock (1970) see planning as an organized attempt to anticipate and to make rational arrangement for dealing with future problems by projecting trends. Similarly, Simon, Smithburg and Victor, observed that planning is the activity that concern staff with proposal for future evaluation of alternative proposals and with methods by which these proposals may be achieved.

A plan is also a series of thoughts, processes and actions written and agreed upon in the present; in order to be implemented in the future. According to

Okigbo (1993), national development planning is a systematic manipulation by state organs or forces, economic and non-economic for the control of the economic environment; organized around a set of stated goals and objectives while mindful of the means as well as the periodization with prudence in the use of national resources. Onokerhoraye and Okafor (1994) however noted that the basis and requirements for systematic rural development planning are therefore, in need of articulation as a means of providing a supporting mechanism for rural enhancement.

Imhabekhai (2009), asserted that planning involves the identification or formulation of the objectives of a programme or a project, the identification of needed human and material resources; mapping out strategies and procedures for the attainment of the project objectives. He further asserted that it must precede implementation if project objectives are to be fully achieved. In addition, the successful execution of community development projects depend largely on the quality of planning put in place before the commencement of implementation. It has been said often and then that effective planning ensures rational formulation of policies and programmes/project objectives founded on careful analysis of the situation, identification of existing resources, needs identification and directing the course of project implementation. While agreeing with the above positions, Ojukwu (2013) pointed out that development plan is a document that sets out how places should change and what they could be like in the future. He further emphasized that development planning is essentially a way of organizing and utilizing resources to the maximum advantages in terms of defined social ends.

A review of the above definitions shows that though there are some differences in them, all see planning basically as an activity that is directed at a deliberate control of the pace and direction of activities in a nation in order to obtain set objectives.

Who Plans Projects in Community Development?

It has often been suggested that planning should start from local communities and build upwards and has been tested in many parts of the world. The underlying objection is that rural people “do not know how to plan”, because they tend to envisage planning as a gift-list from the government. Loehr and

Powelson (1981) however noted that the central government has two options; do the planning for them or teach them to plan (and in the meantime, have either no plan or a very simple one prepared by communities). The second option may be difficult to accept when governments face both the World Bank mandate and the existence of their well-entrenched planning departments. This article proposes a reversal of the usual procedure.

Ojukwu (2013), asserted that good planning gives direction to civic leaders, businesses and citizens to make meaningful decisions for the long term and how best their communities can grow into the future while allowing for essential services to be provided in the near term. Planning he observed, is done not only by trained professionals working in the public sector or planning departments or in the private sector for developers; planning can also be done by lay persons who volunteered on local communities or commissions, including a planning commission, zoning board of appeals or historic district commission.

As Imhabekhai (2009) succinctly noted, planning in community development must involve all the stakeholders in a particular project. That the men and women, the youths and their leaders or accredited representatives must be involved in the planning process. Projects or programmes meant for the developments of the rural communities have failed or either vandalized by the people because they were not consulted during the planning, implementation and execution. Failed projects are not only abandoned projects but also include projects completed but not utilized according to expectations by the targeted beneficiaries. It therefore implies that decisions to embark on specific projects must originate from the people or through a careful consideration of their feit needs.

Participation is an essential element in a theory of planning in which the planner's function is to analyze and synthesize the goals and values of the community. Importantly, the condition should elicit the interest of the public and be able to express opinion in the planning process. Nnamdi (2011) however, regretted that this is not the case and indeed, it is not realistic to expect that it should be so.

Characteristics and Relevance of Planning in Community Development

Planning is goal-oriented and directed towards meeting objectives of development. These objectives should be generally accepted apart from providing a road-map for the various development activities in the said community. Planning is looking ahead which involves choices and alternatives. It should be a continuous process and, in most cases, should be pervasive and designed for efficiency. Above all, planning should entail flexibility. Nnamdi (2011) contended that integration of rational and consensual aspects of planning with personal and social aspects lead to a new notion of the planning process to which participatory planning is directed. He however, noted that rational aspect of participatory planning urges that; because individuals and small groups are more intimately involved with environmental changes because it provides a planning process with data and judgment pertaining the local systems. The consensual dimension of participatory planning is made up of individuals or societal units regarding the determination of end and means for the planning processes related to the domain of the individual/societal unit.

It has been observed by scholars such as; Ojukwu (2013); Nnamdi (2011); Obi and Chukwuemeka (2006); Nnamdi (2012); Loer and Powelson (1981); Imhabekhai (2009); Brown and Schafft (2011), that planning increases the community's ability to adapt to future events, planning helps to crystallize objectives, planning helps communities to be more focused in their development, adequate planning reduces unnecessary pressures of emergencies, reduces mistakes and oversights, ensures a more productive use of communities resources, enhances control and increases the effectiveness of leaders etc.

Problems Affecting Planning in Community Development

To a very large extent, the success of planning is predicated on whether the formulation of the plan is founded on accurate data. If the cardinal objective in community development is to improve the livelihood of the people, it therefore becomes vital to know the accurate number of people in the area that are being planning for in terms of age, sex, occupation, household, marital status, level of education etc. The paucity of information about the population of rural communities is threatening obstacles to effective

planning for the rural areas in Nigeria. This is because, census figures are often manipulated for political reasons to secure higher figures since population is a strong determinant in the distribution of national wealth, i.e. allocation of resources to states, infrastructure; social and other amenities; constituency delineation as well as the creation of local and state governments (Imhabekhai, (2009); Ojukwu, 2013); Wadepole, 1974). Similarly, most agencies involved in community development, fail to keep accurate records of resource inputs such as funds, personnel, materials, as well as project/programme performances.

Vital data ought to be appropriately kept to facilitate project evaluation and decision-making as road-maps while engaging in similar projects in the near future. Sound administrative structure is the very fabric of effective planning as it influences and determines the success or otherwise of the entire development plan. A viable system is necessary not only in the initial stage of planning but also to tackle problems that might arise during the course of executing the plan. In addition to a veritable administrative mechanism, is a competent planning agency or commission that should consist of persons who are authorities or experts in their chosen fields with sufficient administrative skills and experience.

Experience has shown that where information are kept at all, they are often stored in files and stacked on shelves in very obscure and inaccessible rooms that are not well lit. This pattern of storage makes retrieval of information for planning very difficult and frustrating. In addition, data kept in paper files are susceptible to destruction through regular movements, contact with rain or water, fire hazards, rodents and insects.

Another problem often associated with statistical data, is the high cost of collection and processing. It involves extensive traveling, depending on the size of the area being planned for. Heavy stationery have to be purchased and typesetting must be done. As Imhabekhai rightly noted, the processing of data is difficult and expensive, whether manually or with the use of computers. It is therefore obvious that the huge cost involved in data collection and processing coupled with the limited funds at the disposal of planners, reduce the quality and quantity of available data for effective planning.

Other problems associated with effective planning in community development include; life span of data, the dearth of planners in community development approach, strong and efficient government, existence of certain well-defined objectives, maintaining proper balance, etc.

Conclusion

From the foregoing, the importance of planning for rural people and community development, cannot be over-emphasized owing to the fact that rural population in Nigeria have been suffering many deprivations. Onokerhoraye and Okafor (1994), contended that the quality of services for many rural people are considerably lower than that of urban areas. These scholars further alluded to the fact that until recently, systematic planning in the rural areas to deal with the potential negative consequences of change, has never been an issue worthy of consideration. The consequences of modernization, urbanization, technological changes affecting the rural areas and numerous other impacts in the rural environment, have been left largely to chance.

Rural people's well-being depends on the internal organization of communities where they leave and work and on effective, mutually beneficial relationships linking their communities with the outside world. According to Etzioni (1996) and Schucksmith (2010), this mix of internal relationships and social structures on the one hand and embeddedness in regional, national and even global contexts on the other hand, are critical ingredience for community sustainability. Finally, the basis and requirements for systematic rural development planning are, therefore, in need of articulation as a means of providing a supporting mechanism for rural enhancement.

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THE EFFECT OF CLIMATE CHANGE ON WATER AVAILABILITY AND USE IN LAFIA LOCAL GOVERNMENT AREA OF NASARAWA STATE

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Abstract

This study examines the vulnerability and effects of climate change on water resources availability and domestic water demand and use in Lafia Local Government Area of Nasarawa State. Primary data was generated through a questionnaire survey of 211 households in the study area. Secondary data on rainfall spanning a period of ten years was collected from Lafia Meteorological Station (Mnet). Data generated from the survey was summarized in the form of frequency of occurrence and percentages are presented in tables and graphs. The rainfall data was used to determine the Standardized precipitation Index (SPI) for the area. The spearman's Rank Order Correlation Coefficient statistical technique was used to verify the observations made from survey data and boreholes for domestic purposes. Households are vulnerable to the effect of climate change. Most of the respondents are aware of the impact of climate change on water availability. The inferential statistics shows that there is a relationship between the decrease and water availability and use in the study area. Recommendations were made towards ensuring sustainable water supply in the area. Suggestions for further research were provided.

Keyword: Climate Change, Effects, Water, Availability

Introduction

Climate change is a significant and lasting change in the statistical distribution of weather pattern over periods ranging from decades to millions of years. It may be a change in average weather conditions or the distribution of events around that average. Climate change may be limited to a specific region or may occur across the whole earth (UNFCCC, 2010). Desert

encroachment, deforestation and other human activities have enhanced the recent trend in water scarcity and stress in arid and semi-arid environment. High population explosion/growth more land cultivation and less vegetation cover the more carbon dioxide goes into the atmosphere causing global warming. As long as human being exist along with economic development, agriculture and food security, land use and forestry, human health and sanitation, settlement and infrastructures industry and energy, there is consumption and consequently depletion of the environmental resources then by 2020s over 500 million people may be short of water (UNEPFI 2006).

There are a variety of climate change feed backs that can either amplify or diminish the initial. The ignoramus effect of climate variability, impinging most on all facets of life (because so many systems are tied to climate the change in climate) can affect many related aspects and even of where and how people, plants, animals – live such as food production and availability and used. Water has the economic value in all its competing uses (drinking, cooking, sanitation, planting, irrigation, agriculture, sources of proteinous foods etc), water was thus considered scared by ancient civilization and handle with an ethnic of stewardship and respect because it possesses important economic, legal and political aspect (Eziashi, 2010) as well as 'the basis of life and the major constituent of living cell reflect their primeval origin giving the inextricable link between water resources and nature, one cannot exist nor be managed sustainability without the other (Steiner, 2003).A chemical composition of body fluid and the major constituents of living cells as the basic of life, water is required for multivariate purposes, functions and values (Hirji,2002)

BNRCC (2010) observe that climate change or global warming has become a new reality, with deleterious effects; seasonal cycles are disrupted, as the ecosystems, and agriculture, water needs and supply, food production are adversely affected. Global warming (climate change) has effects on the environment including increased frequency and intensity of storms, fire droughts, fiercer weather and its attendant consequences, (poverty, malnutrition and series of health and socio-economic consequences). Thereby by the late 1980s, global environmental damaged. The utmost concern of this study is on the "effect of climate change on water availability and use in Lafia Local Government Area of Nasarawa State. It is a problem

worth researching on, owing to an unsatisfactory state of affairs of unmet need of water availability and use in the area of study to be able to linchpin that integrates the many ecological, social and economic factors of vegetal resource, water availability and use. This research seeks to summarize recent finding on the effects of climate change on water availability and use in the study area.

Climate change in response to changes in the global energy balance, on the broadest scale, the rate at which energy is received from the sun and the rate at which it is lost to the space determine the equilibrium temperature and climate of the earth. This energy is then distributed around. The globe by wind, ocean currents and other mechanisms that affect the climate of different region. Because much of the solar energy received by the earth is used to drive the hydrological cycle, higher levels of solar energy trapped in the atmosphere will lead to an intensification of this cycle, resulting in changes in precipitation patterns. These changes will result in increased floods and drought, which will have significant effects on the availability of fresh water. These impacts on fresh water will be further compounded by rising sea levels, and melting glaciers (IPCC, 2001).

The survey which is limited to Lafia Local Government Area seeks to find answer to the following questions:-

i. What are the sources of water in Lafia Local Government Area.
ii. What changes have been observed in the source of water in Lafia L.G.A
iii. What is the effect of climate change on water availability and use in the area?
iv. Who are the most vulnerable to the effects of climate change on water availability and use?
v. How have they coped with the problem of water scarcity in the area

This research is aimed at examining the vulnerability of households to water availability and use as a result of climate change in Lafia L.G.A.
The objectives of the research can be achieved through the following objectives:

i. To determine the difference sources and use of water in Lafia Local Government Area.

ii. To document the climate related changes that have occurred in the sources of water in the area.
iii. To assess the strategies adopted by households to cope with water scarcity and the effects of climate change.

Hypothesis of the Study

For the purpose of this study, the hypothesis postulated are as follows:
H_0: There is a significant relationship between the decrease and increase in water availability and use in Lafia.

Factors that influence the climate of a locality include:
Latitude, Position of the continents and oceans, Position relative to large scale atmospheric circulation pattern, Altitude Local geographic features. Climate is therefore a synthesis of weather events over a long period of time.

Climate change: UNFCCC defines climate change as "a change of climatic which attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variably observed over comparable time periods"

Literature Review
The intra-inter relatedness of the information is attest to the clear focus and trend characteristics of a network about the effects of climate change on water availability and use in Lafia L.G.A, of Nasarawa state. Their experience, experts, opinion, description of everyday practices, information from books, journals, newspapers, government publications, Lafia meteorological stations, research results must be seen as contribution to the network in terms of adding to the flow, focus and trend of the review related to the problem with the purpose of a clearer problems; understanding; identification of research gabs; insight about methods and designs; locate the study on the map of related studies; the availability to discerned the substance from the shaft is no means task; establishment of current opinions etc.

As executed in the underscore themes; thus climate change has become a new reality, with deleterious effects; seasonal cycles are disrupted, as are ecosystem and agriculture, water need and supply, and food production are

adversely affected by climate change (global warming with it attendant consequence), and include fiercer weather, increased frequency and intensity of storms, flood, drought. According to BNRCC (2008), increase frequency of fires, poverty, malnutrition and series of health and socio economic consequences has a cumulative effect on natural resources and the balance of nature discussed the effect of climate change can be vast in Nigeria. This means that some stable ecosystems such as the Sahel savanna may be become vulnerable because warming reinforce existing patterns of water scarcity and increase the risk of drought in Nigeria and indeed most countries in West Africa as well the country's aquatic ecosystems, wetlands and other habitats will create over whelming problems for an already impoverished populace.

Water Sources and Uses in the Area

Among all the resources, water is the most vital, that its worth cannot be really prized as water is essential to life the important role to man and nature is essence, the unique nature of water among all other earth resources cannot be over emphasized as the inextricable link between living things [man inclusive].surface water and groundwater are sources of water in which the survival of man is highly dependent (Steiner, 2003; Mather, 2002).

- S**urface water sources**
  Surface water represents the excess of precipitation over evapotranspiration losses when allowance has water that remains on the surface of the land and does not percolate through the soil, rivers, streams, and lakes are major sources of surface water (Marther, 1978) as rain water collects into lakes, rivers, streams, pounds and marshes to form surface sources.

- **Ground water source**
  Groundwater includes all water found beneath the earth's surface, it is a body of water derived formerly from percolation and contain in permeable rock formations known as aquifers with a source traceable to precipitation from the atmosphere called meteoric water and minor amounts of it (GIW) called, connate and juvenile water.

- **Rain water sources**
  The core sources of natural recharge of the water bodies (ground water, surface water) are condense precipitation that eventually fall, percolate and seepage from the streams flow in channels, lakes, and reservoirs(see Ayode 1988b). This sources recharge virtually all other sources of water i.e. the rain water provide avenue through which other sources are relished on annual basis- but the phenomenon of climate change ended to worsened this situation principal source of natural recharge(falling precipitation) thereby exacerbates water scare situation(drought) of those frequent and more severe. Climate variability impinging most on the amount, timing and frequency of rainfall, floods and drought. Climatologically drought- defined in terms of the standard deviations annual rainfall below the long term.

The climate in this region exhibited by a definite wet and dry season. Adebayo (1999) stated that weather and climate must have dominated the life of pre-historic humans for thousands of years. Temperature are generally high in Lafia town partly because of its location in the tropical sub-humid climatic bell, the high radiation income, in this part of the globe; which is evenly distributed throughout the year also accounts for the high temperature recorded in the state. However, there is a marked seasonal variation in temperature in the state. There is a gradual increase in temperature from January to March.Lafia is well endowed with enormous water resources both surface and underground and is drained by many rivers whose sources are mostly from the North Central Plateau.

The Standardized Precipitation Index

The standardized precipitation Index (SPI) was developed by Mckee et al (1993) to categories observed rainfall as a standardized departure with respect to rainfall probability distribution function. It indicates how precipitation for any given duration (1 moth, 2 months etc) at a particular observed site compares with the long-term precipitation record at the same site of the same duration (Edwards and Mckee, 1997). The index compares very favorable against several other 'drought' indices (Keyantash and Dracup, 2002) has been adopted by the US National Drought Mitigation

Centre for operational use to replace the traditional Power Drought Severity Index (PDS).

The SPI Algorithm

Conceptually, the SPI is equivalent to the 2-score often used in statistics
Z-Score- (X-Average)/Standard Deviation (1)
Where the Z – expresses the X scores distance from the average in standard deviation units. A primary pre-adjustment to this standard Z – score formulation recognizes that precipitation is typically positively skewed. To adjust this empirical fact, the precipitation data is transformed to a more normal Gaussian symmetrical distribution by applying the gamma function SPI is calculated in a manner that mirrors the Z – score formula and may be interpreted similar following standard authorities (Bobee and Ashkar, 1991: Edwards and Mckee, 1997). While the value of SPI is theoretically unbounded, empirically it is extremely rare to observe values greater than +3.0 OR LESS THAN – 3.0.

In summary therefore, the SPI can effectively represent the amount of rainfall over a given time scale, with the advantage that it provides not only information on the amount of rainfall, but that It also gives an indication of what this amount in relation to normal, thus leading to the definition of whether a station is experiencing drought or not.

Method of Data Collection

Information/ data obtained from copies of the questionnaire and interviews were sorted, edited, coded and processed for analysis. Data processing involved the use of the Statistical Package for special science (SPSS) and Microsoft Excel computer software for clear interpretation. After data collation and processing, the data were summarized and presented in tables, graphs and percentages. The Chi- square statistical technique was used to test the validity of the hypothesis.

Results

Effect of Climate Change on Water Availability and use

Sources of Water

The distribution of water sources in the study area are indicated in table below. According to the World Water Development (2002) reports, population growth, pollution and climate change all accelerating conspired to produce a drastic decline in water supply and this supply is already problematic in the developing countries. At present 1.1 billion people lack access to safe drinking water and 2.6 billion lack access to sanitation (WHO, 2007) it even worse in the study area.

Table 1: Water sources

Source of water	**Number of Respondents**		**Total**	**Percentage**
	Kwandere	**Shabu**		**%**
Tap	7	3	10	5
Well	48	29	75	35.5
Borehole	31	28	59	28
River	20	27	47	22
Vendor	6	14	20	9.5
Total	**100**	**101**	**211**	**100**

Source: Field work (2012)

In their quest to meet their water needs demands for the different category of water utilization, most of the people in the communities of the study area utilize rain water sources but due to inter-annual variability the people rely on deep wells, streams, boreholes and pipe borne-water as seen in table 1 above.

Table 2: Water Utilization by Household

Uses of water	Number of Respondents		Total	Percentage
	Kwandere	**Shabu**		**%**
Drinking	42	32	74	35
Cooking	33	28	61	29
Sanitary	27	19	46	22
Washing	16	14	30	14
Vendor	6	14	20	9.5
Total	**165**	**93**	**211**	**100**

Source: Field Work (2012)

The table reveals and portrays how water is utilized at household level in Kwandere and Shabu villages of Lafia Local Government Area of Nasarawa State, mostly for drinking, cooking, washing, sanitation and other domestic household chores. Moreover it is pertinent to highlight that as water utilization categories it is procured from different sources and location as seen on the table 2.

Table 3: Suitability of water sources in the Area

Source of water	Distance from Home	Duration of Availability		situation in past 10 years
Tap	within	Jan-December		Unstable
Well	within	may-October		Periodical
Borehole	0.05-1km	July-November		Improved
Stream/River	1.05-2km	Seasonal		Bad
Total	**100**	**101**	**211**	**100**

Source: Field Work (2012)

This table further reveals the sources of water to the household typology. Condition of procurement and durability of source point in the area.

Change in Climate Recorded by Respondents

Change observed by respondents was investigated. Results of the respondents revealed that more than half of the respondents experienced change in climate condition as depicted in the table 4.

Table 4

Response	Number of Respondents		Total	Percentage
	Kwandere	Shabu		%
Yes	64	104	167	79
No	20	23	44	21
Total	**84**	**127**	**211**	**100**

The table above shows that majority of the respondent (79%) had experienced changes in climate while 21% of the respondent in both Kwandere and Shabu village did not experienced any change.

Table 5

Response	Number of Respondents		Total	Percentage
	Kwandere	Shabu		%
Temperature deceased	27	7	34	16
Constant	22	31	53	25
Increasing	68	46	114	54
Rainfall growth rate	3	7	10	5
Total	**120**	**91**	**211**	**100**

Source Field Work (2012)

Table 5 shows that 114(54%) of the respondents experienced increasing change in climate, (25%) had no change in climatic condition. 34(16%) had experienced in decrease in temperature and 10 (5%) of the respondents had change in rainfall grow rate.

Implication of the Research

Water is the basic of life and the major constituent of living call, thus reflect their primeval origin giving the inextricable link between water resources and nature, one cannot exist nor be managed sustainability without the other (Steiner, 2003). Hence water has the economic value in all its compelling use. It was thus considered scared by ancient civilization and handle with an ethnic of stewardship and respect because of it posses important economic, legal and political aspects (Eziash, 2003). Therefore water cycle and inherent ecosystem are life support of the planet, but human activities here tended and exacerbate severe damage and scars to it, threatening the health and livelihood of people and nature who depend on them (Borge, 2008) conversely causing several water deficit –undesired destruction of natural storage (Dab, 2009).

Summary and Conclusions

Summary

The quest to discern the vulnerability episodes of rural household to life supporting medium i.e water resources (Kasri, 2003) scarcely due to changes in climate patterns (of temperature, precipitation, humidity, win and sea sons) trend (Ati, F.O. 2002) in the Lafia lies between latitude 7^{o} 45 and $9^{o}45$ N of the equator and between longitude 7 and 9^{0} 37E pf the Greenwich meridian (Binbal and Marcus, 2005) to calamites as part of Brunt land commission report agenda 21, (1992) to include Rapid destruction of air, water, species of flora and fauna, desert, forests and other ecosystems a s well as overuse of natural resources and several other reports on recent trends in precipitation and stream flow over the past several decades have shown a generally decreasing values – causing droughts events since the 20^{th} Century.

The study uses a participatory purpose of the AIACC AF 92 questionnaire to identify indicator of vulnerability to drought trend in the area of recorded in 2001 – 2010. In the same vein analyzed data over the periods have found a drop in perception during the months of July-September and decreasing trends in stream flow from the month of October till the period of another raining season to greater trends in seasonal flow regimes. These trends are

generally consistent with climatic fluctuations that produce an enhanced unconformity of hydrologic cycle with increasing atmospheric carbon dioxide (Geidenbolm, 2005).

The finding also reveals that the primary source of water that utilize for different purpose is well water and a principal source of natural recharge to ground water and surface water hierarchically etc for domestic, agriculture and industrial uses in Kwandere and Shabu villages. The water use related street in the area are mostly in terms of the distance and limited supplies that most of the residents corer to produce scare resources thus decline in rainfall aid in intensifying the severity of the scarcity in the study area.

The study also reveals that climatic variations have been the persistent decline in the rainfall in Lafia 2009 as seen earlier on in Lafia SPI. The research work further reveals which member of the communities are most vulnerable and what aspects of their livelihood are threaten. How have they coped with the problem of water scarcity and with what opportunities are available to them to enhance their adoptive capacity.

Conclusions

Naturally, the environment and nature in the widest sense are users of water (Steiner, 2003), a chemical composition of body and a major constituent of living cell, living giving quality to fluid movement and cleansing properties, it is thus required for multifarious purposes, functions values. Owing to this man by his chart of short term economic greed eventually culminating in a long term economic, grief by his consequential control (technological inventions and innovations) of the environment resources of land, air and water causing moribund and unprecedented water crisis for the people and nature, where seasonal cycle are disrupted, as are ecosystems and agriculture in that water need and supply, and food production are reversely affected struck by the inadequacy of the water situation. Thus, with "water Stress" the area is faced with a long list of problems, calamities and other consequences of water resources supply scarcity, endemic droughts, increase vapor-transpiration, hazardous large scale erosion extremes, wild fires and other deleterious events, as well as carbon dioxide and other green house gases (GHGs) overloading the atmosphere leading to global warming and climate change.

The review covers mostly the assessment of impacts and adaptation to climate change (AIACC) project limited of Northern region from latitude 11^0 N-13 ^{0}N and assess on the potentiality and consequences of climate variability (change).

Recommendations

The significant and multifarious role water plays in the ecosystem can be over emphasized as a linchpin that integrated man and his essential sector, and therefore any disruption of this rare resource jeopardizes man effectual existence. It is apparent that damage due to environment disaster concomitant with anthropogenic enhances damage under lies the threat being faced which threaten socio economic system in many factors and that these insolvent calamities would accelerate in the most prone and vulnerable region to climate change owing to their over reliance on the ecosystem raid fed economic activates and low adoptive capacity (IPPC, 2004).
In order to reduce the menace and vulnerability to climate variability (change) in the regions for continuous survival and sustainability. The research hitherto paginates these deeded recommendations.

- **Government intervention**: The crux of the while lot premise on finances which is at government disposal, it will go a long way to hog water, health educational (information) problems no matter how capital intensive the potential source that need to be developed as identified may be, with sincerity purpose on the part of the government in can be with achieve, and beside have the duty to the people need to be educated (enlightenment programmes on innovations) provision of infrastructure and other developmental accessories).

- **Rain harvesting;** is a technology that when introduced can augment the supply of water resources and thus coercions the intensity of scarcity during dry spells.

- **Water Reused:** It incurs several usage of water before it can be discharge as waste to return to the ecosystem cycle. Water use to wash foodstuff, plates can be use for animal drinking.

- **Damming of rivers/streams:** to reduce its drain after rain season and to conduct it to farms for use afterward.

- **Planting of Trees**: Soil conservation and well managed tree plantation.
- **Cloud Seeding:** Here the rains are induced by injecting iodine microscopic nuclei into the cloud to great rains e.g. Israel employs this technology.

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Figure 1: Map of Nasarawa State showing studying area

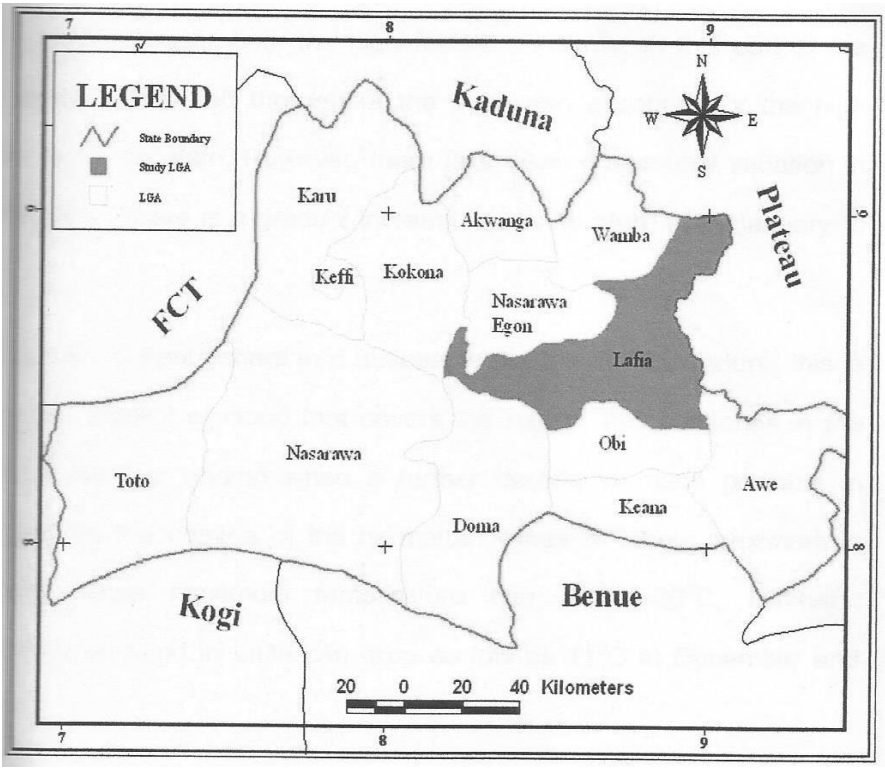

Figure 1. Lafia LGA of Nasarawa State (Study Area)

Figure 2: Variation in Rainfall of Lafia

Finding on the variation of rainfall was examined by respondents as shown in Figure 2.

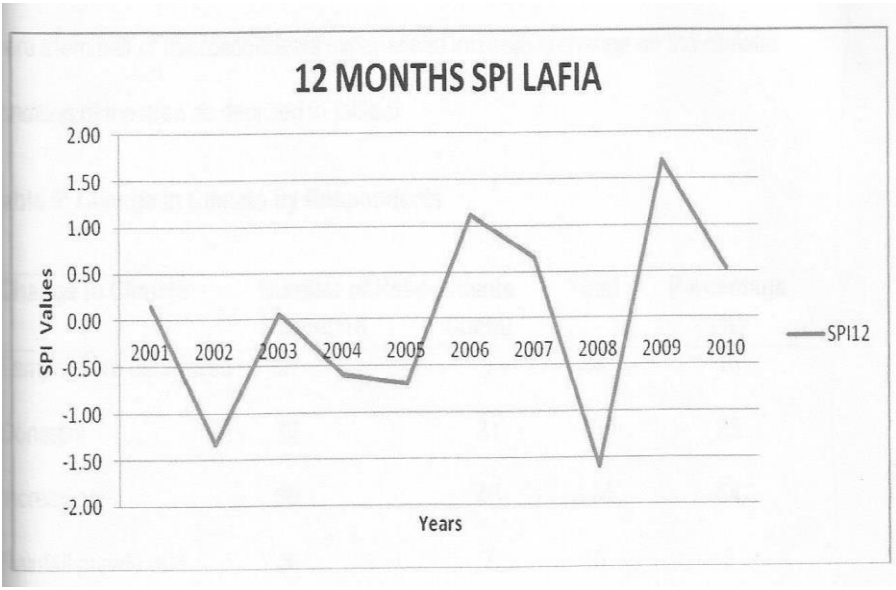

Figure 2: **Monthly SPI value for Lafia (2001-2010)**

Figure 2 shows that the variation in the amount of rainfall between the years 2001-2005 was not much compared to what is experienced in 2006-2010 where there is a rapid increase in 2006 and a decline in the 2008 but later increased in the year 2009.

BOOK VALUES, EARNINGS PER SHARE AND PRICES: A COMPARATIVE ANALYSIS OF SELECTED BANK AND NON-BANK QUOTED ON THE NIGERIAN STOCK EXCHANGE.

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Abstract

This paper examined the relationship between book value, earnings per share and share prices of selected bank and non-bank stocks quoted on the Nigeria Stock Exchange. This relationship is compared for stocks quoted in both the banking and non-banking sub sectors. A sample of seven banks and six non-bank companies quoted on the Nigerian Stock exchange for the period 2008-2017 was used. Using the Ohlson Model, we find that accounting information is more value relevant in the non-bank subsector than in the banking subsector as reveal by the $R^2$of 0.46 for the non-bank and 0.57 for the bank sub sector. While earning per share is a positively related to market price per share in the non-bank sub sector, it is negatively related tomarket price per share in the bank sub sector. However, the book value per share is negatively related to market price per share in the non-bank sub sector and positively related to the market price per share. The results indicate that most firms (banking and non-banking) place value on the role of accounting in creation and communication of wealth. Thus, regulatory authorities such as the Securities and Exchange Commission, must continually supervise the preparation and presentation of financial statements and update regulation to improve the quality of financial reporting in Nigeria.

Keywords: Earnings per share, Book-Values, Ohlson Model, Accounting Information, NSE.

Introduction

Accounting systems produce information to enable users make informed decisions. The published financial statements are general purpose statements that produce quantitative information about how well the company has fared in terms of profitability and the position of the company in terms of its equity, liabilities and assets. These reports serve the needs of various stakeholders including shareholders, management, loan providers, creditors, financial analysts, and government. However, the reports are prepared basically for use of shareholders. Financial reports help managers to play and display their custodial role. Both present and prospective shareholders require these financial reports to determine whether to buy, hold or sell their shares. Where stock market is efficient, information disclosed by financial statements of quoted companies is reflected in share prices. The relationship between share prices, book value and earnings per share is captured in the concept of value relevance. Value relevance of accounting information is a body of accounting research that seeks to find out the correlation between accounting information and stock prices (Lo and Lys, 2000).

Studies like Ball and Brown, (1968) and Ohlson, (1995) in developed stock markets provided evidence that accounting information is associated with stock returns. However, there has been studies seeking to establish the relevance of accounting information in non-US market (Lui and Liu, 2007; Haw, Qi & Wu, 2009; Chen, Chen, & Su, 2001 and Samia & Zhou, 2004). Aharony, Lee, and Wang (2000) have examined the significance of accounting information in emerging markets. Rask, R., Chu, and Gottschang (2018) and Fox (2018) opine that accounting information in developing economies are more likely to be noisy because of sloppy accounting, crony capitalism and insufficient regulation. Moreover, Luo, Zhu, and Li (2009) identified such factors as lagging and multiple regulations as factor that affect relevance of accounting information in emerging stock market. We may describe an emerging stock market as one that is still in its transitory stage of development with potentials to expand its activities towards efficiency. The Nigeria Stock Market may be referred to as emerging.

In this study we compared the value relevance of accounting information between samples of banks and non-bank companies listed on the Nigerian

Stock Exchange. More properly, this study uses the Feltham - Ohlson Framework (1995) as used by Collins, Maydew and Weiss (2017) to determine whether there is any relationship between accounting data and market value of share quoted on the Nigerian stock exchange using samples from both bank and non-bank quoted companies.

Studies of value relevance of accounting numbers routinely employ regression of stock price on accounting variables to evaluate the relevance of such accounting numbers (Feltham & Ohlson, 1995 and Ball & Brown, 1968). In almost four decades of capital market-based accounting research, emphasis has been placed on market efficiency (testing the information content of earnings) in a bid to determine whether accounting information is useful for investment decisions.

International Accounting Standards Committee (IASC) (2009) posits that the primary purpose of accounting is to meet the needs of capital market. This study therefore seeks to find out the value relevance of accounting information in the Nigerian stock market. Specifically, we seek to answer the following questions: (a) is the value relevance concentrated in earnings or Book values? (b) is the accounting information more relevant in the banking sub sector than in the non-bank subsector?

Published financial statements form the basis for evaluating financial performance and subsequently for making informed decisions as regards buying, holding or selling shares. More specifically, reported earnings and changes in equity of companies have proven to be value relevant to shareholder for investment decisions (See Bao & Chow, 2017 and Hu, 2002). Alford, Leftwish and Zmijewski, (2008) observed that earlier studies on value relevance concentrated solely on the US markets. However, recently, the literature has extended to embrace non-US markets because of availability of research methodology from US research and increasing emphasis on the role of accounting information in global markets, despite its pitfalls. This study employs the Feltham- Ohlson Framework, (1995) to determine the relationship between accounting data and market value with a view to establish the value relevance of accounting information. Furthermore, a comparison is made between these relationships using bank and non-bank companies listed on the stock exchange.

Investment decisions are vital to the advancement and improvement of the economy. These decisions are predicated upon the quality of information at the disposal as investors. If those who have the responsibility for making investment decisions are under informed, misinformed or uninformed, they are bound to make decisions that are tantamount to the misallocation of scarce economic resources. This would in turn affect the growth of the economy growth and hence its development.

Investigating the value relevance of accounting information in Nigeria Stock Market would help us to determine how sufficient financial information is for those who make use of accounting information. Misallocation of resources will result if stocks are not properly priced. The study would also offer the justification, if any, for strengthen accounting rules in Nigeria. Those who make accounting regulations would want to know whether accounting information is value relevant because this would provide them with the basis for developing standards and regulations that would enhance the value of financial statements. The study contributes to the literature on value relevance by comparing value relevance of bank and non-bank listed companies. This will further add evidence to need to regulate listed companies according to their sectors.

To guide this study, the following hypotheses are stated:
H_0: Earnings are not relevant in Nigeria capital market.
H_0: Book values are not relevant in the Nigerian capital market.
H_o: Accounting information are more value relevant in bank than non-bank subsector of the Nigerian stock exchange.

The remainder of this paper is prearranged as follows: Section two provides a literature review of related studies. Section three presents the research methodology. Section four discusses the empirical findings. Finally, summary of findings, conclusions and recommendations are made in section five.

Literature Review

In accounting literature, as early Ball and Brown, (1968) and as far as to the work done by Ohlson (1995), earnings and book values have been shown to be weighty factors for explaining stock price variations. Collins *et al.* (2017) showed that the joint value relevance of earnings and book values has increased a little over the last 40 years, and the results are objectively constant using the Ohlson model. Burgstahler and Dichev, (2007) concluded that equity value is a convex function of both earnings and book value. By using a sample of 396 bankrupt firms Barth, Bearer, and Landsman, (2018) created and tested the equity book value and net income as a function of financial fitness and they find that the incremental power of equity book value (net profit) increases (decreases) financial fitness. These researchers used data gathered from quoted on the New York Stock Exchange.

However, Aharony *et al*. (2000) and Haw *et al*. (2009) among others have cast doubt on the value relevance of accounting information in emerging markets. They advanced the argument that in emerging markets there is out right absence of regulation, insufficient regulation, corruption-motivated regulation and weak enforcement of regulation. Liu and Liu, (2007) studied value relevance of accounting information in China. They discovered that accounting information is value relevant in all the A-, B and H- share market. Other researchers like Hossian and Marks, (2005) examined the value relevance of book value and earnings, have examined the value relevance of different types of accounting information. Hossain, (2008) looked at value relevance of quarterly foreign sales data U.S multinational corporations after adopting Statement of Financial accounting standard SFAS 131.

The study indicates that for all sampled firms, the value relevance of quarterly foreign sales data increases after the firms adopt Statement of Financial accounting standard (SFAS) 131. Furthermore, Kallapur and Kwan, (2004) studied the value relevance and consistency of brand assets documented by 33 UK firms, and the stock price reaction to the declaration of brand capitalization. Hand, (2005) examined the value relevance of financial statement data and non-financial statement information within and across the pre-IPO venture capital and post

–IPO public equity markets. Thus, Chen and Zhang, (2003) test a model that addresses the incremental value relevance of segment data beyond firm level

accounting data. In all, these cases accounting information is found to be value relevant.

Research Design and Model Specification

A comparative analysis of research design has been adopted for this study. We use data from both companies listed in the banking and non-banking sub-sectors of the Nigeria Stock Market. A comparative study research design emphasizes an exploratory research design. By this design, the researcher can discover and address issues as they arise in this study. The study seeks to understand as much as possible about a single group of subjects and how they compare with others. A comparative study thus specializes in profound data analysis based on a context that results will produce a more useful finding.

To achieve the objectives of this study, we selected a sample of firms listed on the Nigerian Stock Exchange for periods 2008-2017. Our selection is subjective, as our goal is exploratory. The information was obtained from the records of the Corporate Affairs Commission (CAC) and the Nigerian Stock Exchange (NSE) databases. The financial reports of the sampled firms were the main source of data the study. We selected seven firms from the banking subsector and six from the non-banking subsector.

There are two basic types of valuation models in the value relevance literatures. A return model describes the associations between stock price reactions to new information embodied in earnings surprises during a narrow window of earnings announcements. However, based on the notion of Ohlson, (1995) a model has been developed that expresses the value of the firm as a function of the book value of shareholder equity and its current level of earnings.

Harris, Lang, and Moller, (2004); Collins *et al*. (2017) and King and Langli, (1997) use market value and book value to examine value relevance. We specify the model for this study as:

$P_{jt} = K_1 + K_2\ BVPS_{ij} + K_3 EPS_{jt} + E_{jt}$ 1

Where;

MPS_{jt} Stock price as the year end and

$BVPS_{jt}$ Book value per share for the period ended at time t.
EPS_{jt} Earnings per share for the period ended at time i.
E_{jt} Error term as time t. K_1, K_2 and K_3 are coefficients

We further decompose the above regression in order to test for value relevance of book values and earnings isolated as suggested by Collins *et al*. (2017).

$MPS_{jt} = a_1 + a_2\ BVPS_{jt} + E_{jt}$ ..... (2)

$MPS_{jt} = b_1 + b_2\ EPS_{jt} + E_{jt}$ ..... (3)

Data Presentation

Table 1A Descriptives: Earnings per share for banks from 2008-2017

Variables= FBN, Union Bank, UBA, Zenith, ECOBANK, GTB, FCMB/statistics=mean STDDEV MIN MAX.

	N	Minimum	Maximum	Mean	Std. Deviation
FBN	10	.21	2.33	1.1482	.09724
UNION BANK	10	.33	1.43	.8114	.40334
UBA	10	.11	.60	.2362	1.5392
ZENITH	10	.76	1.19	.9860	.28025
ECOBANK	10	.12	1.36	1.1280	.89579
GTB	10	.16	2.20	1.2110	1.1046
FCMB	10	.11	1.79	.6310	.52303
Valid N (listwise)	10				

(SOURCE: Author's computation, 2019)

Table 1A, a product of table 1B in appendix 1, and is the descriptive statistics of earnings per share (EPS) for the selected banks from 2008-2017. The highest EPS for the period of the study is 2.33 for FBN and the lowest is 0.12 for ECOBANK. During the period GTB had the highest average EPS of 1.21 and UBA had the lowest EPS of 0.2362. The degree of variation of returns is a measure of risk. This is captured by the standard deviation. The share of

UBA is the riskiest for the period of the study. The standard deviation is about 1.54.

Table 2A Descriptive: Book Value Per Share for Selected Banks From 2008-2017
Variables=FBN Union Bank UBA Zenith Ecobank GTB FCMB Statistics=Mean STDDEV MIN MAX
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
FBN	10	2.47	5.18	3.3760	.93926
UNION BANK	10	3.14	7.01	5.0930	1.48833
UBA	10	.58	5.48	2.3330	2.07414
ZENITH	10	7.06	11.44	9.1470	1.37049
ECOBANK	10	1.26	1.68	1.5300	.11614
GTB	10	.23	1.03	.6570	.19816
FCMB	10	1.29	3.42	2.4350	.84321
Valid N (listwise)	10				

(SOURCE: Author's computation, 2019)

Table 2 is the descriptive statistics for the book value per share for the period 2008-2017 for the seven firms in the banking subsector. The data is extracted from annual reports as shown in Table 2B in appendix 1. Zenith tops the group in terms of book value per share (BVPS) in the period studied. The maximum BVPS of Zenith for the period studied is 11.44. In the same vein the least BVPS for the companies studied is 0.23 for GTB. Zenith has the highest mean BVPS of 9.15 approximately. Again, UBA's standard deviation of 2.07 approximately is the highest for the period and for the companies studied.

Table 3A Descriptives: Share Prices for banks from 2008 to 2017 Variables= FBN, Union Bank, UBA, Zenith, ECOBANK, GTB, FCMB/statistics=mean STDDEV MIN MAX.

	N	Minimum	Maximum	Mean	Std. Deviation
FBN	10	4.51	5.70	4.3020	.59790
UNION BANK	10	2.91	6.45	5.8160	1.00072
UBA	10	3.10	5.70	4.5280	1.97071
ZENITH	10	7.87	18.50	11.6500	2.27668
ECOBANK	10	5.21	9.00	7.4180	9.81564
GTB	10	12.00	18.90	15.2260	.38976
FCMB	10	0.50	1.60	1.8150	7.01440
Valid N (listwise)	10				

(SOURCE: Author's computation, 2019)

Table 3A shows the share prices of banks in the sample. GTB recorded the maximum share price of 18.90 for the same in the period under review. The company also recorded the highest mean average share price of 15.22. FCMB recorded the least share price of 0.50 and ECOBANK's standard deviation for share price of 9.82 approximately is the highest.

Table 4A Descriptive: Earning Per Share for Companies in non-banking subsector 2008-2017 (in Naira)
Variables=Berger Paints, Capital Hotels, Unilever, glaxosmithkline, Cadbury, UACN /Statistics=MEAN STDDEV MIN MAX
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
BERGER	10	3.16	6.37	3.5840	1.16744
CAPITAL HOTELS	10	2.04	3.82	2.6890	.69955
UNILEVER	10	1.32	7.52	4.1150	2.63082

GLAXOSMITHKLIN E	10	.63	4.77	2.3690	1.62302
CADBURY	10	1.13	3.88	2.1890	.99966
UACN	10	1.19	2.59	1.7780	.45252
Valid N (listwise)	10				

(Source: Author's computation, 2019)

Table 4A displays the descriptive statistics of the EPS of firms in the non-banking sub sector. The minimum EPS for the sample for the period is 0.63 for Glaxosmithkline, while the maximum EPS for the period for the sample is 7.52 for Unilever. Unilever had the highest mean EPS of 4.11 and the highest standard deviation of 2.63.

Table 5A Descriptives: Book Values per share for non-banking Companies from 2008-2017 (in Naira)
Variables= Berger Paints, Capital Hotels, Unilever, Glaxosmithkline, Cadbury UACN/Statistics=Mean STDDEV MIN MAX

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
BERGER PAINTS	10	1.74	9.68	4.6380	2.56714
CAPITAL HOTELS	10	4.72	9.35	7.0160	1.38902
UNILEVER	10	2.03	3.53	2.8330	.56085
GLAXOSMITHKLINE	10	8.33	20.13	13.2330	3.68552
CADBURY	10	2.91	12.41	6.0890	3.44376
UACN	10	5.45	10.13	7.6650	1.42717
Valid N (listwise)	10				

(Source: Author's computation, 2019)

Table 5A shows book values per share for non-banking companies selected for the study. Book value per share ranges from 1.74 for Berger paints to 20.13 for Glaxosmithkline. Glaxosmithkline also has the highest mean book value per share and the highest standard deviation.

Table 6A Descriptives: Share Prices for non-banking Companies from 2008-2017 (in Naira)
Variables= Berger Paints, Capital Hotels, Unilever, Glaxosmithkline, Cadbury UACN/Statistics=Mean STDDEV MINMAX
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
BERGER PAINTS	10	4.62	6.30	5.9110	7.53702
CAPITAL HOTELS	10	2.12	3.25	2.5910	5.37190
UNILEVER	10	24.01	32.00	27.5220	45.26237
GLAXOSMITHKLINE	10	7.10	8.00	7.2830	4.86123
CADBURY	10	6.24	51.01	34.8810	17.95473
UACN	10	4.02	5.95	9.6040	6.50954
Valid N (listwise)	10				

(Source: Author's computation, 2019)

Table 6A shows the share prices of companies selected in the non-banking subsector. The price per share was highest for Cadbury 51.01 per share. The lowest share price of 2.12 was recorded by capital hotel. The highest mean share price and standard deviation are recorded by Unilever and are respectively 27.52 and 45.26

Data Analyses

The data described in the foregoing section was analyzed using the model specified in Section 3. We tested the value relevance of earning and book values in the model provided by Ohlson (1997) and used by Collins *et al.* (2017). Using the cross sectional and pooled time series data from the banking subsector, and non-banking sub sectors, we find the following results in tables 7 and 8.

Table 7: Results of Regression for Banks
(A)

Ordinary Least Squares Estimation

Dependent variable is MPS
70 observations used for estimation from 1 to 70

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
A	4.79997	1.2352	3.9093[.000]
EPS	.99740	.78392	1.2682[.209]
BVPS	.023460	.25756	.09062[.928]

R-Squared 0.024280 R-Bar-Squared -0.0048456
S.E. of Regression 6.1079 F-stat. F(2, 67) .83363[.439]
Mean of Dependent Variable 5.5364 S.D. of Dependent Variable 6.0932
Residual Sum of Squares 2499.6 Equation Log-likelihood -224.4638

Akaike Info. Criterion -227.4638 Schwarz Bayesian Criterion -230.8365
DW-statistic 0.89471
Diagnostic Tests

Test Statistics	LM Version	F Version
A:Serial Correlation	CHSQ(1)= 20.8275[.000]	F(1, 66)= 27.9550[.000]
B:Functional Form	CHSQ(1)= 1.0580[.304]	F(1, 66)= 1.0129[.318]
C:Normality	CHSQ(2)= 383.9765[.000]	Not applicable

D:Heteroscedasticity CHSQ(1)= .45831[.498] F(1, 68)= .44815[.505]

A:Lagrange multiplier test of residual serial correlation
B:Ramsey's RESET test using the square of the fitted values
C:Based on a test of skewness and kurtosis of residuals
D:Based on the regression of squared residuals on squared fitted values

(B) Cochrane-Orcutt Method AR(4) converged after 3 iterations
Dependent variable is MPS
70 observations used for estimation from 1 to 70

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
A	5.8219	2.3201	2.5094[.015]
EPS	-.31160	.76912	-.40514[.687]
BVPS	.21676	.36939	2.5868[.039]

R-Squared 0.57072 R-Bar-Squared 0.50673
S.E. of Regression 5.1375 F-stat. F(6, 59) 5.7930[.000]
Mean of Dependent Variable 5.5364 S.D. of Dependent Variable 6.0932
Residual Sum of Squares 1557.2 Equation Log-likelihood -197.9634
Akaike Info. Criterion -204.9634 Schwarz Bayesian Criterion -212.8331
DW-statistic 2.0197

(SOURCE: Author's computation, 2019)

Table 7a and b show the regression for the banking subsector sector. Table 7a shows the initial result of the regression. The result is improved using the Cochrane Orcutt after four iterations as shown in table 7b. In table 7b, EPS is negatively related to MPS. This is not in accordance with our a prior expectation. However, BVPS is shown to be positively and significantly related to MPS as expected. EPS is are not significant at 10%. The R^2 of 57% indicates that 57% of systemic variation in MPS is explained by EPS and BVPS. After adjustment of $R^{2,}$ the adjusted R^2 fell to 51%. Meaning that 51% of the variations in MPS can be explained by the model after adjusting $R^{2.}$ The test of significance of R^2 using the F-test shows that the overall model is significant. Thus, the hypothesis that the entire slope coefficient is insignificantly different from zero is invalid for this study for the case of banking subsector.

The high value of standard error of estimate (SEE) of 5.14 indicates that the fit is not good and more importantly the predictive ability of the model is somewhat unreliable. The ratio of SEE to mean dependent variable (MDV) of 0.92 indicates that the regression fit is unacceptable. The DW- statistics of 2.00 indicates absence of serial correlation.

Table 8: Results of Regression For Non-Banking Subsector

Ordinary Least Squares Estimation

Dependent variable is MPS

60 observations used for estimation from 1 to 60

Regressor	**Coefficient**	**Standard Error**	**T-Ratio[Prob]**
A	1.6585	4.6027	.36033[.720]
EPS	11.1004	1.2243	9.0670[.000]
BVPS	-.92157	.51028	-1.8060[.076]

R-Squared .59149 R-Bar-Squared .57716

S.E. of Regression 15.6366 F-stat. F(2, 57) 41.2662[.000]

Mean of Dependent Variable 19.7535 S.D. of Dependent Variable 24.0466

Residual Sum of Squares 13936.6 Equation Log-likelihood -248.5742

Akaike Info. Criterion -251.5742 Schwarz Bayesian Criterion -254.7158

DW-statistic 1.3558

Diagnostic Tests

Test Statistics	LM Version	F Version
A:Serial Correlation	CHSQ(1)= 6.5428[.011]	F(1, 56)= 6.8540[.011]
B:Functional Form	CHSQ(1)= 16.8130[.000]	F(1, 56)=

21.8012[.000]
C:Normality CHSQ(2)= 114.6745[.000] Not applicable
D:Heteroscedasticity CHSQ(1)= 19.7723[.000] F(1, 58)= 28.5075[.000]

A:Lagrange multiplier test of residual serial correlation
B:Ramsey's RESET test using the square of the fitted values
C:Based on a test of skewness and kurtosis of residuals
D:Based on the regression of squared residuals on squared fitted values

(B) Cochrane-Orcutt Method AR(4) converged after 2 iterations

Dependent variable is MPS
60 observations used for estimation from 1 to 60

Regressor	**Coefficient**	**Standard Error**	**sT-Ratio[Prol**
A	4.1375	6.7008	.61746[.539]
EPS	11.1858	1.7033	6.5671[.000]
BVPS	-1.2455	.76345	-1.6314[.108]
R-Squared	.72609	R-Bar-Squared	.68030
S.E. of Regression	15.8198	F-stat. F(6, 49)	13.6743[.000]
Mean of Dependent Variable	19.7535	S.D. of Dependent Variable	24.0466
Residual Sum of Squares	12263.1	Equation Log-likelihood	-230.3524
Akaike Info. Criterion	-237.3524	Schwarz Bayesian Criterion	-244.6826
DW-statistic	1.9997		

Parameters of the Autoregressive Error Specification
U= .34426*U(-1)+ -.033160*U(-2)+ -.053958*U(-3)+ .0037998*U(-4)+E
(2.3185)[.024] (-.21423)[.831] (-.34747)[.730] (.025595)[.980]
T-ratio(s) based on asymptotic standard errors in brackets
(SOURCE: Author's computation, 2019)

Table 8A and 8B show the regression results for data for non-banking subsector. Table 8B shows the improvement of the result in 8A using Cochrane Orcutt after two iterations. Share price (MPS) is expressed as a function of book value per share (BVPS) and earnings per share (EPS). An examination of the result shows that the regression results the regression result fit fairly. Looking at the goodness of fit statistics, it can be seen that both the R^2 and adjusted R^2 are able to account for about 73% and 68% respectively of the systemic variation in share prices in the non-banking subsector the R^2 value of 0.73 shows that with two regressor and an intercept term, 73% of the systemic variation in share price is accounted for leaving off 27%, which can be attributed to the stochastic error term.

A test of significance of R^2 using F-test shows that the overall model is highly significant at both 5 percent and 10 percent levels of significance. Since the observed f-value of 13.67 is greater than the critical values at both 5% and 10% levels of significance. This means that there is a significant linear relationship between the dependent variable (share price) and the independent variables (EPS and BVPS) taken together. Thus, the hypothesis that the entire slope coefficient is significantly different from zero is validated for this study in the case of non-banking subsector.

Based on a priori specification, EPS is positively related to MPS as expected. However, BVPS did not conform to our a priori expectations. However, on the parameter estimate, EPS passed the t-test at 5% level of significance using the rule of the thumb. Thus, the coefficient of EPS is statistically different from zero, while that of BVPS is not statistically different from zero.

The high value of SEE is an indication that the all fit of the model is not good, and more importantly, the predictive ability of the model is somewhat unreliable. The ratio of SEE to MDV of 0.80 indicates that the regression fit is acceptable. The DW – statistics value of 2.00 shows the absence of serial correlation in the model.

Summary of Findings, Conclusion and Recommendation

This study tested the value relevance of accounting information in the Nigeria Stock Market. Using a sample of firms listed on the floor of the stock exchange from the banking subsector, and non-banking sub sectors we determine the extent to which earnings and book values explained share prices.

Given our model and data, we find that:
Share prices have positive relationship with book value per share (BVPS) and negatively related to earnings per share (EPS) in the banking subsector. On the other hand, for non- banking sub sectors, MPS is negatively related to BVPS, and positively related to EPS.

In the banking subsector, 57% of the systematic variation in share price is explained by the independent variables (BVPS and EPS). However, for the non-banking sub sectors about 73% of the systematic variation in share price is explained by the independent variables. In order words, using our R^2, we conclude that accounting information is more value relevant in the non-banking industry than in the banking subsector.

In the both sectors there is a linear relationship between the dependent (MPS) and the independent variables (BVPS and EPS).

Using R^2, the R^2 value of 0.73 for non-banking subsector shows a strong positive linear relationship between share price and EPS and weak negative relationship between MPS and BVPS). However, an R^2 of 0.57 for the banking subsector show a weak positive relationship between MPS and BVPS and a weak negative relationship between MPS and EPS.

In the non-banking subsector EPS is very significant in determining share price, while in the banking subsector; none of the independent variable is significant in determining share price.
In the context of the foregoing we conclude that accounting information has some relevance to share price valuation. As earlier articulated, audited financial statements represents the most available source of information as to the performance, progress and position of the business. The study

illustrated that the firms place value on the role of accounting in creation and communication of wealth. It is this information role that permits a continuous review to ensure that opinion of investors as to the reliability of financial statements is well-preserved.

To enhance the value relevance accounting information in Nigeria, regulatory authorities such as the Financial Reporting Council of Nigeria, Institute of Chartered Accountants of Nigeria, Nigerian Stock Exchange and the Securities and Exchange Commission, must continually supervise the preparation and presentation of financial statements and update regulation to improve the quality of financial reporting in Nigeria.

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MANAGEMENT CAPABILITY AND THE EFFECTIVENESS OF INNOVATION STRATEGY IN THE NIGERIAN SMES

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Abstract

It is argued that for SMEs to survive the competitive nature of today's business environment and achieve higher performance, they need to develop a systematic innovation strategy. However, most of the studies in management capability and SMEs performance focus on the role of management capability in the development and the implementation of successful innovative business strategies. Little is known about the effect of management capability on the innovation strategy of SMEs. This study fills in this gap by examining the relationship between innovation strategy and the performance of Nigerian SMEs. The study employed quantitative research design. A total number of 371 questionnaires were administered on the owners/managers of food and beverage manufacturing SMEs operating in Bauchi, Kano and Niger states of northern Nigeria. The data gathered were analysed using Partial Least Square Structural Equation Model (PLS-SEM, 3.0). The study revealed that the effectiveness of innovation strategy in terms of presenting new product, updating operating system and administrative techniques significantly enhances SMEs profitability, growth, social and environmental performance as well as customer and employees satisfaction. It is recommended that SMEs managers and policy makers in Nigeria should acknowledge the role of innovation strategy and managerial capability in achieving and sustaining differential competitive advantage and performance.

Introduction

The role of small and medium enterprises (SMEs) in the process of industrialization, employment opportunities and overall sustainable economic wellbeing at all levels of economic development cannot be overemphasized. Various studies (Al-Ansari, Bederr, and Chen, 2015, Atsu and Cornelius, 2014, Gathogo and Ragui, 2014) have demonstrated the impact of SMEs on efficient utilization of local resources, provision of employment opportunities and improving per capita income and gross domestic product (GDP), which are considered pivotal to economic growth and development. In Nigeria, SMEs forms significant parts of the country's economy. However, their performance falls short of expectation in addressing its socio-economic problems (Eniola, 2014; SMEDAN, 2012).

This is primarily due to lack of innovative and ineffective strategic capability (Salisu, Abu Bakar, and Abdul Rani, 2017, Shamsudeen, Keat, & Hassan, 2016). On the other hand, it is established that innovation or differentiation is the most strategic alternative for achieving effective and sustainable firm's performance (Pisano, 2015, Dess, 1984). Innovation is, therefore, the principal driver to improve productivity and growth, which enables SMEs generate more value with limited resources and requires effective strategy (Hilman and Kaliappen, 2015). The benefits of innovation strategy is to provide and sustain differential value to customers more than competitors (Rosli and Sidek, 2013).

Therefore, for SMEs to survive the competitive nature in today's business environment and achieve higher performance, they need to develop a systematic innovation strategy (Srivastava, 2015). In this regard, Barbero, Casillas, and Feldman, (2011) demonstrated the role of management capability in the development and implementation of successful innovative business strategies. Quite a lot of studies have revealed the effect of management capability on firm's strategies and performance (Parnell and Brady, 2019, Pufal et al., 2015, Barbero, Casillas, and Feldman, 2011, Adner and Helfat, 2003). In spite of the development in the study of effects of management capability on business strategies, there is still a dearth of empirical study and knowledge on the effect of management capability on the innovation strategy of SMEs firms. Therefore, this study aims to answer

the question: Does management capability mediate the relationship between innovation strategy and the performance of SMEs?

Literature Review and Hypotheses Development

This section reviews literature and develop hypothesis in areas that underpin the research. The section reviews literature on the effect of innovation strategy and SMEs performance. The section also reviews literature related to management capability and SMEs performance. In addition, the section reviews literature on innovation strategy and management capability. The section ends by reviewing literature on mediating role of management capability.

Innovation Strategy and Performance

SMEs firms are fast recognizing the facts that innovation is the most strategic instrument for surviving and sustaining superior competitive position in today's rapid changing environment. Griffiths and Kickul (2008) postulated that although there is no innovation policy that is "one size fits all" kind of firms, yet there exist some essential procedures that support and boost successful implementation of innovation process. The efficiency of these procedures, which comprises political, cultural, legal and economic factors that inspire innovative behavior, is generally specific to institutional and environmental setup, thus requires effective strategy. Lawson and Samson (2001) described innovation to mean all activities that transform knowledge and ideas into new or improved product and process to effectively satisfy the firm's stakeholder needs. Hence, innovation strategy is necessary for successful business operation (Nybakk and Jenssen, 2012). The strategy adopted to innovate is what creates the distinction between the losers and winners in today's competitive business environment (Kaliappen and Hilman, 2017). Pang, Wang, Li, and Duan, (2019) opined that strategy significantly enhances firm's performance. Innovation strategy entails conscious plan of actions which empower firm to improve competitive position through cost and price reduction, better product quality and enhance efficiency in service delivery (Kaliappen and Hilman, 2017).

Innovation strategy facilitates development of strategic and operational capabilities, which allow firms achieve competitive advantage and better performance (Ndubisi, Capel, and Ndubisi, 2015, Hilman and Kaliappen, 2015). Obviously, SMEs firms need to develop effective innovation strategy to sustain competitive advantage and achieve superior performance (Srivastava, 2015). Through innovation strategy, SMEs firms efficiently create solution to the changing technology, skills and reasonable product price (Lattuch, Pech, Riemenschneider, and Weigert, 2013). Therefore, innovation strategy is an essential determinant of successful value creation (Dobni, Klassen, and Nelson, 2015). SMEs firms that placed innovation strategy at the most concerned corporate agenda, effectively create differential superior performance (Dobni, Klassen, and Nelson, 2015). Innovation play a significant role in the attainment of firm's superior performance (AbdulHamid and Tasmin, 2013). It enhances the firm's product performance in terms of cost and speed efficiencies and better quality (Abu Bakar and Ahmad, 2012). Hence, firms develop innovation strategy in order to enhance their target output, improve profit and overall performance (Bukhamsin, 2015). Innovation is crucial to the attainment of superior competitive advantages and performance (Aini, Chen, Musadieq and Handayani, 2013).

Therefore, through innovation strategy SMEs firms can efficiently expedite response to market demand and changes which eventually improve competitive position (Auken, Madrid-Guijarro and Garcia-Pérez-de-Lema, 2008). It is also an important determinant of future success of a firm (Assink, 2006). Innovation strategy is essential firm's strategy for successful product and process innovations (Nijhof, Krabbendam, and Looise, 2002), which enable the achievement of higher profit and growth rate (Buergin, 2006). Innovation strategy through improved product and process innovation capability empowers firm to outperform competitors (Jiménez-Jiménez and Sanz-Valle, 2011). Thus, without innovation strategy, operational failure is inevitable (Hamel, 2002). Innovation strategy allows SMEs to exploit opportunity, develop technical capabilities and acquire resources that expedite the introduction of new processes and products (Oluwajoba, Oluwagbemiga, Taiwo, Kehinde, and Akinade, 2007). Egbetokun, Siyanbola, and Adeniyi, (2010) demonstrated that SMEs in developing economies engage in types of innovation that efficiently suit their resources

and strategies. Nevertheless, innovation strategy generally takes various forms (Bessant and Tidd, 2007). Organization for Economic Cooperation and Development (OECD) provided a wider framework for innovation strategy which consist of product, process, organization and marketing innovations strategies OECD (OECD/Eurostat, 2005).

However, Damanpour and Gopalakrishnan (2001) classified innovation strategy as comprised technical and administrative innovations, where the former consists of product and processes, while the later covers new policies, procedures and structures. On the other hand, Ndubisi, Capel, and Ndubisi, (2015) designated innovation strategy as comprising product, process and administrative innovations. In the same way, Nybakk and Jenssen (2012) demonstrated that innovation strategy is the composition of investment in research and development, business system, product and process. Consequently, due to the distinctive nature of economic and environmental challenges constraining SMEs firms in developing economies of Africa, the product, process administrative innovation strategy (Ndubisi, Capel, and Ndubisi, 2015) was adopted in this study.

Product innovation strategy entails extensive strategic change in goods and services. Product innovation strategy is crucial SMEs strategic activities which allow the attainment and sustenance of superior competitive advantage and performance (Paladino, 2007). Product innovation strategy encompasses research and development, technical design and management activities in marketing the new product (Alegre and Chiva, 2009). It empowers SMEs firm to effectively develop new product and enhance the quality of product production process, which enable effective response to market demand. Therefore, effective product innovation strategy support SMEs firms expand their product market and maintain successful product delivery (Ndubisi et al., 2015). Furthermore, through product innovation strategy, SMEs firms successfully respond to frequent changes in customer's preference and adjust to technological and market changes (Shan and Jolly, 2013).

Process innovation strategy is essential SMEs strategy that facilitates the modification in production method. Process innovation involves strategic activities, which modify the techniques and approach to get the task done as

well as the schedule of activities and execution process of producing new or improve product (Oke, Burke, and Myers, 2007). It is therefore a strategy that facilitates substantial modifications in firm's production and delivery techniques (Ajayi and Morton, 2015). Moreover, Yu, Nguyen, and Chen, (2016) emphasizes that process innovation strategy enables SMEs firms reengineer its operating procedure, hence involves the innovation in internal operation process of a firm. Therefore, process innovation strategy plays significant role in taming the productivity of business firms under changing condition (Cohen and Levinthal, 1990).

Based on the fact that innovation has been described as an inevitable strategy for attaining and sustaining competitive position in the market place, business firms are no longer competing in innovation for market pioneering but in innovation for achieving and maintaining better competitive position (Lin and Chen, 2007). This development underscores the significance of administrative innovation strategy in enhancing firm's competitive position and performance. Administrative innovation strategy enables changes in firm's administrative and structural processes, which are ultimately part of firm's fundamental activities (Carmen and José, 2008). It comprises the adjustments in the way firm carried it administrative tasks like reward system, staffing, line of authority and structure as well as resource allocation. Therefore, administrative innovation strategy empowers SMEs firms to implement better procedure and method for proficient execution of jobs, and enable beneficial collaborative relationship with strategic external partners which help acquire and develop operations to improve firm's value creation (Camisón and Villar-López, 2012). Innovation strategy is, therefore, an essential driver of business product performance (Gumusluoglu and Acur, 2016, Ndubisi et al., 2015, Hilman and Kaliappen, 2015, Nybakk and Jenssen, 2012).

Management Capability and Performance

SMEs firms are establishments transmuting external and internal resources into form of technological process, product and activities to accomplish objectives (Zawislak, Alves, Tello-Gamarra, Barbieux, and Reichert, 2012). Porter and Ketels (2003) recognized that the competitive agenda ahead of business firms managers nowadays is the tasks of shifting from low

operational cost competition to the competition for differentiation through innovation and creation of distinctive value (Leseure, Bauer, and Birdi, 2004). Therefore, management in modern SMEs are expected to take much of their time and effort on decision concerning strategic and operational activities of their firm (Lindström, Samuelsson, and Hägerfors, 2010), and the development and implementation of strategies to achieve established objectives (Wasike, Ambula, and Kariuki, 2016). Development and implementation of business model and strategies are indispensable parts of strategic management task, thus management in SMEs must consider themselves as strategies, innovators, motivators and organizers that facilitate strategy implementation process. Barbero et al., (2011) underscore this view by demonstrating the significant role of managerial capability in all firm's growth and operational strategies.

Management capability is vital element in enhancing the success of business firms (Garcés-Galdeano, García-Olaverri, & Emilio, 2016). Management capability is crucial capability that help SMEs firms develop effective procedures, routines and capabilities that influence the success of innovation and operational strategies implementation (Kor and Mesko, 2013). Management capability has been described as the manager's ability to efficiently blend and transform technological resources into business process and operational activities (Zawislak et al., 2012). However, management through efficient creativity and talents creates environment that inspires employee's creativity, which facilitates the innovativeness to accomplish objective. Management capability is an important force in guiding firm's strategic decisions which direct and influence the creation of organizational values (Finkelstein, 1992), which in turns enhance performance (Kraus and Ferrell, 2016). Therefore, for SMEs firms to effectively and efficiently accomplish its goals, its coordinating capability must be proficient to rightly balance strategies and activities (Pufal, Zawislak, Alves and Tello-Gamarra, 2014).

Ahmed (1998) maintained that management must possess the capability to put more efforts into market analyses and external relations to ensure that firm's innovative activities are supported throughout the organization. Management must have the ability to identify and explore new and best way of achieving efficiency and stability, particularly when the firm wants to

utilize new techniques and knowledge to respond to changing demands (Pufal et al., 2014). Effective managerial capability empowers managers to determine, source and blend both human and material resources for successful development and implementation of business strategies (Zawislak et al., 2012).

Consequently, management capability helps firm increase the capacity for attainment of efficient resource utilization. Management capability effectively connects physical movement of firm's products with its broad strategy's contents (Sandberg, 2007). In general, management capability allows SMEs firms develop and preserve a smooth production and communication strategies to achieve superior level of efficiencies in business operation (Zawislak et al., 2012). The functions of management is beyond normal planning and controlling, it also plays essential role in the development and implementation of innovation strategy (Pufal, et al., 2014).

Management capability plays a dynamic role in enhancing firm's competitive advantage and sustainable superior performance (Helfat and Martin, 2015, Sandberg, 2007). It is an important firm's valuable resource that improves product quality; enhance productivity, competiveness and performance.

Innovation Strategy and Management Capability

Business strategy adopted by SMEs firm affects the comparative importance the enterprise places on capability development (Gumusluoglu and Acur, 2016). Strategy is essential in answering the question of how an enterprise management can outperform competitors to enhance performance (Abdullah, Hilman, Ramanchandram, Gorondutse, and Yunus, 2019). As firm's strategy focuses centrally on creating differentiation to beat competitors, it is essential to managerial performance. Management function in SMEs involves creating favorable competitive position than the competitors in the market and protects firm's essential resource and capabilities (Braun, Latham, and Cannatelli, 2019). The resulting effect of these effective management strategic decisions is a long-term sustainable competitive advantage (Braun, et al., 2019). McKee, Varadarajan, and Pride, (2006) maintained that strategy types such as innovation affect the increasing

level of firm's adaptive capability, which are part of dynamic managerial capability (Pang, Wang, Li, and Duan, 2019). Process innovation strategy involves strategic activities, which help management modify the techniques and approach to get the task done as well as the schedule of activities and execution process for producing new or improved product (Oke, Burke, and Myers, 2007).

The challenges in this global competitive environment require SMEs management to develop strategic capability that would transform the overall firm's strategic direction to face the intense competition (Kaliappen and Hilman, 2017). Hence, to achieve sustainable competitive advantage in today's operating global business environment, firm's management must not only focus on strategy, but also on enhancing capabilities, most essentially the sensing capabilities (O'Connor, 2008). Crucially, through service innovation strategy SMEs can develop management capability in gathering, evaluating and disseminating information related to customers to effectively respond to their demands (Kaliappen and Hilman, 2017). Innovation strategies allow SMEs firms' managers achieve economies of scale, decrease operational cost and increase firm's market share (Kaliappen and Hilman, 2017). Administrative innovation strategy empowers SMEs manager implements better procedure and method for proficient execution of jobs, and enables beneficial collaborative relationship with strategic external partners which help acquire and develop operational capability to improve firm's value creation (Camisón and Villar-López, 2012).

Mediating Role of Management Capability

The liberalization and globalization of trades have created a business environment without boundaries. Hence, SMEs firms in developing economies need to think and act beyond the comfort zone of their operations while developing innovation strategies in order to enhance competitive position in the global markets. Srivastava, (2015) advances that SMEs in developing economies should patiently invest in research and development, collaborate and learn efficiently. This, of course demonstrated the need of competent and committed management supports. Management capability enables SMEs to proficiently design strategies and internal structures that support smooth adjustment to environmental changes and demands to

improve competitive advantage and performance (Garcés-Galdeano, García-Olaverri, and Emilio, 2016). Capable managers typically hold generic capabilities in organizing, team development and collaboration network (Mintzberg, 2009). Teece (2007) advocated that these generic capabilities include development of business strategies, gathering and interpretation of information and entrepreneurial skills such as alertness, and sensing new opportunities. Management capability facilitates the strategies to relate to all firm's activities and operations (DeSarbo, Fong, Llechty, and Coupland, 2005). Hence, management capability supports SMEs firms to efficiently develop operational strategies and internal structure, which allows effective response to market demands so as to enhance performance (Garcés-Galdeano et al., 2016).

It is an essential capability for achieving perpetual productivity, profitability and market growth, with effective innovation strategy (Pufal, et al., 2014). Firm's competitive advantage is created by its innovation or business strategy that exploits its resources, capabilities and assets in a systematic manner (O'Connor, 2008).

Methodology

The study adopted a quantitative research design method. Consequently, a survey questionnaire was used in collecting the data of the study. A total number of 371 questionnaires were administered on the owners/managers of food and beverage manufacturing SMEs operating in Bauchi, Kano and Niger states of northern Nigeria. Over the two months period of administration a total number 241 questionnaires were filled and returned. However, physical inspections of the retrieved questionnaires identified 3 questionnaires as unqualified given that the number of fulltime employees are less than 10, which falls short of the definitions of SMEs by Nigerian government. Thus, the 238 valid questionnaires were keyed into the statistical package of social science (SPSS 24.0) for the analysis and management of outliers. The examination of the Z-score values of the univariate outliers reveals 7 values with equals or greater than ±3.29 regarded as potential outliers. Thus, these outliers were accordingly removed. Although, analysis of the multivariate outliers through Mahalanobis distance does not identify any potential multivariate outliers. Therefore, the 229 valid

observations were used in the main analyses. Partial Least Square Structural Equation Model (PLS-SEM, 3.0) was employed to conduct the measurement and structural models analyses. Specifically, in the measurement model the reliability, convergent and discriminant validities were evaluated. Whereas the structural model evaluates the relationships hypothesized using the coefficient of determination R^2, effect size, and the path coefficient.

Measurement

All the items used to measure the variables used in this study were adapted from the extant literature. Specifically, SMEs performance was measured with 6 items adapted from Santos and Brito, (2012). Similarly, 15 items (5 for each of the product, process and administrative innovation strategies) were adapted from Ndubisi et al. (2015). Accordingly, 8 items were adapted from Halac (2015) to measure management capability.

Measurement of Performance

S/No.	*Measurement Items*
1	Over the past few years, our firm has been recording success
2	Our firm profit has improved over the past few years
3	Over the past few years our employee's satisfactions have improved.
4	Over the past few years our customer's satisfactions have improved.
5	Over the last few years our firm's social performance has improve
6	Over the past few years our firm's performance in environmental protection has improved

Measurement of Management Capability

S/No.	*Measurement Items*
1	Our company management team has adequate knowledge about our industry
2	Our company management team has the required technical capabilities for the industry in which we operate
3	Our company management team has cordial relations with customers and suppliers

4	Our company management team has understanding capabilities to changed environment
5	Our company management team has the right leadership abilities
6	Our company management team developed good relations with employees
7	Our company management team has strategic planning abilities
8	Our company management team shares our established vision

Measurement of Product Innovation Strategy

S/No.	*Measurement Items*
1	Over the past few years, our firm has presented numerous new products to the market
2	Over the past few years, our firm has been modifying its products
3	Over the past few years, our firm has been regularly assessing the need for new product
4	Over the past few years, our firm has introduced many new products than competitors
5	Over the past few years, the new product we have been introducing has caused substantial changes in a positive fashion within the industry we serve
6	Over the past few years, our firm has relentlessly set its operating system to global standard
7	To increase productivity, our firm has constantly updated its work practice over the past few years.
8	Over the past few years, our firm has been regularly using technology in improving the quality of our product
9	Over the past few years, our firm has been investing adequately in developing new operating system
10	Over the past few years, our firm has been regularly training its employees on new technology
11	Over the past few years, our firm has been regularly introducing new ways of managing our affairs
12	Over the past few years, our firm has been investing substantially in updating administrative techniques
13	Over the past few years, our firm has been empowering employees to initiate

14	Over the past few years, our management has been regularly assessing new administrative system
15	Over the past few years, our administrative system has served as a benchmark to competitors

Treatment of Common Method Variance

As the study used self-reported techniques in data collection for both the predicting variables and the criterion variable, there may be the possibility that common method bias may affect the validity of the data collected. Common method variance/bias (CMV) has been the probable delinquent affecting research in social sciences nowadays. Nevertheless, Podsakoff, MacKenzie, Lee, and Podsakoff, (2003) confirmed that the challenges of CMV can be minimized and/or totally eliminated by the use of both procedural and statistical techniques. Consequently, this study employed both the procedural and statistical techniques to manage the potential problems of CMV. As part of the procedural techniques, the study effectively confirmed the exclusion of vagueness in wordings and assuring the privacy of the respondents (Chang, Van Witteloostuijn, and Eden, 2010, Podsakoff, et al., 2003). Likewise, the Harman's single-factor examination was statistically conducted to evaluate the CMV. The results of the statistical test indicate 8 factors, which collectively explained 78% of the total variance, with the higher predictor explaining 25.964%, which is significantly less than the 50% (Kumar, 2012). Therefore, no individual factor explained the 50% major variance (MacKenzie and Podsakoff, 2012, Kumar, 2012). Hence, the potential CMV was not an issue on the reliability of data in this study.

Results

The data collected were analyzed in this section. Specifically, the measurement model, which comprises reliability, convergent and discriminant validity, were analyzed. Similarly, the structural model, which covers the hypotheses tests and the coefficient of determination, were evaluated.

Reliability Test

Reliability test examines the degree to which the outcomes generated from a particular instrument is consistent over time (Hair, et al., 2017). Generally, Cronbach's alpha and composite reliability are the two important techniques used to evaluate the reliability of a survey measurement. The acceptable threshold for Cronbach's alpha is 0.6 and above. Accordingly, 0.70 was established to be the acceptable value for composite reliability (Hair, et al., 2017). On the other hand, average variance extracted (AVE) is the most commonly used technique to evaluate convergent validity. An AVE value of 0.5 is the minimum acceptable value to determine convergent validity of survey measurement.

Table 4.1 Reliability Test

Variables	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
INNOS	0.923	0.933	0.523
MCAP	0.829	0.883	0.608
PERF	0.828	0.881	0.602

From the table 4.1 above, it can be clearly observed that all the variables under study have satisfied the requirements for Cronbach's alpha of not less than 0.6. The value of the Cronbach's alpha ranges from 0.923 to 0.828. Similarly, the value of composite reliability range from 0.933 to 0.881. Thus all the variables satisfied the requirements for composite reliability. Accordingly, the table 4.1 demonstrated that all the variables have achieved the required threshold of convergent validity, as none of the variable has less than 0.5 AVE value.

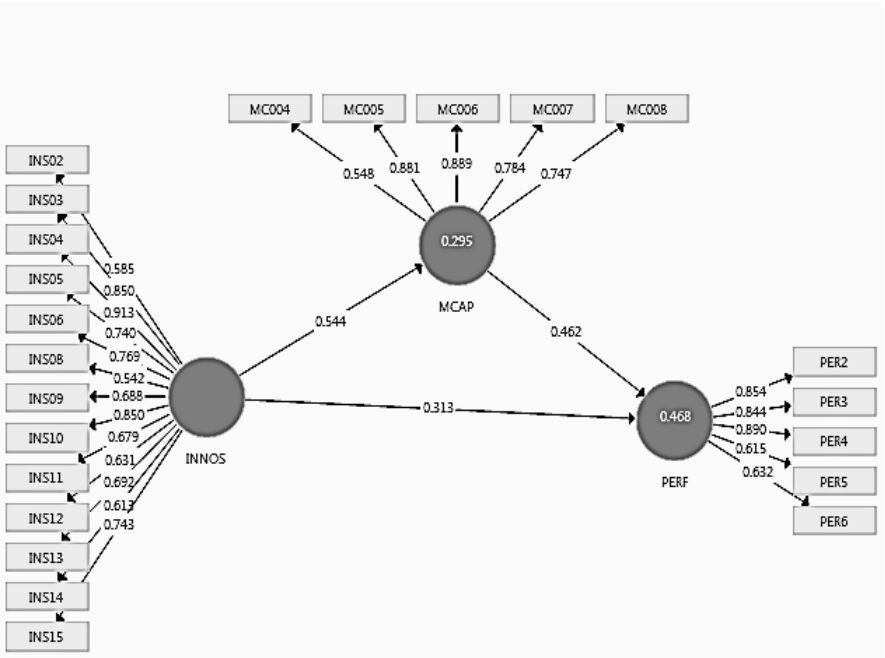

Figure 4.1
PLS-SEM Algorithm

Discriminant Validity

Discriminant validity evaluates the extent to which a particular variable is distinct from the other variables in the model. Specifically, discriminant validity ensures that a particular construct measure different phenomenon form the other variables. Normally, a cross-loading and Fornell-Lacker criterion are the major techniques to examine discriminant validity. Consequently, Fornell-Lacker criterion was used to examine the discriminant validity in this study. Fornell-Lacker criterion recognized that the average variance value of a particular variable must be greater than the value of other correlated variable. The number in bold in table 4.2 below demonstrated the average value against the corresponding correlated values of other construct. It can be clearly seen from the table 4.2 that all the variables have higher

average value than the correlated values, thus the requirement for discriminant validity was satisfied in this study.

Table 4.2 Discriminant Validity

Variables	INNOS	MCAP	PERF
INNOS	0.723		
MCAP	0.544	0.780	
PERF	0.564	0.632	0.776

Testing the Direct Relationship

PLS-SEM bootstrapping technique was used to evaluate the hypotheses established for this study. 5000 resample of 229 cases were used to analyze the hypotheses. Specifically, three (3) direct relationships and one indirect relationship were tested. The statistical results of the test indicate support for all the hypotheses tested as shown in table 4.3 below. Precisely, the result shows that innovation strategy significantly and positively relates to the performance of SMEs in Nigeria ($\beta = 0.571$; $t = 10.501$; $P < .000$). Similarly, innovation strategy positively and significantly impacted on management capability in SMEs in Nigeria ($\beta = 0.551$; $t = 11.301$; $P < .000$). Furthermore, management capability significantly and positively enhances SMEs performance ($\beta = 0.462$; $t = 7.426$; $P < .000$).

Table 4.3: Testing the Direct Relationship

Paths	Mean	STDEV	T-statistic	P-value
INNOS -> MCAP	0.551	0.048	11.301	0.000
INNOS -> PERF	00.571	0.054	10.502	0.000
MCAP -> PERF	0.462	0.062	7.426	0.000

Testing the Indirect Relationship

Table 4.4 below presents the statistical result of the indirect relationship established. Specifically, it tested the mediating role of management capability on the relationship between innovation strategy and the performance of SMEs. The statistical result indicates that management capability mediates the relationship between innovation strategy and the performance of SMEs in Nigeria ($\beta = 0.255$; $t = 6.677$; $P < .000$) as reveals by table 4.4 below.

Table 4.4: Testing the Indirect Relationship

Paths	Mean	STDEV	T-statistic	P-value
INNOS -> MCAP -> PERF	0.255	0.044	6.677	0.000

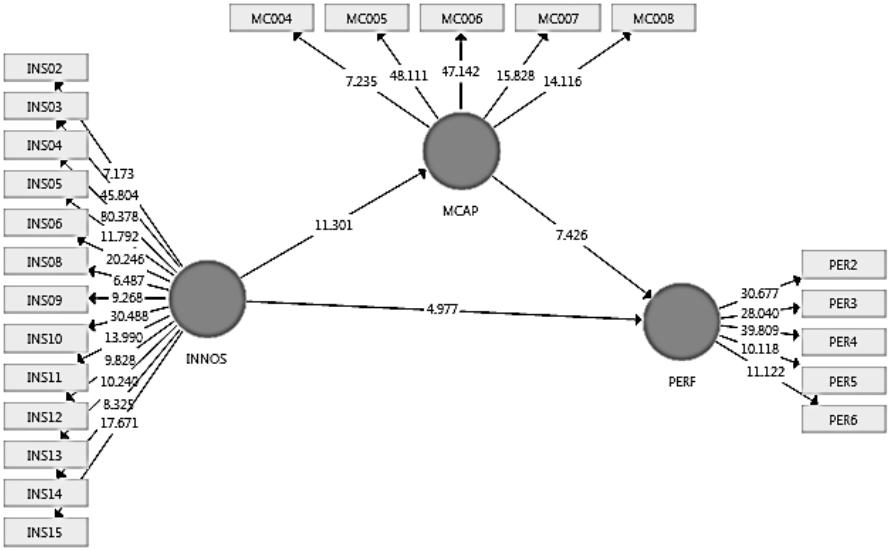

Figure 4.2: PLS-SEM Bootstrapping

Coefficient of Determination

Coefficient of determination or R-square (R^2) evaluates the extent to which the predicting or independent variable accounts for changes in the criterion or dependent variable (Hair et al., 2017). While the issue of acceptable coefficient value (R^2) is subjected to research context (Hair, Ringle, & Sarstedt, 2013). Cohen, (1988) suggested that R^2 value of 02, .13 and .27 as small, medium and large coefficient of determination respectively. Table 4.5 below presents the value of R^2.

Table 4.5: Coefficient of Determination R^2

Paths	R^2	Decision Based on Cohen (1988)
INNOS -> MCAP	0.295	Large
INNOS -> MCAP -> PERF	0.468	Large

Discussion

The results from the statistical test indicate that innovation strategy is essential to the enhancement of SMEs performance. This finding demonstrates that the effectiveness of innovation strategy in terms of presenting new product, updating operating system and administrative techniques significantly enhances SMEs profitability, growth, social and environmental performance as well as customer and employees satisfaction. This supports the findings of previous studies (Hilman and Kaliappen, 2015, Ndubisi et al., 2015, Nybakk and Jenssen, 2012). Consequently, innovation strategy is crucial strategy for achieving sustainable competitive advantage and superior performance. Similarly, innovation strategy is an essential strategy, which significantly improves management capability. This means that innovation strategy enable SMEs develop management capability in gathering, evaluating and disseminating information related to customers to effectively respond to their demands. These allow SMEs firms' managers develop capability for achieving economies of scale, decreasing operational cost and increasing firm's market share. Accordingly, innovation strategy empowers SMEs manager implement better procedure and method for proficient execution of jobs, and enable beneficial collaborative relationship with strategic external partners, which help acquire and develop operational skills to improve firm's value creation.

Furthermore, management capability through efficient leadership, collaboration and monitoring of the development in the operating environment positively affect SMEs performance in terms of profitability, employees and customer's satisfaction. This result confirms the views and finding of the extant literature (Garcés-Galdeano et al., 2016, Wasike, et al., 2016, Pufal et al., 2014, Kor and Mesko, 2013, Zawislak et al., 2012, Barbero et al., 2011). It also demonstrated that management capability is an essential determinant factor in enhancing the success of SMEs firms. It is crucial

capability that helps SMEs firms develop effective procedures, routines and capabilities that influence the success of innovation and operational strategies implementation. Management capability is an important force in guiding firm's strategic decisions which directs and influences the creation of organizational values. Consequently, management capability through efficient creativity and talents creates environment that inspires employee's creativity, which facilitates the influence of innovativeness to accomplish objective.

Conclusion

The study established that innovation strategy is an essential SMEs strategic business activity that facilitates the development of effective managerial capability, which helps firms to efficiently compete both locally and at global front in order to achieve and maintain superior performance. Hence, SMEs firm's management must engage themselves in developing and implementing innovation strategy which support development of strategic intangible resources to improve productivity, growth, profitability and sustainability. On the other hand, effective managerial capability enhances firm's capacity in achieving above average individual and organizational performance by developing programs, processes and practice, which encourages innovativeness in product, process and administrative techniques. Through managerial efficiency, SMEs managers plan, organize, direct and control the firm's generative learning process through experience and market feedback to adjust in the strategy adopted to guide innovativeness.

Consequently, this study contributed significantly to the body of existing literature. Specifically, the study postulated that innovation strategy facilitates managerial process and enhances performance. It equally explores the effectiveness of management capability in facilitating the impacts of innovation strategy on the performance of SMEs in developing economies. Therefore, the study advocated that SMEs managers and policy makers should acknowledge the role of innovation strategy and managerial capability in achieving and sustaining differential competitive advantage and performance. Nevertheless, despite the immense contributions, the study was not absolute from several limitations. The study was conducted on food and

beverage SMEs in developing economy of Africa; consequently, future study should consider other sectors and replication in different cultural background for generalizability. Additionally, cross-sectional data were used, hence the need to have some longitudinal studies. Though, there was no problem of common method variance in this study as indicates by the Harman's single factor test, it would be beneficial if future study collects data on the predicting and the criterion variables from different respondents.

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EFFECT OF CORPORATE IMAGE ON CUSTOMER LOYALTY OF SELECTED BREWED PRODUCTS IN NIGERIA - SEMINAR I

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Abstract

Consumers of brewed products often switch from one product to the other frequently and this observed disloyalty is also prevalent in the Nigerian Brewery Industry where customers switch from one brand to the other despite the efforts of the firms to offer good products and service to the best of their capacity. Thus, this study examined the effect of corporate image on customer loyalty of selected brewed products in Nigeria. The study used a survey research design using questionnaire to collect primary data which was analyzed using regression techniques. A sample of 400 respondents were selected from consumers of brewed products in Abuja Metropolis and the questionnaire was administered to them. The study found a positive and significant effect of Corporate image on Customer Loyalty the Study recommends that brewery companies in Nigeria should increase their level of Corporate image in order to improve overall customer loyalty

Keywords: Corporate Identity, Physical Environment, Customer Loyalty, Brewed Products, Nigeria

Introduction

The importance of corporate image is increasing as the markets are becoming more competitive. The competitive markets ensure that the perceived values of different products and services are also competing and the gap between them are closing. This makes the role of corporate image in that case significant. Customers are evaluating corporate image when deciding on a brand. This suggests that in today's competitive markets customers are caring more about aspects such as image and reputation. Thus, companies are now competing to develop a better corporate image and reputation. A

good corporate image provides a competitive advantage for a company. In order to attract, retain and grow customers a company should have strong corporate image.

Corporate images are perceived as the mental pictures of an organization. It is the sum total of these perceived characteristics of the corporation that we refer to as the corporate image. Every organisation has its image whether the organization does anything about it or not. Corporate image is formed based on the stakeholders' perceptions of specific company actions as well as associated industry and nation issues. An organization's image to a large extent influences stakeholders' reaction to specific corporate actions and products.

According to Rayner (2003), corporate image confers clear-cut advantages and privileges on companies. It proves difficult to imitate, at the same time, it creates responsibilities. Whereas, the obligations that managers and the organization owe must meet the personal standards of the employees, the quality standards of customers, the ethical standards of the community and the profitability standards of the investors. Therefore, organizations sustain their corporate image by building strong and supportive relationships with all of their constituents- i.e. customers, suppliers, investors, community, government, etc. (Formbrun, 1996).

Corporate image includes information and inferences about the company as an employee, employer, customer, community, supplier and as a corporate citizen. Since an organisation's corporate image affects stakeholders' behavior, they strive to develop and manage their image, especially in the eyes of their customers who need to be loyal to their products or services

A loyal customer is called "a customer who maintains a positive attitude towards the service provider or continues to recommend it and who will purchase the same service from the same service provider again at any given time" (Kandampully & Suhartanto, 2000). Han & Ryu (2009) describe loyalty as "the result of consistency in the frequent repurchasing of a single brand / store". Customer loyalty has been described by a few scholars in terms of its antecedents. According to Beerli, Martin, and Quintana (2002), the stream of scholarship focusing on marketing of services has paid

attention to highlight the factors influencing customer loyalty and identified variables that influence customer loyalty such as customer satisfaction and switching costs. Boohene and Agyapong (2011) on the other hand identified service quality, customer satisfaction, and image while Kim and Yoon (2004) added switching barriers to the already existing list. Virvilaite, Saladiene, and Skindaras (2009) added three more dimensions obtained from a descriptive study, namely, service price-value, service quality, and customers' service. Kim and Lee (2010) while in their descriptive study revealed that corporate image, brand awareness, service price, and service quality are strong antecedents for establishing customer loyalty in the mobile communications service markets, indicating that corporate image plays the most important role in establishing and maintaining customer loyalty in the market.

Literature Review

Concept of Corporate Image

There are many definitions of the corporate image in the literature. Cornelissen (2000:122) defined corporate image as "Corporate image is a product of multiple variable impression formation process located in the interaction of the stakeholder with messages, from the organization and related business, from various news media, and from other stakeholders through word-of-mouth." Nguyen (2001) implied that corporate image is the result of an aggregate process by which the public compares the various attributes of firms. Formbrun (1996) defined corporate image as "the overall estimation in which a company is held by its constituents through perceptual representation of an organisations past actions and prospects when compared with other leading rivals.

According to Rayner (2003), corporate image confers clear-cut advantages and privileges on companies. It proves difficult to imitate, at the same time, it creates responsibilities. Whereas, the obligations that managers and the organization owe must meet the personal standards of the employees, the quality standards of customers, the ethical standards of the community and the profitability standards of the investors. Therefore, organizations sustain their corporate image by building strong and supportive relationships with

all of their constituents- i.e. customers, suppliers, investors, community, government, etc. (Formbrun, 1996).

Furthermore, Keller (1993) defined corporate image as perceptions of an organization reflected in the associations held in consumers' memory. Nguyen and LeBlanc (1998) defined corporate image as a subjective knowledge, or attitude such as ideology, corporate name, and reputation and delivery system quality level.'' All these definitions emphasize the importance of customers' perceptions and their loyalty. Generally, corporate image and reputation is created by the customers' ideas, feelings, and experiences towards a company. Thus, corporate is very important for brewed products since there are so many products in this cluster that compete. It is important that for companies that sell breweries to achieve their primary objectives, the need customers that are loyal to their products.

Concept of Customer Loyalty

Loyalty as a concept has its roots from the consumer behavior theory and is something that consumers may exhibit to brands, services, or activities. Loverlock and Wirtz (2007) asserted that loyalty is an old-fashioned word that has traditionally been used to describe fidelity and enthusiastic devotion to a country, a cause, or an individual. More recently, it has been used in a business context to describe a customer's willingness to continue patronizing a firm over the long term, preferably on an exclusive basis or recommending the firm's products to friends and associates. Customer loyalty extends beyond behavior and includes preference, liking, and future intentions. According to Beerli et al. (2002), loyalty has been, and continues to be defined as repeat purchasing frequency or relative volume of same brand purchasing. Oliver (1999) defined loyalty as a deeply held commitment to rebuy or repurchase a preferred product/service consistently in the future, thereby causing repetitive, same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior.

Bowen and Chen (2001) described that loyalty resulted from the experience of using the product reinforced with customer satisfaction, which led to repeat purchase. Some of the things a company should do to improve brand

loyalty are customer care worthy, customer proximity, measure satisfaction, create switching costs and bonuses. Griffin (2002: 4) defined "Loyalty as non-random purchase expressed over time by some decision-making unit." From this definition indicates that loyal customers are in the buying process through longer decision-making stages, and purchases Which is not a random but thought-out action.

Customer loyalty expresses an intended behavior related to the service or the provider. This includes the likelihood of future renewal of service contracts, the likelihood of change of patronage, the likelihood of positive word of mouth, or the likelihood of customer complaints. If real alternatives exist or switching barriers are low management discovers the organization's inability to satisfy its customers via two feedback mechanisms: exit and voice [Hirschman, 1970 #58]. Exit implies that the customers stop buying the company's services while voice is customer complaints expressing the consumers' dissatisfaction directly to the company. Customers' exit or change of patronage will have an impact on the long-term revenue of the company. Effects caused from changes in the retention rate are exponential with regard to effects on the long-term revenue.

Corporate image and Customer Loyalty

Andreassen (2004) found that corporate image is positively correlated with consumer loyalty but no relationship was found between satisfaction and loyalty based on his measurement asking executives of a particular organization to rate their own company on six items which includes; offering good services, having competence, being inventive, having long-run perspectives, adjusting to the needs of customers and the overall image. Andreassen and Lindestad (2008) also found a relationship between measures of satisfaction and brand image. Brand image is a mirror reflection of an organization as a person and its products. It is what people believe about an organization and includes their thoughts, feelings and expectations, (Bloemer and Ruyter, 2008).

Paul and James (2014) conducted a study on relationship between brand image and consumer loyalty in the telecommunication market in Kenya using four dimension of brand image namely service quality, chief executive

officer (CEO) reputation, brand image, and physical evidence.. Their study adopted the descriptive survey research design and used a multi-stage stratified sampling technique to target 320 respondents from among students across campuses of Kenyatta University (KU). The study concluded that of the four dimensions of corporate image, brand image and service quality predict consumer loyalty within the Kenyan mobile telecommunication sector. The study suggests that future research undertakes integrate aspects of quality management into the dimensions of corporate image in order to predict variations in consumer loyalty.

Makale and Makale (2016) conducted a study on effect of brand image on customer's behavior; A total of 69 respondents from the Southampton University Management School were used for the study and they found that the customers are being affected by the image and reputation of a company. However, it is the factors that are creating the image that needs to be managed. Amongst the most significant of findings there are other things that needs to be achieved for a strong brand equity such as the quality and the price levels of a brand and that companies should achieve an image of having quality and good price products.

Murray (2003) posited that corporate image builds strategic value for a company by granting it a competitive advantage over rivals. They do this by trying to outdo rivals in marketing new products, hiring the best job candidates, and to show profitability. These make them gain image and good image can lead to higher sales. Martineau (2000) associated the image of an organization with the self-image of an individual customer, suggesting a model of how image affects patronage that people become customers where the image of the provider is similar to the image they have of themselves. Studies on corporate image have generally focused on the effect of advertising, corporate logo, brand preference or interaction with employees (Davies & Miles, 2000; Davies & Chun, 2002 and Chun and Davies, 2006). Kennedy (2001) showed the effects company employees have on external image irrespective of what their employer might desire. Also, Bernstein (2004) argued that the image the customer perceives cannot be separated from the reality of the customer's experience.

With respect to customers, researchers found that a strong corporate image increases customers' confidence in products and services, in advertising claims and in the buying decision (Hatch & Schultz, 2001). Through better customer retention, organizations can achieve price premiums and higher purchase rates. This follows that organizations showing strong image have better access to capital markets, which decreases capital costs and lowers procurement rates, meaning that an organization's profitability grows with a better image, all things being equal. Several researchers have suggested that image has a positive impact on profitability though they relied on the fortune rankings. For example, higher fortune scores correlate with superior returns overall (Roberts and

Dowling, 2007; Vergin and Qoronfleh, 1998). Thus, since financial performance is a major input to the Fortune rankings, the measure is heavily influenced by a financial halo (Brown and Perry, 2004). Not only that, Hsieh and Kai Li (2008) refer to good corporate image as a major promotional tool which refers to building good relationships with the company's public by obtaining favourable publicity and handling or heading off unfavourable rumors, stories and events. They identified three factors for creating permanent relationships with customers as conversational reciprocity, reciprocal empathy and reciprocal vulnerability which are said to be effective via messages that allow information to flow and trust to be built. The links between image and financial performance may not be direct but may be influenced by other variables, such as gaps between image and identity, service offering and customer satisfaction, employee satisfaction cum customer loyalty and gaining competitive advantage.

Research Methodology

The study is on the effect of corporate image on customer loyalty of brewed product in Abuja metropolis. Thus, the research design for the study is the survey design. The Abuja metropolis is selected as the study area because of the presence of many joints and clubs which are used for relaxation and social activities. From the population of the consumers of brewery products in the metropolis which are not readily determinable, a sample of 400 respondents were selected convineintly by visiting most of the popular spots and administering the research questionnaire on the customers of brewed

products. The nature of the data collected and their measurement scales are shown in table 1.

The data collected were analysed using the regression analysis and the model for this regression is as follows:

$$CL_i = \beta_0 + \beta_1 CI_i + e_i$$

Where;
CL stands for customer loyalty
CI stands for corporate image,and
e stands for the error terms

Table 1: Measurement Scales of Data

Identificator	***Item***	***Measurements***
Functional image		
IMA1	products offered by this company are of high quality	Nominal
IMA2	products offered by this company have better features that those of competitors	Nominal
IMA3	products offered by this company are usually more expensive than those of competitors	Nominal
Emotional image		
IMA4	The product arouses sympathy	Nominal
IMA5	This company transmits a personality that differentiate itself from competitors	Nominal
IMA6	The hiring of services with this company says something about the kind of person you are	Nominal

IMA7	I have a picture of the kind of people who contract with this company	Nominal
Customer loyalty		
LOY1	I usually use this company's product as my first choice compared with other firms	Nominal
LOY2	It would be costly in terms of money, time and effort to end the relationship with this company	Nominal
LOY3	I shall continue considering this company's product as my main choice in the next few years	Nominal
LOY4	I would recommend this company's product if somebody asked my advice	Nominal

Source: adapted from García de Leaniz and Rodríguez (2016)

Results and Discussions

From an OLS regression analysis using STATA statistical software, the hypotheses of the study have been tested and results extracted as follows;
Ho Corporate Image has no significant effect on Customer Loyalty of brewed products in Abuja metropolis
The result of the test of this hypothesis is shown in table 2 below;

Table 2. Regression Result

Dependent variable	Independent Variable	Coefficient	p-value	f-stats	p-value	R^2
CL	CI	0.1552	0.000	9.43	0.000	0.6396

Source: Researcher's Computation 2019

The statistical decision rule of p- value states that the Null hypothesis should be accepted if P- value is greater than alpha value (i.e. level of significant which is 0.05) otherwise it should be rejected while the Alternative hypothesis is adopted.

The analysis shows a positive and significant effect of Corporate image (CI) on Customer Loyalty (CL) with a coefficient value of 0.1552, p-value < 0.05 at 0.000. This result implies that Corporate image positively affects Customer Loyalty of selected brewed products in Abuja. With ap-value that is less than 5%, we reject the null hypothesis and concludes that corporate image has a significant effect on customer loyalty. This result is consistent with the findings of Andreassen (2004) Andreassen and Lindestad (2008) Paul and James (2014)

Furthermore, the F-stat is 9.43 with a p-value of 0.000 which shows that the model is in good fit. The R^2 value of 0.6396 shows that the model explains about 64% of the dependent variable, the remaining 36% may be explained by other factors.

Conclusions and Recommendations

The study concludes in line with the findings of hypothesis one that Corporate image is important to customer loyalty of selected brewery products in Abuja and recommends that brewery companies in Nigeria should increase their level of Corporate image in order to improve overall customer loyalty. Building a good corporate image will plant the brewed products in the mind of the consumers. The products should live up to the expectations of the customers

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ACCOUNTING INFORMATION AND THE VOLATILITY OF STOCK PRICES IN NIGERIA: EARNINGS PER SHARE AND NET BOOK VALUE REPLICA

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Abstract

Two accounting variables of Earnings per share and Book value per share were studied in order to investigate whether there is was a relationship between them and stock price changes in Nigeria. The study population were 60 (sixty) firms for 11 years period covering (2006 to 2016). The Panel regression analysis technique was employed for the study. Specifically, various components of the panel unit root test indicated that all the variables were stationary after the first difference was taken. The result of the Panel Pedroni and Kao cointegration tests indicated the existence of a long run equilibrium relationship among the variables. The result of the Fully Modified Ordinary Least Square indicated that the earnings per share and book value per share, have positive impact on stock price movement in the long run. The result of the Hausmann test favoured the selection of the randon effect model. The result of the random effect model indicated that both the earnings per share and book value per share have significant and positive impact in the movement of stock prices in Nigeria. Generally, the results showed that both variables were important determinants of stock price volatility since they were statistically significant in explaining changes in the movement of stock prices in Nigeria and therefore, investment choices. The study recommended among others that corporate managers should concentrate on enhancing the reporting of these accounting variables in order to increase their predictive values and to keep them at their most robust level. Also, there should be an increased and stronger presence of government agencies having oversight function on the stock market so as to largely eliminate the negative effect of insider abuse on the floor of the Nigeria Stock Exchange.

Keywords: earnings per share, book value per share, stock price volatility, leverage, size

Introduction

Accounting numbers, by their nature, play a key role in modern economies by helping investors, analysts and stakeholders to measure company's financial strength at any given point as well as point out the dimension of any weakness, It provides a link between end users and economic units and assist them in taking valid decisions. These accounting numbers are variously referred to as accounting determinants, accounting variables, accounting information and accounting ratios. These determinants, more specifically are in the form of earnings per share, dividend per share, dividend cover, price earnings ratio, earnings yield, net assets per share, cash flow per share, book value per share, profitability ratios, return on investments, fixed interest cover, gearing ratio, gross profit percentage, net profit percentage, liquidity ratio, quick ratio or acid test ratio, velocity of turnover ratio and so on. Financial analysts, investors, proposed investors or their appointed agents always have to analyze these determinants to decide whether to invest in a particular company or not to invest in them. Investment choices are therefore, usually based on one or a combination of the accounting determinants listed since stock prices are relevant metrics of return to investors Capital market investors are expected to earn returns from their investment in the form of either outright cash dividend or capital appreciation of their initial investments

Generally, one is quickly tempted to agree that there is a strong relationship between accounting numbers and stock prices since all measurements in the stock markets are denominated in accounting terminologies, and also to believe that these prices have impact on investment choices. Germon and Meek (2001) in their scholarly article argued strongly that surplus holders of funds may decide to invest or lend their surplus funds into any entity of their choice based on the financial accounting determinants, information or ratios obtained from published financial statements. It is a known fact that accounting exists because of the need to satisfy user's needs. This need is described as the need for relevant, reliable and timely information.

Hendricks, (1976) asserted that the main reason for which accounting information is generated is to facilitate decision making. However, for financial reporting to be effective, among other requirements, it should be relevant, complete and reliable. These qualitative characteristics require that the information must neither be unfair nor has a predisposition of favouring one party over the other. The information content of accounting should enable the user to predict the possible future outcomes of economic events. It should also increase the knowledge of the users to identify similarities and differences between different types of information. Consequently, therefore, good and reliable accounting ratios can be described as that which is able to serve as a recipe to trigger data that can have useful effect about stock market growth according to the view held by (Tuner (2001). Furthermore, various researches made at different times by different authors have indicated that financial accounting data remain one of the most important source of information to external users and are therefore very relevant and reliable: Collins, Maydew and Weiss, (1997); Beaver (2002); Vieru, Perttunen and Schadewitz, (2005).

The Review of Related Literature

Two schools of thought within the capital market research have had contrasting views about the relevance of accounting numbers to stock prices. Ball and Brown (1968), in their pivotal article argued widely that the relevance of financial statements for firm's valuation was no longer relevant. This view was corroborated by other authors like Rimamann (1990), Elliot and Derin, and Cristi, and Geman (1991), Jenkins (1994) where they argued that such issues have led to investors increasingly turning to other sources of information to meet their needs. Further studies also revealed that the non relevance of accounting numbers had caused the decrease in the relative importance of financial statements to users of accounting information (Cheng, Shamsher and Annuar, (2008), Ghayoumi et.al, 2011).

On the contrary, Brinble (2003) found out that accounting numbers as a whole had not declined in relevance due to apparent increase in value relevance of the statement of financial position information. Infact, there was some marginal evidence to suggest an improvement in the overall performance of accounting information. Many other authors also were also

of the view that accounting determinants remained and were still and should not be ignored by investors in their investment choices. Indeed, they established that these numbers had very strong and positive impacts on the movement in stock prices (Glezakos, et al, 2011; Khanagha, (2011).

Barth, (2001) had defined the value relevance research as that which "examines the association between financial accounting numbers and equity market values as represented by the share prices". Value relevance can further be expressed as the ability of accounting parameters to summarize information regarding stock price valuation with regards to influencing investors' choices of what portfolio to be interested in. Therefore, the value relevance of accounting determinants is expressed by mathematical relationship that exists between financial accounting information and their relevant stock prices or stock returns.

Hadi (2004) regressed stock market values on the information content of accounting data in Kuwaiti banks The study employed the use of 6 financial ratios and the research findings was that accounting information was relevant to investors in Kuwaiti banks, the study also revealed that all ratios were statistically significant except the loss ratio.

Pervan, (2012) analysed the value relevant theory from five stock exchanges in South Eastern Europe. The exchanges werea; Ljubljana Stock Exchange, Zagreb Stock Exchange, Sarajevo Stock Exchange, Banja Luka Stock Exchange and Belgrade Stock Exchange. Collecting samples of 97 companies, that accounting information was value relevant on all the observed markets but also that there are certain differences in the value relevance among countries. In the second part of the research they tested the hypothesis that level of transparency is positively related with value relevance i.e. higher transparency of annual report should result with higher value relevance of accounting information

Akarim, et al.(2012) examined the relationship between accounting earnings and stock market returns by using Panel Granger Causality test in Turkish Banking Sector. The study which relied on information from banks that are listed for eleven years period commencing from 2000 to 2010 revealed that there is two way associations between equity values returns and accounting

surplus thus establishing they were value relevant. The above studies show the strong correlation between value relevance of accounting information and stock prices. The subsequent section analyzes the relationship between value relevance and stock prices in the banking section or Pakistan.

Erin, Oloyede and Ogundele (2017) provided empirical research into the study of value relevance of accounting data in the pre- and post- IFRS adoption in Nigeria. The study which provided in-depth analysis from data drawn from the consumer and financial services sector in Nigeria revealed that accounting data is more pronounced in the post-IFRS period. Findings from the research have important policy implication for policy makers particularly, for accounting regulatory bodies like the Financial Reporting Council of Nigeria and others. The study recommended that more measures should be taken by regulatory authorities to ensure that all public entities comply strictly with IFRS. This will enable relevant and reliable financial information to be passed to the capital market for investors to take an informed and relevant decision. They provided important contribution empirically that IFRS adoption in Nigeria has proved to be relevant considering the incremental value of all the explanatory variables of accounting numbers.

Based on the various contending positions above, this study hypothesizes as follows:

Hypothesis I
There is no significant relationship between earnings per share and share prices of selected quoted firms in Nigeria

Hypothesis II
There is no significant association between book value per share and share prices of selected quoted firms in Nigeria

The Research Methods

The theoretical anchorage of this research was predicated on the Ohlson's model (1995). The Ohlson model appeared to have had substantial influence from the earlier works of researchers such as: Preinrich (1938), Edwards and

Bell (1961) Modigliani and Miller (1961); and Peasnell (1982). Easton and Harris (1991), which provided a consistent framework for the valuation of accounting numbers as well as the establishment of linearity of information dynamics implying that earnings can be estimated with linear regression analysis.

In testing each of the formulated hypotheses of this study, two control variables were thus introduced into the models and the relationship between the dependent and each of the independent variables was expressed in the following models.

Model I

$$Pit = \beta_0 + \beta_1 EPS_{it} + \beta_2 Size_{it} + \beta_3 Lev_{it} + U_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots (1.0)$$

Model II

$$Pit = \beta_0 + \beta_1 BVPS_{it} + \beta_2 Size_{it} + \beta_3 Lev_{it} + U_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots (2.0)$$

where:

P = Share Price (share price of each firm at the balance sheet date)
EPS = Earnings Per Share (reported EPS for each firm)
BVPS = Book Value Per Share
Size = Firm Size (measured by the log of total assets)
Lev = Leverage (measured by debt divided by total assets)

Based on the linearity of accounting numbers as derived from the Ohlson model, this research work employed the use of graphical illustrations, tables and charts in addition to the:
Pooled regression analysis
Fixed Effects model with specific reference to Least Square dummy variable (LDV) modeling
Random Effect modeling
The Use of Restricted f-ratio to discriminate between common intercept model and the LSDV model.

The use of Hausmann test to discriminate between Fixed Effects and Random Effect models

Results and Discussions

Descriptive Statistics

The results of the descriptive statistics of the variables are presented in Table 1 below:

Table 1: Summary of Descriptive Statistics of the Variables of the Study

stats	p	eps	bvps	size	lev
mean	34.37863	2.778379	16.28558	12.37909	213.1775
Max	1200	247.1	347.39	48	4747.94
min	.5	-20.23	-11.15	5.27	10.04
sd	95.75201	14.64426	47.1702	13.68155	482.9146
skewnwss	7.259633	14.38706	7.501728	2.160399	7.65586
kurtosis	70.30556	236.2354	68.07735	5.699499	71.12431
cv	2.7785219	5.270795	2.896441	1.105215	2.265317
N	658	660	660	660	660

Source: Researcher's Computation

From the results, it was observed that share price recorded a mean and standard deviation of 34.37863 and 95.75201 respectively. The minimum and maximum values reported during the period under review for share price were 0.50 and 1,200. The results of the descriptive statistics for the independent variables as however revealed that EPS has a mean and standard deviation of 2.778379 and 14.64424 with -20.23 and 247.1 as the minimum and maximum values respectively. BVPS recorded values of 16.28558 and 47.1702 as mean and standard deviation respectively with minimum and maximum values of -11.15 and 547.92 respectively.

The relative level of dispersion recorded for this variable could be accounted for by the nature of earnings recorded by the different firms which to some extent could be accounted for by the size or nature of their businesses. With respect to the control variables (Size and Lev), it could be observed that the

firm size (size) had a lower standard deviation of 13.68155. The recorded figures for maximum and minimum values for size were 48 and 5.27 respectively. The Kurtosis which measures the asymmetry within the series indicates that the earnings per share and book value per share satisfy this condition.

Correlation Analysis

	p	eps	bvps	size	Lev
P	1.0000				
eps	0.7429	1.0000			
bvps	0.2349	0.1167	1.0000		
size	0.2738	0.1786	0.2004	1.0000	
lev	0.0071	-0.0082	0.0137	0.1671	1.0000

Source: Researcher's Computation

As indicated above, all the explanatory and control variables (eps, bvps, size and lev) had positive relationship with the dependent variable (p) which implies statistical significance.

Summary of Panel Unit Root Test Result

Level for EPS		
	Stationarity	Probability
Levin-Lin-Chu (LLC)	-19.3760	0.0000
Harris Tzavalis	0.3666	0.0000
Hadri LM	4.3523	0.0000
Breitung	-4.7158	0.0000
Im-Pesaran-Shin (IPS)	-3.5007	0.0002
ADF, Fisher Chi-Square (AFC)	15.7593	0.0000
PP – Fisher chi-square (PPFC)	364.1427	0.0000
Level for P		
ADF, Fisher Chi-Square (AFC)	10.2116	0.0000
PP – Fisher chi-square (PPFC)	278.1981	0.0000

Im-Pesaran-Shin (IPS)	-3.7153	0.0001
Level for BVPS		
	Stationarity	Probability
Levin-Lin-Chu (LLC)	-5.0872	0.0000
Harris Tzavalis	0.2499	0.0000
Hadri LM	10.0166	0.0000
Breitung	-0.2967	0.3833
Im-Pesaran-Shin (IPS)	-0.6745	0.0000
ADF, Fisher Chi-Square (AFC)	11.6412	0.0000
PP – Fisher chi-square (PPFC)	300.3451	0.0000
Level for CFPS		
Levin-Lin-Chu (LLC)	-14.0790	0.0000
Harris Tzavalis	-0.0732	0.0000
Hadri LM	-0.4243	0.6643
Breitung	-8.1425	0.0000
Im-Pesaran-Shin (IPS)	-8.4448	0.0000
ADF, Fisher Chi-Square (AFC)	25.9572	0.0000
PP – Fisher chi-square (PPFC)	522.1265	0.0000

Researcher's Computation

Panel Cointegration Tests

Summary of Pedroni: Panel Residual Cointegration Test

	Statistic	Prob	Weighted Statistic	Prob
Panel v-Statistic	4.523073	0.0024	1.965329	0.3022
Panel rho-Statistic	1798680	0.0000	8.210734	0.0000
Panel PP-Statistic	1.678021	0.9533	0.242634	0.5959
Panel ADF-Statistic	8.628072	0.0001	16.04046	0.0000
	Statistic		Prob	
Group rho-Statistic	11.36718		0.0000	
Group PP-Statistic	-3.974368		0.0000	

Group ADF_Statistic	1.068472	0.0000

Source: Researcher's computation using e-views

Summary of Kao Residual Cointegration Test Result

	t-Statistic	Prob
ADF	-2.875423	0.0020
Residual variance	0.304275	
HAC variance	0.206575	

Source: Researcher's Computation using e-views

The result of the Kao residual Cointegration test with probability of 0.0020 suggest the rejection of the null hypothesis of no cointegration and hence the acceptance of the alternative hypothesis.

Analysis of Ordinary Least Square (OLS) Results

OLS Result for Share Price (P) and Earnings per Share (EPS)

Source	SS	df	MS	Number of obs =	658
				F(3, 654) =	292.11
Model	3449383.37	3	1149794.46	Prob > F =	0.0000
Residual	2574286.04	654	3936.21718	R-squared =	0.5726
				Adj R-squared =	0.5707
Total	6023669.41	657	9168.44659	Root MSE =	62.739

p	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
eps	4.677462	.1697544	27.55	0.000	4.344132	5.010791
size	1.033172	.1843215	5.61	0.000	.671239	1.395106
lev	-.0023272	.0051378	-0.45	0.651	-.0124157	.0077613
_cons	9.038346	3.37908	2.67	0.008	2.403191	15.6735

Source: Researcher's Computation using e-views

The values of the R-squared and adjusted R-squared were (57.26%) and (57.07%) respectively. This indicates that the independent variable (EPS) explains about 57.26% of the systematic variation of the dependent variable

share price (p). The large R-squared (R^2) is an indication that significant changes in share price of firms could be accounted for by changes in EPS. The F-statistics (df=3, 654, = 292.11) with a p-value of 0.0000 shows that the result is significant at 5 percent level, suggesting that EPS appears to have a significant influence on share price (P) and was statistically significant at 5%.

Result for Share Price (P) and Book Value per Share (BVPS)

Source	SS	df	MS		
				Number of obs =	658
				F(3, 654) =	26.94
Model	662473.479	3	220824.493	Prob > F =	0.0000
Residual	5361195.93	654	8197.54729	R-squared =	0.1100
				Adj R-squared =	0.1059
Total	6023669.41	657	9168.44659	Root MSE =	90.54

p	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
bvps	.3786279	.0763467	4.96	0.000	.2287137	.5285421
size	1.694205	.2669751	6.35	0.000	1.169974	2.218437
lev	-.0071239	.0074102	-0.96	0.337	-.0216746	.0074269
_cons	8.715864	4.912872	1.77	0.077	-.9310412	18.36277

Source: Researcher's Computation using e-views

The values of the R-squared and adjusted R-squared were (11.00%) and (10.59%) respectively. This implies that the independent variable (Book Value per Share: BVPS) explains about 11% of the systematic variation of share price (P) The F-statistics (df=3, 654, f-ratio=26.94) with a p-value of 0.0000 further shows that the relationship is significant at 5 percent level; thereby suggesting that BVPS has significant influence on the share prices of the sampled firms.

Test of Research Hypotheses:

Hypothesis One: There is no significant relationship between earnings per share and share prices of selected quoted firms
(Earnings Per Share {EPS} and Share Price {P})

Dependent Variable: Share Price (P)						
Estimator	OLS (Obs.=658)		FE (Obs.=658)		RE (Obs. =658)	
Variable	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.
EPS	4.6774* (27.55)	0.000	2.4511* (19.19)	0.000	3.4782* (22.84)	0.000
SIZE	1.0333* (5.61)	0.000	1.3209* (7.02)	0.000	1.1751* (6.20)	0.000
LEV	-0.0023 (0.0051)	-0.45	0.0038 (1.08)	0.279	0.0010 (0.24)	0.813
R-Squared	0.5726					
R-Squared Adj.	0.5707					
Prob. F.	0.0000					
F(3, 658)	292.11					
R-Squared (within)			0.4464		0.4399	
R-Squared (between)			0.7277		0.8495	
R-Squared (overall)			0.5377		0.5670	
Wald Ch2(3)					629.54	
Prob. Ch2					0.0000*	
Hausman Test			Chi2(2) = 140.82		Prob>Chi2= 0.0000	

Source: Researcher's Computation

The study found that EPS is statistically significant

Hypothesis Two

There is no significant association between book value per share and share prices of selected quoted firms

Book Value per Share (BVPS) and Share Price (P)

Dependent Variable: Share Price (P)						
Estimator	OLS (Obs.=658)		FE (Obs.=658)		RE (Obs. =658)	
Variable	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.
BVPS	0.3786* (4.96)	0.000	0.2226* (2.40)	0.016	0.0714 (1.51)	0.132
SIZE	1.6942* (6.35)	0.000	1.9205* (8.18)	0.000	1.9232 (8.15)	0.000
LEV	-0.0071 (0.0074)	-0.96	0.0013 (0.28)	0.780	0.0045 (0.59)	0.556
R-Squared	0.1100					
R-Squared Adj.	0.1059					
Prob. F.	0.0000					
F(3, 658)	26.94					
R-Squared (within)			0.0970		0.1071	
R-Squared (between)			0.1299		0.0774	
R-Squared (overall)			0.1180		0.0852	
Wald Ch2					23.78	
Prob. Ch2					0.0000*	
Hausman Test			Chi2(2) = 98.46		Prob>Chi2= 0.0000	

Source: Researcher's Computation

The relationship between BVPS and share price (P) is significant

Conclusion/Recommendations

The researcher carried out comprehensive tests on all affected variables and found: earnings per share has a strong and positive impact in determining the movement of stock prices and hence affirmed the position of some earlier researches that it is relevant. Also book value per share was strong and

statistically significant in determining the movement of stock prices., The findings were consistent with that of other authors: (Ohlson, 1995; Brinble, 2003; and Oyerinde, 2009). Corporate financial managers should ensure that they keep all accounting variables at their most robust level. This is to ensure their attractiveness to investors and other stakeholders. Finally, it also recommends a stronger monitoring of all registered companies by the relevant regulatory authorities so as to largely reduce or eliminate the negative effect of insider abuse

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GOVERNMENT'S ENTREPENEURSHIP PROGRAMMES, SMALL AND MEDIUM ENTERPRISES DEVELOPMENT IN NASARAWA STATE, NIGERIA

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Abstract

This study assessed the relationship between government's Entrepreneurial programmes and SMEs development in Nasarawa State from 2014 to 2019. It specifically sought to find out the relationship between the states government's entrepreneurship development programmes (such as State Poverty Alleviation Programmes, State Community Empowerment Programmes and State Government Skill Acquisition Programmes) and small and medium enterprises development in Lafia. Primary data were collected from sampled SMEs operators with the aid of sampling technique formulated by Yamane, (1967) in Nasarawa State that registered with the State Ministry of Commerce, Industries and Cooperatives and management staff of the Ministry. Pearson Product-moment Correlation Coefficient was used to analyze the data. The study revealed that there is significant relationship between state's EDPs and SMEs development in Nasarawa State. There is increase and improvement in the state EDPs would led to a corresponding increase in the development of SMEs. It is also found that the state EDPs predominant schemes are: state Poverty Alleviation Programme (SPAP), State Community Empowerment Programme (SCEP), as well as State Government's Skill Acquisition Programme (SGSAP). In view of this, constituted authority should therefore ensure that the fund voted for SMEs development and loan collected by the SMEs operators are judiciously used and government should monitor and follow-up the EDPs to a conclusive point. It is also recommended that the state's EDPs should be sustained,

reviewed, improved and extended across the state in order to have well developed and sustainable SMEs and more job creation so as reduce the unemployment rate.

Key words: Government's Entrepreneurship, Development, Programmes, Small and Medium Enterprises, Poverty Alleviation.

Introduction

The growth of "SMEs" is highly influenced by the Government's Policies and Programmes. dwindling economic activities call for people to engage in entrepreneurship in the form of SMEs in order to attain an economic growth and development, otherwise, the State will continue to suffer relegation in the committee of States. The major objective of this study is to examine the significant relationship between government's programmes and Small & Medium Enterprises (SMEs) development in Nasarawa State. Entrepreneurial development has been conceived by successive government as a programme of activities to enhance the knowledge, skill, behaviour and attitudes of individual and groups to assume the role of SMEs operators. Taking this into account they have put in place confidence for building successful programmes in different parts of Nigeria (Owualah, 1999). In this regard the Federal Government has adopted several strategies and policies as well as programmes towards Small& Medium Enterprises development in Nigeria, by establishing Institution and Agencies, which provide variety of support services to the SMEs operators.

The policy implementation saw the introduction of entrepreneurship development programmes (EDPs) in Nigeria. These programmes are usually targeted at owner-managers of small business firms as well as those identified to possess potential for self- employment (Owualah, 1999). For instance, participants in Nigeria's National Directorate of Employment (NDE) and similar programmes in the country are expected to undergo EDP training. This usually include entrepreneurial tool which ranges from the preparation of a business plan with emphasis on finance, marketing, management and production, identification of new business opportunities, alternative suppliers and market, sources of finance, cash flow analysis and

record keeping to training people to think and act in an entrepreneurial way (Amaeshi,2005).

According to (Tuteja, 2001), Small Business Enterprises all over the world are divergent array of business concerns involved in economic activities spanning from micro and rural enterprises to contemporary industrial organizations that use sophisticated technologies. As a result of their relevance and contributions to national economies, policy planners, academics and national governments have shown interest in issues pertaining to small and medium enterprises all over the world including Nigeria.

However, some external forces are also responsible for entrepreneurial development. For instance, economic displacement is one of the external forces that influence the development of entrepreneurship. (Kuratko,2009).In similar vein, (Chigunta, 2001) notes that entrepreneurship has been receiving increasing recognition as a source of job creation, empowerment for the unemployed and economic dynamism in a rapidly globalizing world. Furthermore, (Garavan and Cinneide, 1994) in their contributions maintain that entrepreneurship is often used for developing enterprising people and inculcating an attitude of self-reliance using appropriate learning processes.

The emergence of administration in Nigeria introduced formal education which enabled people to have the opportunity of being employed in the civil service after graduation. As such, the system destroyed self-reliance, self-employment and entrepreneurial skills of Nigerians as they became permanently dependent on the colonial masters (Nicks, 2008; Raimi, 2010). This led to massive unemployment and craze in the contemporary times for ready-made jobs. It is on this breastplate that the study seeks for the development of Small& Medium Enterprises in order to sustain an economy of high level unemployment reduction.

Today, the twin challenges of unemployment and poverty are facing graduates of tertiary institutions and professionals owing to the global economic meltdown and economic recessions in most countries including Nigeria and Nasarawa State in particular. While government braces up to these challenges through the various programmes, unfortunately, Nasarawa

state government's programmes towards the Small& Medium Enterprises development is slow, inadequate and not radical as expected. Still, the unemployment market is bloating every year.

SMEs operators in Nasarawa state are faced with the challenges like; lack of access to finance, being qualify to access adequate finance, where and how to get the finance so as to help them actualize their entrepreneurial effort, inadequate technology, unstable power supply, inadequate data-base, inconsistence in government's policy amongst others, are some of the factors hindering them from achieving goals and objectives.

Although previous empirical research works of (Raimi and Towobola, 2011) indicated that the there is little or no significant relationship between Government's programmes and Small& Medium Enterprises development in Nigeria because of the inconsistency in government policies. Meanwhile, the findings of Baba (2013); Iwuamado (2010); Salami (2011); Anyadike (2012); Oluwayemi (2013); Kabiru and Yusuf (2014) revealed that there is positive significant relationship between Government's programmes andSmall& Medium Enterprises development in Nigeria.

However, most of the studies were in the southern part of the country and their SMEs are more relate quite different from the existing ones in Nasarawa State. Also, their inclination towards Small& Medium Enterprises is higher and they understand the workings of the EDPs in their areas than that of Nasarawa State.

Small and Medium Enterprises are a potent driving force for industrial growth and overall economic development. SMEs are veritable tool for attaining one of the eight MDGs of eradicating extreme poverty in the society. Poverty is caused by inadequate incomes and incomes result from employment which SMEs widely known to provide. It will become a reality if the necessary imperative Entrepreneurship Development Programmes (EDPs) are in place to actively and consciously promoted, using SMEs as appropriate vehicles in Nasarawa State.

EDPs require a deregulation and competitive environment and rely on the nurturing of the right attitudes and behaviours in the society and enhance the

availability of support programme to new enterprise. Entrepreneurship development in agricultural sector often leads to the development of small, medium and sometimes, large scale businesses based on creativity and innovation which enhances: New technologies, product and services; Changes and rejuvenates market competition; Increases productivity; Fosters economic growth and development; and enhances job creation, empowerment and independence; Small& Medium Enterprises is an important sector of the Nigerian economy with high potentials for employment generation, food security and poverty reduction.

In line with the above, Nasarawa State Government as part of its strategy to revive the state economy and uplift the standard of living of its citizenry has identified sectorial strategies in the development of SMEs. The establishment of cottage industries and provision of financing facilities under the State Poverty Alleviation Programme (SPAP) and the State Community Empowerment Programme (SCEP) as well as State Government's Skill Acquisition Programme (SGSAP) is some of the initiatives.

Despite Nasarawa State Government's strategy to revive its economy and to uplift the standard of living of its citizenry through establishment of Entrepreneurship Development Programmes, the number of SMEs operators still quite not encouraging as expected and the poverty rate is still very high in Nasarawa State. Small and Medium scale Enterprises in Lafia, Nasarawa State have not performed creditably well and hence have not played the expected vital and vibrant role in the economic growth and development of Nasarawa State. This situation has been of great concern to Government, citizenry and the SMEs operators.

Most government's programmes are yet to achieve the desired results of reducing youth unemployment. Corruption has been the bane of development in Nigeria and it has impacted negatively in the industrialization process initiated by successive governments. It has attained an endemic level with public office holders paying lip service to its eradication because they are part of the beneficiaries. Lack of political commitment towards youth empowerment and innovative approaches at local, state and federal levels is another cause of youth unemployment.

However, to the best of my knowledge, it is only (Kabiru and Yusuf, 2014) that investigate the Entrepreneurship Development Programmes and Facilitation of Youth Employment in Kano State, Nigeria. This is an indication that very little works have been done to investigate SMEs development programmes as an intervention mechanism and none is done to investigate relationship between Government's Programmesand Small& Medium Enterprises development as an intervention mechanism in Nasarawa State.

It is against this background that this research tried to close the gap by examining the relationship between government's programmes andSmall and Medium Enterprise(SMEs) in Nasarawa State (specifically, State Poverty Alleviation Programme (SPAP), the State Community Empowerment Programme (SCEP) and State Government's Skill Acquisition Programme (SGSAP) and Small and Medium Enterprises in Nasarawa State)

The study will contribute to the body of knowledge in the following ways; first the empirical evidence on small and medium enterprises in Nasarawa State would increase literature on entrepreneurship development from the domestic point of view. This would be used by academicians in the academic environments in Nigeria.

Generally, research results have been used as guides to policy formulation and decision making input over the years. In view of this trend, the findings of this study would be used as an additional guide by economic policy makers as regards to entrepreneurship developmentprogrammes in Nasarawa State and Nigeria at large. This will help them to come out with substantive possible alternative intervention programmes which might help the registered small and medium enterprises inLafia,Nasarawa State to achieve growth objectives by ensuring viable and productive atmosphere that will enhance effective production capacity to gain customers purchasing decision-making and to uplift the leaving standard of the SMEs operators who stand the chance benefiting from the programmes immensely in terms of training and funding as well.

This research basically covers the relationship between government's Entrepreneurshipprogrammes and Small &Medium Enterprises in Nasarawa State.
The work covers three EDPs in Nasarawa State, specifically, (State Poverty Alleviation Programme, State Community Empowerment Programme and State Government Skills Acquisition Programme and Small and Medium Enterprises) in Nasarawa State.

The research is restricted to Nasarawa State where the data was strictly collected from the registered Small and Medium Enterprises (SMEs) operators and the Nasarawa state Ministry of Commerce, Industries and Cooperatives, Lafia. The research covered the period 2014 – 2018. This is because most of the entrepreneurship development programmes were intensively implemented in the state within the period.

Literature Review

Government Policy is a guide or a blueprint designed to guide government activities in its attempt to solve a particular problem or to provide social welfare to its citizens. Therefore, government formulates some policies to enhance operations and management of Small& Medium Enterprises for its citizens. These policies are known as Entrepreneurship Development Programme (EDP). EDPs is increasingly recognized as important driver of economic growth, generating employment, fostering innovation and poverty reduction through the empowerment of young men and women (United Nation Committee on Trade and Development, 2010). Both the Federal and state governments in Nigeria have contributed to the growth and development of SMEs in Nigeria, especially in the rural areas. The policy measures have been in the areas of financial support, training, self-sufficiency and local sourcing of raw materials in order to reduce over dependence of local Nigerian small business companies on foreign materials and products for their business operations. Government's assistance to SMEs in Nigeria and Nasarawa State should be considered in the context of the real and perceived importance of SMEs which includes: Provision of employment opportunities; Helps to conserve foreign exchange; Promote indigenous entrepreneurial skills; Enhancesthe quality of life in rural and

urban areas; Reduce rural/urban migration and among others responds promptly to the dynamic business environment than the big businesses.

Accordingly (Suleiman, 2010) defines EDP as the process of enhancing entrepreneurial skills and knowledge through structured training and institutional building programmes. Entrepreneurship Development Programme in the context of this study refers to the process of enhancing the capacity of recipients through structured training and institutional building programme.This suggests a broader view of knowledge and skills acquisition than training. It is concerned more with individual's potentials than with immediate skills.

Entrepreneurship has been recognized as an important aspect of an organization and economies (Dickson, Solomon & Weaver, 2008; Ossai&Nwalado, 2012; Arewa, 2004; Akpomi, 2008; Ojeifo, 2013; Baba, 2013). It contributes in an immeasurable ways toward creating new jobs, wealth creation, poverty reduction and income generating for both government and individuals.

The Nigeria policy on education made it clear on the need for functional, to be relevant, practical and acquisition of appropriate skills and development of competencies as equipment for the individuals to live in and contribute to the development of his/her society (Albadekomo, 2004). Nwangwu (2006); Odjegba (2005); Baba (2013) reported that about 80% of the graduates find it difficult to get employment every year. And at the same time much has not been done in trying to bring collaboration between the entrepreneurs and the institutions. The universities, polytechnics and any other academic institutions community stand to benefit a lot from entrepreneurs located there. Similarly, the entrepreneurs may harness and use the expertise of facilities in those institutions. This kind of interaction and interrelationship will go a long way in bridging the gap that exist between the entrepreneurs and the institutions. Lack of this kind of synergy shows the weaknesses, inadequacies and fallacies of the educational policies in Nigerian in attainment of educational objectives (Aladekomo, 2004, Akpomi 2008).

From relevant extant literature, theories of motivation have progressed from static, content-oriented theories to dynamic, process oriented theories (Segal,

etal, 2005).Content oriented motivation theories search for the specific things within individuals that initiate, direct, sustain and stop behavior. Process-oriented theories, on the other hand, explain how behavior is initiated,directed, sustained and stopped.

EDPs policy is closely linked with overall economic and social development objectives. It is a lifelong learning process starting as early as elementary school and continuing through all levels of education, including adult education (UNCTAD, 2010). The United Nation Committee on Trade and Development (2010) opines that the ultimate objective of EDP should be to facilitate the creation of an entrepreneurial culture, which in turn will help potential entrepreneurs to identify and pursue opportunities.

As observed by (Suleiman, 2010) a successful EDP should focus on developing the individuals who wish to start or expand a business rather than focusing on developing the enterprise. An effective EDP focuses on creating new product or service (creativity) or finding new ways of using an existing one (innovation). Thus, EDP should focus on producing individuals who blend creativity, innovation with sound business principles to commercialize new products and services (Youth Forum, 2002). Therefore, in Nigeria, government has initiated some entrepreneurship support policies to enhance entrepreneurship development in the country. Some of these policies are discussed below.

National Directorate of Employment (NDE), Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), Small and Medium Industries Equity Investment Scheme (SMIEIS) and Development Finance Institutions (DFls). These Agencies help to remove constraints on entrepreneurs and expand the opportunities available to them by providing information and needed training, financial assistance, which are considered germane to entrepreneurial development. For instance, analysis of these agencies showed that NDE, which was established in 1987, has the main task of creating job opportunities and implementing government polices directed at solving the growing unemployment problem of the economy.

It also serves as a vehicle for promoting entrepreneurship in SMEs industries. The directorate has four programmes viz. (i) Small-scale Industries and

Graduate Employment Programme, (ii) National Youth Employment and Vocational Skills Development Programme. (iii) Agricultural sector Employment programme (iv) Special Public Works programmes (Nigeria Rural Development Sector Strategy Main Report, 2004). Furthermore, SMEDAN, which was established by the small and medium industries development Act, 2003 to facilitate and promote micro, small and medium enterprises access to resources required for their growth training and Development, and also .lay down a structured medium and small industrial enterprises sector which will encourage and enhance sustainable economic development of Nigeria. The agency is therefore a one-stop shop for starting, resuscitating and growing micro, small and medium enterprises in Nigeria.

Recently, SMEDAN has begun training of graduates under National Youth Services Corps (NYSC) on investment and entrepreneurial skills. The programme tagged: Coppers Entrepreneurial Programme (CEP) is being organized with a view to helping in the exploitation of the opportunities that abound, in the country's small-scale industry. The Agency has considered it necessary to intervene on Technical Skill development because life after graduation is becoming more challenging to the youth. In the past, most graduates depended on government for employment after graduation, but now, that is not the case, and it is therefore necessary for SMEDAN to come up with initiatives to empower NYSC members becoming self-employed and financial independent. The main target for this programme are graduates of Nigerian Universities and Polytechnics‟ on National Services, but there are other programmes from which other youths that fall outside this category can benefit from.

By any standard, the above statistics reflect a poor assessment of Nigerian university graduates and further buttress the argument that Nigerian university graduates are unemployable. As should be expected, the lack of employment potential make crime a more attractive option for some Nigerian university graduates. It is common to find some graduates still roaming the streets, five years after graduating in search of jobs that either are not there or for which they are not qualified. It is therefore no coincidence that crimes such as kidnapping which is now a new and attractive industry is a triving especially in the South-Eastern part of Nigeria. Other crimes include armed robbery, car snatching, pipeline vandalization, oil bunkering, prostitution

and so on. Furthermore, high competition for economic resources and services, over-dependence on a single natural resource (oil) and the neglect of other crucial sectors of the economy also contribute to youth unemployment in Nigeria. It was argued earlier that entrepreneurship is capable of providing the platform towards efforts aimed at reducing unemployment as well as promoting economic growth and development.

Even the National Vision 20:2020 Document(2009:10) attested to the fact that all is not well with Nigeria's economic policies on account of their manner of implementation in the past. Judging by worsening social indicators on Nigeria and the weak track records of implementations of MDGs as earlier mentioned, there is need for an alternative mechanism that can complement existing national development programmes.

It has consistently been argued that for developing nations (Nigeria inclusive) to grow and catch up with other developing nations, there is the urgent need for a viable entrepreneurship model that would help tackle hydra-headed poverty, unemployment, illiteracy, chronic diseases, maternal mortality, infant mortality, crimes, conflict, terrorism/insurgency, while at the same time promote growth of SMEs, wealth creation, enhance value reorientation, preserve the ecosystem from abuse and in the final analysis achieve sustainable economic development (National Economic Empowerment and Development Strategy, 2004, DFID, 2009). Viewed from the same angle Roy,(2010) describes Africa's socio- economic travails as: "Widespread poverty, corruption, inadequate resources, poorly trained labour supplies, wars and other forms of civil strife such as ethnic cleansing, pandemic diseases such as HIV/AIDS and malaria, tribal tensions, and ruinous economic policies have led to problems of such scope and dimension that it is only governments, African and international, that can mobilize the necessary capital to begin to make headway on these enormous issues."

Based on the structural and functional flaws found in the nation's developmental blueprint, It then dawn on government that the proper thing to do is to review the nation's education curriculum by embedding entrepreneurship education as a compulsory course to be taken by all undergraduate students.

The EDP as a shortterm approach to the unemployment crises is to cater for the out-of-school youth and the ever- increasing number of jobless graduates. In the long run it will bring desired result of growth and development. The EDP seeks to move youth entrepreneurship into the mainstream of the economy with growth oriented and sustainable businesses. As an active learning entrepreneurship institute, the EDP is designed for new entrepreneurs, introducing them to basic elements of starting and managing a new business; the EDP creates training tools focused on the ways to improve performances and productivity of businesses, to encourage aspiring entrepreneurs to explore more deeply about their business ideas and in particular, the feasibility of turning a business idea into a profitable venture.

As part of its strategy to revive the state economy and uplift the standard of living of its citizenry Nasarawa State Government has identified sectorial strategies in the development of entrepreneurshipprogrammes. The establishment of cottage industries and provision of financing facilities under the State Poverty Alleviation Programme (SPAP) and the State Community Empowerment Programme (SCEP) as well as State Government's Skill Acquisition Programme (SGSAP) is some of the initiatives to enhance the development of SMEs to create more jobs to reduce the high rate of unemployment in the state.

(i) State Poverty Alleviation Programmes and SMES Development

State Poverty Alleviation Programmes (SPAP): - This programme was established by the Nasarawa State Government aimed to addressing poverty and other related issues in the state. It was designed to complement the National Poverty Eradication Programmes (NAPEP). It collaborates with ministries, agencies and other institutions and develops plans and guidelines with regards to poverty reduction. SPAP's goals include: Training youths, Small and Medium Enterprises (SMEs operators), Women in vocational trades, to support internship, micro-credit employment in the automobile industry and help the poor patients. The programme serves as the secretarial of the State Poverty Eradication Council (SPEC). The programme implement State Government's policies on poverty eradication as formulated by SPAP to monitors and coordinates all poverty reduction efforts at the state and Local government levels. It has offices in every Local Government Councils

throughout the state. In order to achieve its objectives, SPAP has designed the following schemes:

(a). Youth Empowerment Schemes (YES) :- This scheme is targeted at helping to address the problem of unemployment and to reduce the rate of dependence among the youths of Nasarawa State.

(b). Capacity Acquisition Scheme (CAS):- This is designed to enable youth acquire the necessary skills with which they can established business on their own. The start-up capital for this scheme is provided by SPAP upon acquisition of the requisite skills. This scheme has enhanced development of SMEs in Nasarawa State.

(c). Management Attachment Programme (MAP):- In this programme, youths are attached to business and organizations to enable them acquire basic management skills and job experience. Funding for this programme is shared responsibility between the partner employer and SPAP.

(d). Capacity Enhancement Scheme (CES) :- This is designed for people who have basic skills but need additional resources to avoid poverty and ensure wealth creation. Beneficiaries are provided with micro-credit, information as well as tool/equipment that may be needed for their trades, occupation or businesses.

(e). KEKE NAPEP Programmes: - In this programme, a beneficiary purchases at a significant discount a three wheeled passenger vehicle. However, he or she must operate the business. They attend various seminars for strengthening their capacities in the ownership, operation and management of a small scale transport enterprise. The much presence of tri-cycle popularly called KEKE TAA'L in Lafia, the state capital and other Local Government Councils across Nasarawa state indicates that the Programmes has enhanced SMEs development in Nasarawa State.

(f). Micro-credit Programme: - Through this programme, assistance is given to SMEs operators through the provision of markets and

business development. Most of the financial support for this programme is selected through micro-finance institutions (MFIS) and community banks respectively.

(ii) State Community Empowerment Programme and SMEs Development

State Community Empowerment Programme (SCEP):- This programme was targeted at empowering people, pressure groups and associations economically in the communities across Nasarawa State. In order to achieve its objectives, the following schemes were designed:

(a) Community Enlightenment and Sensitization Scheme (COMESS):- This is a collection of programmes that employ various media to take the message of modest public support of self-help and active production in poverty reduction and wealth creation activities to communities across the state through radio and television programmes, information, brochures, work-seminars and mobile video units. Many women groups, youths and associations have benefitted from the programme.

(b) Social Welfare Service Scheme (SOWESS):- This is designed to promote projects that improve the social and personal well-being of the citizenry and SMEs operators in the state. In collaboration with UNDP and the United Nations Education and Cultural Organizations (UNESCO) has established Community Skills Development Centres (CSDC). As a matter of facts, many pressure groups, women, youths, SMEs operators and associations in various communities have been empowered through this programme in Nasarawa State.

(iii) State Government Skills Acquisition Programme and SMEs development

State Government Skills Acquisition Programme (SGSAP):- This programme was also established by the Nasarawa State Government to provide the requisite entrepreneurship skills for youths across the state with the motive of job creation, poverty reduction so as to attain a sustainable

economic growth and development in the state. Training centres for the programme was established in the three (3) senatorial districts of the State. The centre for the programme is located in Nasarawa town, Nasarawa Local Government Council (for the Nasarawa West Senatorial District), Akwanga, Akwanga L.G.C. (for Nasarawa North Senatorial District) and Lafia, Lafia L.G.C. (for Nasarawa South Senatorial District) respectively. Beneficiaries of this programme were offered various entrepreneurship and management skills training in different areas of occupation such as: Welding, Beads making, Tailoring, Soap making, Barbing/ Hair dressing, Block molding industry among others and were given a start-up capital for successful operation of their businesses. Today, beneficiaries of this training are successful in the operation and management of their respective small and medium enterprises and are gainfully self-employed in Nasarawa State.

Worldwide, Small and Medium scale Enterprises (SMEs) is known to play a very vital role in sustaining the national economy and promoting the industrial developments. The existence of SMEs in any economy is very important, economically and socially. For any economy to experience tremendous growth there must be small, medium and large firms which play compliment role through backward and forward linkages. The role of SMEs in our economy could be seen from the area of proving employment, local value-added utilization of domestic outs, development of local technology and increase country's Gross Domestic Product (GDP).

According to (Obitaya, 1991), the other roles of SMEs ensures the supply of high quality parts, components and inter-mediate products, thereby strengthening the international comprehensiveness of manufactured goods and finally produced specialized items in small-scale quantity to meet current and diverse demands.

The SMEs are characterized by simple management structure resulting from the fusing ownership and management by one or very few individuals. (Ukeje, 2003), asserted that SMEs tend to strongly revolve around the owner. There is other greater subjectivity in decision making and the prevalence of largely informal employer-employee relations. That the poor inter and intra-sectorial linkages do not allow the enterprises to take advantages of the benefits associated with economies of large –scale production. Most of the

skills used in the SMEs industries are quite mainly outside formal education. SMEs operators are risk-takers, gap-fillers and rugged persons who are alert to business opportunities (needs and wants). They combine human and non-human resources in novel ways to produce new business organizations, produce and provide goods and services, generate societal wealth and creatively destroy existing industries and organizational offerings (Cardon, 2005). The characteristics of typical efficient and effective SMEs operators includes: Ability and desire to take risks; Innovativeness; Knowledge of how the markets functions; Manufacturing know how; Marketing skills; Business management skills; Ability to cooperate; good sensing and identification of business opportunities; Ability to correct errors; Diversifying into related business areas; Avoid strategic errors; Good financial skills and good reporting skills.

Studies have established its positive relationship with stimulation of economic growth; employment generation; and empowerment of the disadvantaged segment of the population, which include women and the poor (Oluremi&Gbenga, 2011; Thomas and Mueller, 2000; Reynolds, 2007). Nigeria as a country has numerous business and investment potentials due to the abundant, vibrant and dynamic human and natural resources it possesses. Tapping these resources require the ability to identify potentially useful and economically viable fields of endeavours. Nigerians have made their marks in diverse fields such as science, technology, academics, business and entertainment.

Thus, Small and Medium Enterprises and innovative ingenuity in Nigeria have developed enterprises in the following areas. Agricultural/agro-allied activities where there are foodstuffs, restaurants, fast food vending etc. In the area of solid minerals, there are quarrying, germ stone cutting/polishing and crushing engineering. In power and transport, there are power generations, Haulage business (cargo and passengers). In the area of information and telecom business, there are manufacturing and repairs of GSM accessories and the printing and selling of Recharge cards.

In hospitality and tourism business, there are hotels, accommodation, resorts centres, film and home video production; in oil and gas business, there are

construction and maintenance of pipelines, drilling, refining bye products. In the area of environmental and waste management business, there is refuse collection/disposal, recyclement, and drainage/sewage construction job. In the area of financial banking services, there are banking, insurance and stock trading. In engineering and fabrication work, there are machines and tools fabrications. There is also the building and construction, where there are plan and design services and material sourcing, (Agbeze, 2012). These human and natural resources notwithstanding, Nigeria is still one of the poorest countries in the world and has one of the highest rates of youth unemployment in sub-Sahara Africa, and despite its alleged strong economic growth. (Chukwubuikem, 2008) notes that youth's full;-time unemployment rate for 2006-2008 was 55.9 percent, 4 time higher Salami, (2011).

This is why most government programmes are yet to achieve the desired results of reducing youth unemployment. Corruption has been the bane of development in Nigeria and it has impacted negatively in the industrialization process initiated by successive governments. It has attained an endemic level with public office holders paying lip service to its eradication because they are part of the beneficiaries.

Apart from the major challenges of unemployment, inequality, corruption, poverty, cultism, human trafficking and emigration are other challenges facing developing economies, Nigeria inclusive and Nasarawa state in particular. Despite Nigeria's decades of development efforts, both the gap between the poor and the rich countries and the inequalities within states and nations have widened. Poverty simply means inadequacy of income to meet such basic needs as food, shelter, clothing, education, healthcare etc. Poverty leads to malnutrition, sickness, illiteracy, unemployment, low status of men and women, immorality, crime, and exposure to environmental risks, limited access to assets, social services, and political power.

There are three other relevant theories relating to the growth and development of small and medium enterprises and these theories have been discuss by (Westhead, 1993). The first is the Resource Exchange Theory (RET), which posits that the small business enterprise exchanges relevant resources with its environment and the environment lavishly provides an aggregation of resources leading to the growth of small business enterprises.

Second is Population Ecology Theory (PET) which posits that the ability of the small business enterprise to adapt and exchange rapidly leads to its development of new markets. This theory anchored on the concept of firm density (Specht, 1993).

The theoretical foundations of entrepreneurial Business Orientation Theory via SMEs.Entrepreneurial Business Orientation (EBO) refers to the processes, methods, styles, practices, strategies, policies, and relevant decision-making actions used by organizational decision-makers/entrepreneurs (SMEs operators) that lead to new business /market entry. EBO is different from entrepreneurship. EBO is the major perculiarity of efficient and effective companies, while entrepreneurship is the content of entrepreneurial decisions and focuse on the question of how is it undertaken (Kropp and Zolin, 2005). Relates to two transitions, on the one hand are those who see entrepreneurship as something related to founding and growing a business enterprise (Schumpeterian entrepreneurs), On the other hand are those who see an opportunity and gather all the resources required to pursue it (Kirznerian entrepreneurs).

The different perspectives put forward by various schools of entrepreneurial thought have provided insight into entrepreneurial tendencies. They include: 1) The Classical School of Thought, spearheaded by Joseph Alois Schumpeter (1934); 2) Great Persons School of Thought, spearheaded by Garfield (1986); 3) Leadership School of Thought spearheaded by Shapero, A. (1984); 4) Intrapreneurship School of Thought spearheaded by Gifford Pinchot (1985); 5) Psychological Characteristics School Of Thought, spearheaded by Israel M. Kirzner (1973); and 6) Management Skills School of Thought , spearheaded by Peter Ferdinand Drucker (1998).

Research Methodology

The research design employed for this study is the survey research design. The population of this study is the entire registered SMEs operators in Lafia, Nasarawa State and the management and staff of Nasarawa state Ministry of Commerce, Industries and Cooperatives, Lafia. The total number of registered SMEs operators is 82 SMEs firms and two (2) management staff of the Ministry. Therefore, out of the total population of the study, the sample

was selected using the following sampling technique formulated by Yamane (1967).

The data was collected through the use of primary sources. It was collected from some registered SMEs operators in Lafia, Nasarawa State and the management staff of Nasarawa State Ministry of Commerce, Industries and Cooperatives, (The Permanent Secretary and the Director in charge of cooperatives and SMEs), Lafia. The data was collected using a five-point Likert scale questionnaire. The questionnaire was therefore; tested for content validity and reliability to assure that it would be able to address appropriately the questions being answered.

The data collected in this study were presented using simple percentages and descriptive statistics, while the hypotheses of the study were tested using correlation analysis because the emphasis is on the relationship. The variables of the study and model specification are stated below: Government's Programmes in this study were measured by the following variables in this study:
The choice of the method of data analysis is based on the fact that the study is aimed at finding a relationship between Government's Programmes and SMEs development in Nasarawa State. Therefore, correlation model was used for testing the relationship between Government's Programmes and SMEs development in Lafia, Nasarawa State.

Table 1.1.1 Level of the EDP Awareness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	58	85.3	85.3	85.3
	No	10	14.7	14.7	100.0
	Total	68	100.0	100.0	

Source: Questionnaire 2018

The above table indicates the level of respondents' awareness by either saying yes or no. Therefore, 58 respondents, representing 85.3% are aware of the different types of entrepreneurship development programmes in

Nasarawa state. While 10 respondents, representing 14.7% are not aware of entrepreneurship development programmes in Nasarawa state.

Table 1.2.1 Types of EDP's Facilities in Nasarawa state.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SPAP	23	33.8	33.8	33.8
	SCEP	20	29.4	29.4	63.2
	SGSAP	25	36.8	36.8	100.0
	Total	68	100.0	100.0	

Source: Questionnaire 2018

The table above, shows that 23respondents, representing 33.8% are beneficiaries of the State Poverty Alleviation Programme, 20 respondents, representing 29.4% are direct beneficiaries of State Community Empowerment Programme and 56 respondents, representing 36% are those who benefited from State Government Skill Acquisition Programme.

Table 2.1.1 Relationship between Governments' Programmesand RSM

Correlations

		RSME	SCEP
RSME	Pearson Correlation	1	.892**
	Sig. (2-tailed)		.000
	N	68	68
G Ps	Pearson Correlation	.892**	1
	Sig. (2-tailed)	.000	
	N	68	68

**. Correlation is significant at the 0.01 level (2-tailed).

In the above result, the Pearson Product-moment Correlation Coefficient value (R) indicates the strength of the relationship between the two variables (i.e. RSME and G Ps). Therefore, the correlation coefficient value is 1. This

value is located in correlation table where the two variables cross. Impliedly, the variables are perfectly correlated.

To determine how much variance is explained for the dependent variable (i.e. RSME) by the independent variable (i.e. G Ps). The coefficient of determination is calculated by squaring the Pearson product-moment correlation coefficient (r) and multiplying the product by 100 and the correlation is r =.89.Therefore, the coefficient of determination is $(.89)^2$ x 100 = 79%. This indicates that G Ps explains 79% of the variance in development of RSME. The level of significance is easily traced under the coefficient of correlation. In this work therefore, the coefficient of correlation is .000 which is < 05. Impliedly, the correlation is therefore, statistically significant.

Table 2.1.2 Relationship between SPAP and RSME

Correlations

		RSME	SPAP
RSME	Pearson Correlation	1	.882**
	Sig. (2-tailed)		.000
	N	68	68
SPAP	Pearson Correlation	.882**	1
	Sig. (2-tailed)	.000	
	N	68	68

**. Correlation is significant at the 0.01 level (2-tailed).

The table above, shown that the PearsonProduct-moment Correlation Coefficient value (R) is an indication of the strength of the relationship between the two variables (i.e. RSME and SPAP). The correlation coefficient value is 1. This value is located in correlation table where the two variables cross to indicate that the variables are perfectly correlated.

To determine how much variance is explained for the dependent variable (i.e. RSME) by the independent variable (i.e SPAP). The coefficient of determination is calculated by squaring the Pearson product-moment correlation coefficient (r) and multiplying the product by 100 and our correlation is r =.89.Therefore, the coefficient of determination is $(.88)^2$ x

100 = 77%. This indicates that SPAP explains 77% of the variance in development of RSME. The level of significance is easily traced under the coefficient of correlation. In this work therefore, the coefficient of correlation is .000 which is < 05. Impliedly, the correlation is therefore, statistically significant.

Table 2.1.3Relationship between SCEP and RSME

Correlations

		RSME	SCEP
RSME	Pearson Correlation	1	.893**
	Sig. (2-tailed)		.000
	N	68	68
SPAP	Pearson Correlation	.893**	1
	Sig. (2-tailed)	.000	
	N	68	68

**. Correlation is significant at the 0.01 level (2-tailed).

In the above result, the PearsonProduct-moment Correlation Coefficient value (R) indicates the strength of the relationship between the two variables (i.e. RSME and SCEP). Therefore, the correlation coefficient value is 1. This value is located in correlation table where the two variables cross. Impliedly, the variables are perfectly correlated.

To determine how much variance is explained for the dependent variable (i.e. RSME) by the independent variable (i.e. SCEP). The coefficient of determination is calculated by squaring the Pearson product-moment correlation coefficient (r) and multiplying the product by 100 and the correlation is r =.89.Therefore, the coefficient of determination is $(.89)^2$ x 100 = 79%. This indicates that SCEP explains 79% of the variance in development of RSME. The level of significance is easily traced under the coefficient of correlation. In this work therefore, the coefficient of correlation is .000 which is < 05. Impliedly, the correlation is therefore, statistically significant.

Table 2.1.4Relationship between SGSAP and RSME

Correlations

		RSME	SGSAP
RSME	Pearson Correlation	1	.834**
	Sig. (2-tailed)		.000
	N	68	68
SGSAP	Pearson Correlation	.834**	1
	Sig. (2-tailed)	.000	
	N	68	68

**. Correlation is significant at the 0.01 level (2-tailed).

In the above result, the Pearson Product-moment Correlation Coefficient value (r) indicates the strength of the relationship between the two variables (i.e. RSME and SGSAP). Therefore, the correlation coefficient value is 1. This value is located in correlation table where the two variables cross. Impliedly, the variables are perfectly correlated.

To determine how much variance is explained for the dependent variable (i.e. RSME) by the independent variable (i.e. SGSAP). The coefficient of determination is calculated by squaring the Pearson product-moment correlation coefficient (r) and multiplying the product by 100 and the correlation is r =.83.Therefore, the coefficient of determination is $(.83)^2$ x 100 = 69%.

This indicates that SGSAP explains 69% of the variance in development of RSME. The level of significance is easily traced under the coefficient of correlation. In this work therefore, the coefficient of correlation is .000 which is < 05. Impliedly, the correlation is therefore, statistically significant.

Conclusion and Recommendation

The work examined the relationship between Government's Programmes on Entrepreneurship Development and SMEs development in Lafia, Nasarawa State. The study therefore, concluded that, there is positive and significant relationship between Government's Programmes and SMEs development in

Nasarawa State. Impliedly, an increase and improvement in the state EDPs would led to a corresponding increase in the development of SMEs. It is also found that the state EDPs predominant schemes are: state Poverty Alleviation Programme (SPAP), State Community Empowerment Programme (SCEP), as well as State Government's Skill Acquisition Programme (SGSAP). However, it is only registered SMEs operators are benefiting from the schemes. There is no adequate information on the activities of the State Ministry of Commerce and Industries because within the period under study, only 82 SMEs operators registered with the ministry in the entire state.

In view of the above, it is recommended that the State Ministry of Commerce, Industries and Cooperatives should endeavor to ensure full and proper implementation of the state's EDP schemes. The obvious reason is that, positive and significant relationship is found between the State's Entrepreneurship Development Programmes (such as SPAP, SCEP and SGSAP) and the Registered SMEs development in Lafia,Nasarawa State. By implication therefore, the Programmes has to be extended because it has the capacity to enhance vehement development in Small and Medium Enterprises Sector which will eventually help in curtailing the problem of unemployment by creating more jobs in Lafia and the entire Nasarawa State.

Nasarawa State government should also embark on awareness campaign so as to inform and educate more potential SMEs operators on the existence and the benefit of the state's Entrepreneurship Development Programmes since information they say is power. SMEs operator can only benefit from the states' EDPs when he/she registered with the ministry. This is because the ministry is the state's government instrument of channeling EDP's support facilities to SMEs operators in the state. Therefore this justifies the need for judicious orientation as regard to the existence and the benefit of the states' Entrepreneurship Development Programmes (EDPs).

SMEs operators should take more advantage of the state's EDPs to enhance their entrepreneurship skills, knowledge, thinking, and attitudes towards a successful management and operations of their businesses effectively. Since about 41.2% constituted the number of SMEs operators with SSCE qualification, government should review and expand its skills acquisition

programmes by creating more additional skill acquisition centres in addition to the already existing ones in order to boost skills acquisition and entrepreneurial capabilities of the youths. In addition, proper monitoring and funding of such programmes should be x-rayed in order to identify lope-holes therein to enhance the achievement of its objectives. Government should encourage members of public to continue to patronize products of our domestic SMEs, as that will encourage them to increase and improve their productivity, thereby creating more jobs and that will reduce the high rate of poverty and unemployment in the state and Nigeria art large.

Constituted authority should ensure that the fund voted for SMEs development and loan collected by the SMEs operators are judiciously used and government should monitor and follow-up to a conclusive point.

Government should create an enabling environment for SMEs operators to thrive by providing adequate infrastructural facilities in the area of access roads, electricity, water supply, and telecommunications to improve productivity.

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WATER QUALITY FOR HOUSEHOLD USE OF KUCHI KAU LOCALITY, KARU LGA OF NASARAWA STATE

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Abstract

The study is on the assessment of hand dug wells water quality for domestic uses in Kuchi-Kau Locality, Karu L.G.A of Nasarawa State. Water bodies Worldwide are threatened with either natural pollution or man-caused pollution, hand dug wells are not an exception to such pollution. With the introduction of industrial, agricultural and domestic waste disposal on landfills and water bodies, ground water are very much vulnerable to contamination. The study therefore embarked to check the level of contamination of hand dug wells in the study area. The hypothesis adopted is to see if there is a significant difference between the quality of hand dug well water in the study area and that of the National Standard for Drinking Water Quality Standard (NDWQS) and also the World Health Organization (WHO) standard. The methodology adopted in this thesis: Grab sample method was used in the collection of water sample in 2 liters sterile bottles. Each well water sample was fed in a bottle and was labeled for identification. Also, observation of the environment was done, for environment is a factor in water pollution. The physical, chemical and biological parameters were analyzed. According to the results obtained in the laboratory test, most of the water samples were within the limit of the National Drinking Water Quality standard (NDWQS) and that of the World Health Organization (WHO) in its physical parameters. For the chemical parameter, the result showed some of the sample to have exceeded the necessary limit requirement. The biological parameters indicated in the water shown to have exceeded the limits given by WHO and NDWQS. The wells have exceeded much in the total coli form count which is stated not to be more than 10 CFU/100ml. As for the E-coli, seven wells are within the limit standard while the rest are more than the given standard. For the Fecal strep, all the wells have failed to stand within the given limit which is O.

Based on the analysis of Kuchi-kau hand dug wells, it is concluded that the wells have met the standard needed on the physical parameters and chemicals parameters, but are highly contaminated with the biological parameters.

Key Word: Quality Water, World Health Organization, Physical parameters, Biological parameters, chemical parameters.

Introduction

''Water is one of the most important single requirements of life. The importance of water to all forms of life on the earth surface cannot be over emphasized. Everything originates in water, everything is sustained in water. It has been demonstrated that human beings can rarely live for 60days without water, almost 70 percent of the human body weight is made up of water while virtually all body functions require water to be effective''. (Akinbode, 2000). The global distribution of water is such that it occurs naturally in abundance in some areas but is insufficient in other areas. The water we use cycles endlessly through the environment. The total amount of water on our planet is immense, more than 1,404 million km^2 (Brown, et al 1994). This water evaporates from moist surface, fall as rain or snow, passes through living organisms, and returns to the ocean in a process known as the hydrological cycle. The situation of the world was such that in 1993, less than 20% of the world population had access to good drinking water, and by 2000 the percentage was expected to decrease further (Brown et al, 1994). Furthermore, the availability of water is the key to the economic development of any nation, and it depends on how the nation is able to manage the resources they have available. The availability of water in required quantity and quality to a community or settlement, and the implication or overall economic and social life of such a community can therefore not be over emphasized (Khitoliya, 2004). According to the Longman dictionary, quality is how good or bad something is. Water quality refers to the chemical, physical, biological and the radiological characteristics of water. It is a measure of the condition of water relative to the requirement of one or more biotic species and or to any human need or purpose. Water of adequate quality and quantity

is central to the integrity of the environment. It is essential to ensure that we have sufficient drinking water to supply our needs. The focus of our water resources is often on the volume of the water available for particular purposes. However, water quality determines the suitability of water for particular purpose. Managing water quality requires a catchment base approach as kind uses practices have negative effect on the quality of ground water and surface water. Such practices like agricultural practice such as application of fertilizers to the farmlands, applying of herbicides pollutes or affect the quality of surface water through run-off and underground water through percolation. Industrial practices affect both surface water most and underground water. Water borne diseases remain one of the major health concerns in the world. Diseases which are largely derived from contaminated water and inadequate sanitation, account for 2.4 million deaths each year and contribute over 73million disability Adjusted Life years (A measure of disease burden, WHO 1999). Based on present estimates, one-sixth of the humanity lack access to any form of safe and improved water supply within 1 kilometer of their home and one-fifth of humanity lack access to any form of adequate and improved excreta disposal (WHO and UNICEF, 2000). Both the developed and developing countries suffer from water borne disease, leading to loss of life. Thus, the purpose of this study is to evaluate the water quality of Kuchi Kau , to see if the water is polluted or not. If it is polluted, what are the factors that lead to its pollution? Harmful substances will be evaluated so as to avoid cases of illnesses like those of other states, example Zamfara State. The availability of water in Kuchi-Kau is from two main sources which are boreholes and hand dug wells. These sources are not free from pollution, which is as a result of percolation of surface pollutants (mostly in liquid form). This thesis will base on looking at the safety of such water for domestic use most especially drinking. Looking at the major sources of water in Kuchi-Kau locality, we will see that their water does not undergo a water treatment plan.

Well water in a settlement area can be polluted through many means. Among such are through leakage from sewage pit, through seepage from gutters and sinking of waste water from house hold waste to the underground aquifers. Looking at the settlement of Kuchi-Kau, we found out that many sewage pits are being located very closely to the wells. Gutters pass close to the well, and

also there is the pouring of detergent water close to the wells, which causes seepage of such water. Sewage pit are ruled to be 10meters away from boreholes, and 30 meters away from hand dug wells. This is to avoid pollution from sewage to wells. With these at hand, the well water needs to be assessed to see if they are contaminated or not.

The aim of this study is to assess the quality of shallow well and its suitability for domestic use in Kuchi-Kau Locality of Nasarawa State of Nigeria. In connection with the above aim, the study objectives are:

i. To assess the physical, chemical and biological properties of well water in the study area.
ii. To determine the level of concentration of substances : Aesthetic parameters such as turbidity, temperature, conductivity among others. The chemical parameters such as dissolved oxygen, chloride fluoride among others. And the biological parameters such as total coliform, E-Coli and Feacal strep in wells in kuchi kau.
iii. To compare results obtained by this study to National Standard for Drinking Water Quality (NSDWQ) and World Health Organization(WHO).
iv. To provide implication in the use of well water for domestic use in the study.

Literature Review

Water quality is a measure of the condition of water relative to any human needs or purpose. Water as an essential resource to both plant and animals, is both required in a certain degree of purity. The water needed by man for consumption such as household use, is required to be to a certain extent of perfect quality. That needed by plants also do not need certain contaminants in them, so it is to industries and so on that needs water to function. Some concepts are employed in the study.

The Concept of Water Quality

The measured values of a water quality parameter change over time and depend on the characteristics of the water body, such as its flow, nutrient and

pollutant source, etc. the meaning of a single measurement is not always significant, whereas the changes in the measurements over time are often important.

Water quality standard shows the levels which do not cause only hazard to human bodies and or impose limitation on use of water, according to the purpose of water usage. Accordingly, there are various criteria of water quality standards. Therefore, in order to establish a water quality standard, that is safety of drinking water, acceptability of water quality for industrial use such as cooling water for boilers, water used for agriculture, fish farming, fishery, and for sustaining natural aquatic ecosystems. Therefore, in order to establish a water quality standard, scientific examination is required into the safety and availability of water for each purpose. The water quality standard must have technical and economic considerations. In Nigeria, the Federal Environment Protection Agency (FEPA) issued in 1988 a specific decree to protect, to restore and to preserve the ecosystem of the Nigerian environment. The decree also empowered the agency to set water quality standards to protect public health and to enhance the quality of water. Guidelines were set by FEPA. The guidance is expected to become the maximum allowable limits for inland surface waters and ground waters, as well as for non-tidal coastal waters (FEPA, 1991).

Concept of Pollution

Pollution can be defined as "the introduction by man into the environment substances or energy liable to cause hazards to human health, harm to living resources and ecological systems, damage to structures or amenity, or interference with legitimate uses of the environment (Lester and Birkett, 1999).
The most common sources of environmental pollutants are industrial or production facilities, power stations, motor vehicles, agriculture and domestic heating, which release pollutants in the solid, liquid or gaseous forms.

Pollutants can cause immediate (acute) or long-term damage (e.g through carcinogenic, mutagenic or embryo toxic substances). Specific water

pollutants include chlorinated hydrocarbons, heavy metals, bacteria, saline water and municipal and industrial wastes.

Sources of Pollutants

Sources of pollution fall into two main categories;

i. Point sources
ii. Non-point sources (or diffuse sources).

- A point source is a defined point of entry of polluting material into water course. This could be an affluent discharge pipe, a storm water overflow or a known point where waste is habitually dumped into the water (Lester and Birkett, 1999).
- Non-point source takes from many angles or not from a direct source but from one incident leads to another.

Groundwater pollution

Most human activities at the land surface cause some change in the quality of water in the aquifer beneath them. The importance of the effect of a particular activity is related to the amounts and types of contaminants released (Lester and Birkett, 1999). Contamination is usually more concern and serious in the case of drinking water supply then in other uses of water. Groundwater is said to be a good source of drinking water because of the purification properties of the soils that rainwater has to percolate through to get into the aquifer.

There are four main sources of groundwater pollution:

i. Industrial sources
ii. Domestic Sources
iii. Agricultural sources
iv. Environmental Sources

Groundwater flow is measured in meters or fractions of meters per year. This means that the turnover of water in an aquifer could be anything from 200 to 10,000 years (Lester and Birkett, 1999). Aquifers which are being polluted now, or which have been polluted in the past could remain so for tens or hundreds of years. Diffuse Pollution also affects standing waters and reservoirs, as well as ground waters (Campbell et al, 2004).

Concept of Land use and Diffuse Pollution

Diffuse Pollution by definition is primarily caused by use of land by man and transformation of land use. Diffuse pollution is the unfinished business of water pollution control that was recognized as a problem relatively recently, in the 1970s. A definition of diffuse pollution by Scottish Environment protection Agency. Diffuse pollution is the release of potential pollutants from a range of activities that individually may have no effect on the water environment, but at the scale of a catchment can have a significant impact (.i.e. reduction in water quality, decrease in wildlife etc). Diffuse sources of pollution include run-off from roads, houses and commercial areas, run-off from farmland, and seepage into groundwater from developed landscapes of all kinds. An effective land-use planning plays a crucial role in efficient management of water resources of any area. Both diffuse and point sources pollution is dependent upon the land use pattern of a city (Sharma and Kansal, 2010).

Concept of Water Borne Diseases

Water borne diseases are cause by pathogenic microorganisms that most commonly are transmitted in contaminated fresh water. Infection commonly results during bathing, washing, drinking, in the preparation of food, or the consumption of food thus infected. According to World Health Organization (WHO) such diseases account for an estimated 4.1% of the total daily global burden of diseases, and cause about 1.9 million human deaths annually. The World Health organization estimates that 88% of that burden is attributed to unsafe water supply, sanitation and hygiene. Water borne diseases are viral, bacterial and parasitic diseases which use water as a common means of transmission (Melake et al, 2003). According to Lester and Birkett, 1991, the majority of water borne diseases arises as a result of the contamination of water used for drinking with human or animal faeces. The pathogens contained in the feces of a diseased human or animal or in those of a symptomless carrier are distributed within the water body and may be ingested by others, either directly by drinking or by consuming crops irrigated or washed with the same water. The major source of ethologic agents of diseases is human sewage. Monitoring the pathogenic content of

sewage has proved to give a good indication of the types of illness likely to prevail in a community at any time.

Groundwater Pollution

Water pollution occurs when the level of contamination or contaminants in water exceeds the minimum acceptable concentrations specified by the water quality guidelines or standards (Iwugo, 1996). Groundwater contamination is a largely modern phenomenon, following in the wake of industrialization. Contamination can arise from variety of sources such as chemicals leached into the soil near rubbish dumps, run-off of pesticides and nitrates from agricultural land, industrial waste discharged into rivers, heavy metal penetration from mine waking and industrial processing and acid rain.

Water Borne Diseases

The majority of waterborne diseases arise as a result of the contamination of water used for drinking, with human or animal feces of a diseased human or animal in those of a symptomless carrier are distributed within the water body and may be ingested by others, either directly or by consuming crops irrigated or washed with the same water (Lester and Birkett, 1999).

Effect of Polluted Water to Human Health

Pollution can be defined as the introduction by men into the environment substances or energy liable to cause hazards or human health, harm to living resources and ecological systems, damage to structures or amenity or interfere with legitimate uses of the environment (Lester and Birkett, 1999) Pollutants can cause immediate (acute) or long-term damage (e.g through carcinogenic, mutagenic or embryo toxic substances). Particularly dangerous pollutants are characterized by a good rate of absorption into the human body (desorption), slow degradation (long biological half-life) and high stability (resistance). Thus, they can remain in the natural circulatory system for a long time and unfold their fill damaging effects (Lester and Birkett, 1999).

Methodology

The wells were being sampled for their physical, chemical and microbiological quality parameters, three different sampling Area of Kuchi Kau were selected for the study, they are: The large Fed. Road safety estate (Zone A), The Busy Commercial area of Kuchi Kawu (Zone B), The developed residential area (Zone C). A total of 11 hand dug wells and a borehole from three locations were sampled. The distances of water surface from the tip of the wells were between 3-7 meters. Also, twelve (12) wells were sampled, representing 10% of the total wells of the study area. Zone A which has a total of 20 wells, 2 samples were collected, in zone B, Six samples were collected, and in Zone C three samples were collected with a borehole to serve as a control point. Grab sample method was used in the collection of sample in a 2 litre sterile bottles. In every well, the container was rinsed 3times with the well water before the sample was fed into the container. The water drawer (Black in Colour) was put into the well leaving the total head of the drawer to go into the water with just 5inchs depth from the surface of water. Then it is brought out and fed into the container. After which the bottle was covered tightly and properly labeled, then it was put into a flask containing solid ice blocks.

This process was done to all the sampled wells except the Borehole. The Borehole sample was collected through the tap attached to the tank above the borehole. Container was put at the opening of the tap and water was fed directly from the tap to the container. Immediately after the collection of sample from each well, the immediate environment of the well was taken note of and information related to point of sampling was recorded. After the collection of samples into a flask of ice blocks, for storage and preservation, they are then taken to the laboratory in Mina, Niger State for laboratory analysis of the parameters.

Presentation and Analyses of Result

This chapter presents the analysis and interpretation of data collected in the study area. The water samples were analyzed in the laboratory and results given. The mean, standard deviation of the results were calculated and then

the student T-test was used to see the differences between the result of samples and that of National Standard of water quality**.**

S/no Units	No. of wells	Conductivity US/cm	Temperature ^{o}C	Ph	Turbidity NIU	Total dissolve solid Mg/L
1	wells 1	22.5	27.3	7.06	1.32	1.51
2	wells 2	122.8	27.7	7.20	8.79	83
3	wells 3	961	27.8	7.67	3.09	644
4	wells 4	312	27.9	7.51	2.78	209
5	wells 5	234	28.0	7.21	16.4	155
6	wells 6	479	28.0	7.07	21.5	663
7	wells 7	991	28.4	7.42	21.5	663
8	wells 8	784	28.2	7.29	1.62	527
9	wells 9	376	28.4	7.45	13.6	251
10	wells 10	132.6	28.0	6.44	2.66	88
11	wells 11	111.7	28.5	6.45	2.29	75
12	borehole	261	28.1	7.05	1.62	174
	$\bar{X}$	415.8	28.03	7.152	7.914	278.42
	SD	± 183.34	± 0.124	± 1.88	± 6.22	± 180.84
	NWQS	1000			5	500
				6.5 – 8.5		

Source: Field survey and laboratory analysis, (2014)

In calculating the mean conductivity, the formular is used: Mean $\frac{(X) = (\Sigma\chi)}{nx}$

$\overline{X}$ = mean

The range value of conductivity is 22.5 as the lowest and 991 as the highest. Looking at the conductivity, it is within the limit standard of the National Drinking Water Quality (1000).

The temperature mean is calculated as $\overline{x} = \frac{\Sigma L}{X}$

With $\bar{\chi}$ ------ mean

ΣL ------ Summation of the values of temperature of all the wells sampled. (336.3)

nl ------- total number of wells sampled (12)

$\overline{\chi} = \frac{336.3}{12}$

$\overline{x} = 28.03$

The temperature lowest range is 27.3 and the highest is 28.5 this is still within the set limit.

The PH mean is calculated as $\bar{\chi} = \Sigma m/nm$

With $\bar{x}$ --- mean

Σm ---- Summation of the value of PH of all the sampled wells. (85.82)

Nm---- total number of wells sampled

$\overline{x} = \frac{85.82}{12}$

$\overline{x} = 7.152$

The PH lowest range is 6.45 and the highest is 7.67n with a mean of 7. 152. This is very close to the national standard but within limit.

Turbidity mean was calculated as $\bar{x} = \frac{\Sigma n}{Nn}$

Where $\overline{x}$ ------ turbidity mean

ΣN ------ Summation of all the values of the wells turbidity analyzed. (94.97)

Nn = total number of wells sampled (12)

$: \overline{x} = \frac{94.97}{12}$

$\overline{x} = 7.914$

With the lowest range as 1.32 and the highest as 21.5. The calculated mean passed the national standard.

In calculating the mean of the total dissolved solids, the formula below is used. $x = \Sigma o$

$\overline{x}$---- The mean of the total dissolved solids of the wells sampled and analyzed.

No---- total number of wells sampled (3341) analyzed. (12)

$: \overline{x} = \frac{3341}{12}$

$\overline{X} = 278.42$

The lowest range of the TDS IS 83 and the highest is 663. With a mean of 278.42

The National Standard given is 500; some of the wells are more than the given National Standard.

Looking at the analyzed and calculated mean, the well sampled with the value higher than the National Water Quality Standard (NDWQS) is well 7. Having the highest in turbidity and total dissolved solids. Freshwater generally has a TDS of 0 to $100mgl^{-1}$ compared with sea water which has a TDS of approximately $35{,}000mgl^{-1}$. Water containing an TDS above $2000mgl^{-1}$ is considered too salty for drinking water (Lester and Birkett, 1999). In 3.4 of location and description of environment of station sample, we still see why well has a high value of total dissolved solids has.

Table 2: Chemical parameters

S/N Unit	No. of wells	Dissolved oxygen	Chloride Mg/L	Total hardness	Nitrate Mg/L	Calcium	Iron Mg/L	Flouride Mg/L	Lead Mg/L
1	Well 1	7.48	24	60	10.4	12.8	0.08	0.12	0.00
2	Well 2	7.53	8.0	30	7.41	5.61	0.04	0.0	0.00
3	Well 3	7.42	31	198	21.4	16.00	0.09	0.04	0,00
4	Well 4	7.37	10	98	14.4	12.8	0.8	0.10	0.00
5	Well 5	6.36	27	74	6.72	23.2	0.14	0.0	0.00
6	Well 6	6.96	43	118	8.78	31.3	0.03	0.42	0.00
7	Well 7	7.05	112	180	25.4	40.8	0.09	0.13	0.00
8	Well 8	7.42	24	50	14.7	15.2	0.07	0.13	0.00
9	Well 9	6.99	14	34	9.24	7.21	0.05	0.27	0.00
10	Well 10	7.21	11	42	6.48	8.82	0.08	0.0	0.00
11	Well 11	7.34	10	40	4.27	4.81	0.11	0.03	0.00
12	Borehole	7.59	8.0	38	5.98	7.21	0.21	0.60	0.00
	$\bar{x}$	7.23	26.83	80.167	11.265	15.47	0.09	0.021	-----
	SD	3.30	27.75	55.12	6.26	10.63	1.10	0.20	-----
	NDWQS		250	150	50		0.33	15	0.01

Source: Field and Laboratory Analysis, (2014)

Table 3: Biological parameter

S/N Unit	No of wells	Total coliform cfu/ 100ml	E-coli cfu/ 100ml	Feacal strep cfu/ 100ml
1	Well 1	78	0	160
2	Well 2	110	480	40
3	Well 3	40	0	150
4	Well 4	35	0	100
6	Well 5	10	0	300
7	Well 6	120	420	170
8	Well 7	15	0	45
9	Well 8	25	0	280
10	Well 9	140	440	77
11	Well 11	115	240	180
12	Borehole	0	0	180
	$\overline{X}$	74.83	165	148.08
	SD	51.81	175.90	88.05
	NDWQS	10	0	0

Source: Field and Laboratory Analysis, (2014)

Summary, Conclusion and Recommendation

Summary of Findings

The research work was aimed at finding whether the hand dug wells of Kuchi kau locality is safe for domestic consumption, as most of the people depend on well water for their domestic uses.

The analysis carried out in the study area of Kuchi-Kau phase I, covers the whole area which was divided into 3 zones namely: Zone A, B and Zone C. With Zone A having a total of 20 hand dug wells, zone B having a total of 56 hand up well, excluding houses that were closed with gates during time of data collection, and zone C having a total of 26 hand up well with one borehole as a control point.

Ten percent (10%) of the total number of wells in each zone were sampled, i.e. from zone A two wells were sampled, from zone B, six wells were sampled and zone C, three wells were sampled and a borehole as a control.
The research work was aimed at finding whether the hand dug wells of Kuchi-Kau locality is safe for domestic consumption, as most of the people that depend on well water for their domestic uses.

To know the safety of the well water, the analyzed result of the sampled water was compared to that of the National Drinking Water Quality Standard (NDWQS) of 2008 and World Health Organization (WHO).
With the high rate of diseases in the World caused by unhealthy water, World Health Organization (WHO) and individual countries have put in much effort to see that certain standard of parameters are given, so as to see the safety of water being consumed by people.

The study identified the level of safety of some of Kuchi-Kau wells, given the physical parameters; conductivity of all the wells and a borehole ranging within the set limit of the National Standard which is 1000. The highest range of conductivity of the wells is 991 of well seven (7). The lowest range which is 111 of well eleven (11).

Temperature and PH of the wells were all within the National Drinking Water quality of 6.5-8.5.
Five wells were given to have exceeded the NDWQS in turbidity they are well 2,5,6,7 and 9. With figures 8.79, 16.4, 19.3, 21.5 and 13.6 respectively.

Three wells exceeded the NDWQS in Total Dissolved Solid, which is 500, they are wells 3,7, and 8, with figures 644, 663 and 527 respectively.

In the chemical parameters, the dissolved oxygen, Nitrate, iron, fluoride, lead of the eleven wells and a borehole are all within the set limit of the NDWQS. Two wells exceeded the NDWQS that is 150 in total hardness; they are well 3 and well 7, with a figure of 198 and 180 respectively.

The biological parameters of the study which are total coli form, E-Coli and Feacal strep, have been identified to be of high level in various wells. A total coli form of NDWQS is given as 10. Looking at the analysis, all the wells analyzed excluding borehole have exceeded the national standard limit. The well with the highest count been well 10 with 210.
E-coli also has some wells with a very high figure, such as well 2,6,9,10, and 11, with figures 480,420,440,400, and 240 respectively. The given National standard E-Coli is O.
The analysis gives the feacal strep of all the wells to have exceeded the National Standard which is O.

Conclusions

The research work may be considered to have achieved its objectives. Based on the analysis of the sampled well water in Kuchi-Kawu, it can be concluded that Kuchi-Kawu hand dug well have met the standard needed on the physical parameters and chemical parameters, but are highly contaminated with biological parameters. This is in consequence of waste water, open drainage, waste dump site, nearest of pit latrine, uncemented floors seen near the wells.

This can then be concluded that the water in Kuchi-Kawu Wells do not meet the National Standard and also World Health Organization standard in terms of mostly biological properties. For this, it is dangerous for drinking without treatment. The following recommendations were given.

Recommendations

The study proffered some of the following recommendation as farfetched in resolving the water challenges, they include: Provision of well-constructed drainage system by the government or locality management, Good and efficient Waste disposal means should be made available to the locality so as to avoid wrong waste disposal, Simple mode of water treatment should be made known and available to the people of Kuchi-Kawu, Proper building structure should be enforced in the locality by both the state and government, in order to avoid construction of sewage pit close to wells and enlightenment should be given by health workers of that state and local government, on the dangers associated with consuming contaminated water.

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