Alex-Ekwueme
Federal University
Ndufu-Alike
Ebonyi State Nigeria

INTERNAL AUDIT EFFICIENCY AND PROFITABILITY OF QUOTED MANUFACTURING FIRMS IN NIGERIA

MICHAEL CHIDIEBERE EKWE,
College of Management Science,
Michael Okpara University of Agriculture Umudike,
Abia State.
Phone: +2348033768282; Email: ekwe.michael@mouau.edu.ng

ODOGU LAIME ISAAC,
Department of Accounting,
Bayelsa State Polytechnic Elebele,
Yenagoa, Bayelsa state.

OKEZIE STELLA O.,
Department of Accounting,
Michael Okpara University of Agriculture Umudike,
Abia State.

ABSTRACT

This research investigated the relationship between internal audit efficiency and profitability of quoted manufacturing firms in Nigeria. Data for the study were sourced from the financial reports and annual accounts of quoted manufacturing firms in Nigeria as obtained from the Nigerian Stock Exchange (NSE). The data were analyzed using multiple regressions in testing the hypotheses at 0.05 level of significance. It was found in the univanriate analysis that quoted manufacturing firms in Nigeria are audit conscious and therefore efficiency-driven. The study concluded that internal audit could only be a tool of good management and not a substitute for discharging corporate operations. Therefore, the study recommends that top executives of the manufacturing firms in Nigeria should always chart the course of action in advance; so that, the whole management process would work well. Also, the top management team should exhibit a high level of moral integrity in order to guide against theft, embezzlement and fraud.

***Key Words**:* Internal audit, Audit efficiency, corporate resource utilization.

INTRODUCTION

The complex technicalities associated with auditing activities in recent times; have generated a good reason for the accounting profession to worry. This is because auditing now carries heavy responsibility and calls for commensurate knowledge, skills and expertise to perform the activity in this modern society. Added to the complexity of the art of auditing, is the current increasing need for strategy implementation which ensures that the separate working leaders in various divisional and functional units have got the right information (background, attributes and skills) which are relevant in making the strategy work, design a better organizations plan and employ the right functional policies and allocate materials (resources) to the functional units in accordance to the strategy allowed for the units. Also, internal audit performs a valuable function in strategy implementation in order to carry out the trade of the organization by ensuring compliance with legal requirements and organizational rules. The preparation of annual financial reports of organizations ventures and the presentation of information contained therein is the responsibility of management. This is a responsibility that cannot be adequately exercised without internal audit (Mautz, 1972 in Ukpai, Kellyiyi & Hamilton, 2006).

Customarily, the internal audit unit (department) is referred to as the "police unit" of a business organization due to its "watch-dog" character. It sees the implementation phase as master plan that is required to turn strategy into reality and see if what happened was what was supposed to happen. If not, it draws management attention to it. Also, it provides one of the most vital strategies in the implementation (execution) of business procedures in the organization. It does not principally engage only in fault findings and passing of judgment but is usually involved with advisory on sources and application of fund, adherence to management policies and regulation on "where", "When" and "How" to get and pay out funds appropriately. However, Millichamp (2002) considered among others, some essential elements (dimensions) of audit to include: process control, corporate resources utilization and fraud prevention. These three dimensions of internal audit efficiency are seen as innovations (independent variables) to strategy implementation in this study. More so, Millichamp went further to describe other advantages derived from internal audit efficiency and implementation, which are seen as the traditional functions in control of business organization as: (i) Assurance that financial and other systems are secure to prevent significant loss (ii) improved efficiency and risk reduction both from recommendation. (iii) Service in advice on process control. That is, business advice on improving implantation techniques and objective appraisals of the efficiency, effectiveness and economy of the organizations various functional units.

Emphasis on internal audit has however of recently, shifted from the inspection style of policy implemented, epitomized by surprise audit visit to an advisory approach where audit information becomes an input for strategy implementation, a shift from the compliance approach to efficiency and effectiveness auditing. This shift has shown the necessity for the effectiveness of audit if the organization must meet its objectives (Hayes, Gortemaker, & Wallage, 2014). From obvious thought, one may be bound to believe that these dimensions of the variables of this research, which are seen as innovation will lead to an effective strategy implementation of business organization by the internal audit units and thus, engender the process of an efficient output for the organization.

As Brown-Liburd, Issa, & Lombardi, (2015) observed, internal auditing aims at implementing socially responsible activities by those at the level of pinnacle management and review of policy implementations as well as coordinate plans and procedures. Consequently, the strength of internal audit lies in its ability to predict performance successfully. However, despite the numerous successes that accrued from internal audit functions, it is not out of place to note that the units (department) in most organization suffer certain problems. The problems include poor or inadequate information sharing and inability to manage change (Abdullahi, (2006). These persistent poor business performance and its attendant problems have manifested in several ways in industrial operation, economic and national life (Soyode, 2001 & Utomi, 2003).

However, in spite of this acceptance, the unit has not been very effective as many fraudulent activities still go on undetected and laid down policies are not properly implemented (Ukpai, 2006). Therefore, the problem which has motivated the research interest in this paper is to investigate the interactions between profitability of quoted manufacturing companies in Nigeria and their respective internal audit efficiency as well as determine the effect of the later on the former.

LITERATURE REVIEW

Conceptual Issues

Effective decision-making processes in business organizations may be conceptualized in terms of audit efficiency. As such, the focus is on basic qualities, characteristics and circumstances that surround the need for efficiency in the internal audit system. The Institute of Internal Auditors (IIA), identified internal audit as "an independent, objective assurance and consulting activities designed to add value and improve an organization's operations" (IIA, 2009). It helps an organization "accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes" (Brown-Liburd, Issa, & Lombardi, 2015). Consequently, such necessity for auditing viewed audit from the perspective of public and private sector organization. This explains why organizations devote resources to the provision of auditing. Internal audit can further be defined as the "independent appraisal function established by the management of an organization for the review of the internal control system as a service to the organization. It objectively examines, evaluates and reports on the adequacy of internal control as a contribution to the proper, economic, efficient and effective use of resources" (Millichamp, 2002). Kiabel (2009) recognizes two principal keys that are used interchangeably in the definition of internal audit, which are "accounts" and "financial". These two principal key words "account", Financial" if not considered, might create a comparative study to a research of this nature. However, for the purpose of this current analysis the words are imperative because it is in the scope of responsibility for the auditor to ascertain and check books of account, financial statement of operating (functional) units in the organization.

Agwu (2011) in his study described the concept of efficiency as measure of the cost of resources associated with goal accomplishments, or outputs realized compared to inputs consumed. It also refers to the resources used to achieve objectives. The author maintained that efficiency is concerned with whether the units produced, were at minimum cost and that the measure of equipment utilization, facilities maintenance, and returns on capital employed are all efficiency criteria. From the above, it is obvious that in an efficient situation like effectiveness, there must be defined criteria for what is meant by performing more efficiently before internal audit significance will be achieved. Therefore, efficiency as it relates to internal audit is always determined by looking at the inputs in relation to outputs at the various functional units. This is so because the purpose of conducting internal audits, create a measure and examines capacities for achieving results in the organizations control.

Corporate resources utilization is another element (measure) of internal audit efficiency. Corporate resources utilization focuses on the organization capacity to adapt to change as evidence to manage the human, technological or intellectual resources, behaviour in a consistent, adapted, and efficient manner. Its utilization remains competitive over time by contributing and recognizing the fact that most management teams are under heavy time (cost) pressure. In terms of resources utilization, Earley, (2015) identified an efficient manager to be one who meets the daily production quota at minimum cost. Thus, a true success in managerial effectiveness is goal attainment and efficiency in resources utilization. Therefore, as (Crawford, & Boyd, 2011) observed, resources utilization may be seen as the efficiency of the relative magnitude of two quantities such as inputs and outputs.

In consideration to meet the daily production quota at a minimum cost, Earley, (2015) argued, that it is necessary to undertake a small specific investigation into the activities of cost. According to Drury (2000), 'costs that are assigned to cost objects can be divided into two categories: direct and indirect costs'. Most often, the term overhead is usually preferred to indirect cost. Direct cost can be accurately traced to cost objects because they can be specifically and exclusively traced to a particular cost object whereas indirect cost cannot (Millichamp 2002).

True success in managerial effectiveness is goal attainment and efficiency in resources utilization. Therefore, corporate resources utilization focuses on the organization capacity to adopt to change as evidence to manage and utilize the organizational resources. These resources to be utilized are: finance (money), human, material (technological), and time resource. Glueck (1980) as cited in Tamunomiebi & Hamilton, (2001) affirms that when the above mentioned corporate resources that are utilized, the successful performance of any firm rest largely on the integrity or competence of its operating staff because incompetent or dishonest employees will certainly destroy any system and the organization with it.

THEORETICAL ISSUES

Resource Based Theory

The resource based theory identifies an organization according to Liddy (2015), 'as a bundle of resources which establish the basis for generating competitive advantage'. Also, (*Arens, 2003*), affirms that 'resources are the tangible and intangible assets organizations use to conceive of and implement their strategies'. They are the organization's specifics and can be identified as "all assets, capabilities, organizational processes, information, knowledge, attributes for resources utilization etc, controlled by the organization that enable the organization to conceive and implement strategies that improve its efficiency and effectiveness" (*Arens, 2003*). Resources can be further divided into physical, human and organization capital resources (Barney, 1991). The resources based theory assumes heterogeneity of resources, i.e., competing firms may possess different bundles of resources (Liddy, 2015). It also assumes that immobility of resource, i.e., these differences may persist (Hay, Knechel, & Wong, 2006).

The Upper Echelon Theory

According to Byrnes, Criste, Stewart, & Vasarhelyi, (2014), the central thesis of this theory is that "strategic apex of an organization has the chief responsibility of visioning and thus responsible for ensuring that the organization achieves in a most effective and efficient manner, the mission of the firm". The theory classifies all firms into groups based on their functions and decision levels within the organizations. Three main classifications as identified by Byrnes, Criste, Stewart, & Vasarhelyi, (2014) are: (i) The operational core (ii) The middle line and (iii) The strategic apex. They explained that strategic apex level comprises the Chief Executive Officers (CEOs) as well as the top-level managers. Also included at the top level are the founders, who are also the firm creators. Strategic planning and decisions like corporate social responsibility strategy or policy are crafted and made at this upper echelon of the organization.

Responsibilities are adopted by those at the level of pinnacle management and engage in policy reviews for the smooth operations of the organizations (Cao, Chychyla, & Stewart, 2015). This implies that, corporate social responsibility policy or strategy is the decision of the top management which is domiciled in the upper echelon theory in organizational management. Also, (Mautz I972 in Ukpai et al, 2006) observed, internal audit performs a valuable function in strategy implementation in order to carry out the trade of the organization by ensuring compliance with legal requirement and organizational rules; and that, the preparation of annual financial reports of organizations ventures and the presentation of information contained therein is the responsibility of management. This is within the theoretical foundation of upper echelon theory.

Empirical Studies

The emergence of contemporary issues in the “field” of management sciences has led to a flurry of studies in business performance, corporate governance, public sector administration, strategy evaluation and control and policy implementation. There are also studies in internal audit function and efficiency with regard to fraud investigation, detection and prevention. Therefore, this section of the review of related literature examines other relevant studies that may likely have bearing on the interactions of internal audit efficiency and profitability of quoted manufacturing firms in Nigeria.

Agwu, (2011), focused on how internal audit affects business performance given an organization's corporate culture, size and technology. The work empirically assessed the influence of internal audit functions on business performance in Nigerian quoted manufacturing companies. The study considered thirty-two quoted manufacturing companies; and data were collected by means of questionnaire and personal interviews. It was revealed that proves control and assets safeguard have positive and significant influence on profitability, business effectiveness and efficiency. While fraud prevention influences business profitability, corporate culture and technology exerted positive moderating influence on the relationship between internal audit functions and business performance.

Also, Ukpai (2006), set out to know if auditing can be useful in evaluation of strategies in the control process of organizations in Nigeria. In achieving this, questionnaire and personal interviews were used. It was revealed that operatives of internal audit contribute in the evaluation of strategies and maintain control in organizations; and that, achievement in internal audit is essential to management in evaluation and controlling business strategies in organization.

Also, the study by Alles, (2015), emphasized that, the enormous resources entrusted in the public sector requires control to ensure achievement of objectives of providing infrastructural facilities essential for economic growth and development. These objectives cannot be achieved without the internal Auditors involvement in complementary role of ensuring compliance to established procedures and policies. Thus, the internal auditors under this scenario are the watchdog of the citizen in public sector administration and governance. This responsibility is executed through the process of appraising, examining, evaluating and reporting on the various public sector functions covering finance, personnel, asset acquisition and disposal.

In consideration to the works of the various authorities as cited above, the emphasis on discussion has been on either internal audit function and business performance, auditing a strategy evaluation emphasis, the role of internal auditors in public sector administration and strategy implementation. But there is no known Nigerian study that has linked audit efficiency to the problems of financial performance in manufacturing firms. In this work therefore, the researchers have set out to study internal audit efficiency and financial performance in quoted manufacturing firms in Nigeria.

METHODOLOGY

The study adopted the *ex post facto* research design as the data used for the analyses were secondary data. Secondary data are data published by authoritative sources. Therefore, they are collected from such sources. The data were generated from the Nigeria Stock Exchange and annual financial reports of the companies studied. The duration covered in the research was basically from 2013 to 2017 which is in the range of 5yrs. This study employed annual data of five quoted companies for the period under consideration.

Method of Data Analyses

The analyses were carried out in two forms which are correlation and regression analyses. The correlation analysis determined the relationship between the explanatory and the explained variables, while regression analysis was employed to ascertain the effect of the explanatory variables on the explained variable.

The regression analysis employed the following least squares models:

$$CRU = a + X_1\beta_1 + \varepsilon \qquad (1)$$

$$CRU = a + X_2\beta_2 + \varepsilon \qquad (2)$$

The *aprori* expectation is $\beta1>0; \beta2>0$

CRU (Internal audit efficiency) = corporate resource utilization; X1 is Earnings per share, X2 is turnover. β_1, β_2, are the coefficients of the regression, while ε is the error term capturing other explanatory variables not explicitly included in the model. However, the model was tested using the diagnostic tests of heteroskedasicity, multiple regression, serial correlation, normality and misspecification (Coyne, Coyne, & Walker, 2017). Augmented Dickey-Fuller was also used in the study for stationarity of data.

Test of Hypotheses

HYPOTHESIS ONE

Ho1: no significant effect of corporate resources utilisation on EPS.

In relation to corporate resource utilization and EPS, The adjusted R^2 of 0.134 or 13.4% indicates that about 13.4% of the observed changes in EPS is explained by corporate resource utilization. It follows therefore that 86.6 percent was not accounted for in the model. The low value of the adjusted R-squared occurred by chance, since its overall statistical significance as measured by the F-statistic showed a high level [F-statistic = 4.715 with a significant level of 0.040]. The t-statistic of 2.171 also shows a significant association between the explained and explanatory variables. It follows therefore that there is a significant effect of corporate resources utilization on the Earnings Per Share.

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	logCorp_Res_Uti[b]	.	Enter

a. Dependent Variable: EPS
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.412[a]	.170	.134	927.81287

a. Predictors: (Constant), logCorp_Res_Uti

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4059144.662	1	4059144.662	4.715	.040[b]
	Residual	19799244.794	23	860836.730		
	Total	23858389.455	24			

a. Dependent Variable: EPS
b. Predictors: (Constant), logCorp_Res_Uti

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5434.546	2684.235		-2.025	.055
	logCorp_Res_Uti	845.292	389.269	.412	2.171	.040

a. Dependent Variable: EPS

HYPOTHESIS TWO

Ho2: no significant effect of corporate resources utilisation and turnover.

In relation to corporate resource utilization and turnover, the adjusted R2 value of 0.876 or 88% indicates that about 88% of the observed changes in turnover explained by corporate resource utilization. It follows therefore that 12 percent was not accounted for in the model. The high value of the adjusted R-squared did not occur by chance, since its overall statistical significance as measured by the F-statistic showed a high level [F-statistic = 161.780 with a significant level of 0.000]. The t-statistics of 12.719 also shows significant interactions among the explained and explanatory variables. It follows therefore that there is a significant effect of corporate resources utilization on turnover.

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Corp_Res_Uti[b]	.	Enter

a. Dependent Variable: Turn_over
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.936[a]	.876	.870	.17512

a. Predictors: (Constant), logCorp_Res_Uti

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.961	1	4.961	161.780	.000[b]
	Residual	.705	23	.031		
	Total	5.667	24			

a. Dependent Variable: logTurn_over
b. Predictors: (Constant), logCorp_Res_Uti

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	.954	.507		1.883	.072
	logCorp_Res_Uti	.935	.073	.936	12.719	.000

a. Dependent Variable: logTurn_over

CONCLUSION AND RECOMMENDATIONS.

From the findings we summarize that the efficiency of the internal audit process plays an indispensable role in manufacturing processes of quoted companies in Nigeria and that these processes are audited in these firms.

The internal audit unit in quoted manufacturing firms in Nigeria compares work outcomes with set standards and that the internal control systems in these manufacturing firms are effective. Quoted manufacturing firms in Nigeria are audit conscious and therefore efficiency driven. This is evidenced by the results of the study which indicate that effective utilization of resources leads to high turnover. With regard to the findings which justify the theoretical background given in this research, the researchers believe that internal audit efficiency and profitability in quoted manufacturing firms in Nigeria could not have been justified better than the data collected and analyzed. It is strongly recommended that other firms, which have not established the internal audit unit (department) in their business organizations to borrow a leaf the survey of quoted manufacturing firms in Nigeria. An effective and efficient system of internal audit functions engenders better financial performance in corporate organization. Managers are therefore to ensure that the internal audit units are functional and free from management overbearing influences.

Nevertheless, it is hoped that if the recommendations advanced in this work are adhered to by business entities, this work will attain and/or achieve a better appreciation of internal auditing. The management of manufacturing firms in Nigeria should encourage issues of corporate resources utilization because it focuses on the organizations capacity to adapt to change as evidence to manage the human, technological or intellectual resources, behavior in a consistent, adapted and efficient manner.

REFERENCES

Alles, M., 2015. Drivers of the Use and Facilitators and Obstacles of the Evolution of Big Data by the Audit Profession. *American Accounting Association*.

Brown-Liburd, H., Issa, H. & Lombardi, D., 2015. Behavioral Implications of Big Data's Impact on Audit Judgement and Decision Making and Future Research Directions. *Accounting Horizon's*, .

Byrnes, P., Criste, T., Stewart, T. & Vasarhelyi, M., 2014. *Reimagining Auditing in a Wired World.*[Online]http://www.aicpa.org/Inter estAreas/FRC/AssuranceAdvisoryServices/DownloadableDocuments/Whitepaper_Blue_Sky_Scenario-Pinkbook.pdf.

Cao, M., Chychyla, R. & Stewart, T., 2015. Big Data Analytics in Financial Statement Audits. *Accounting Horizons*.

Coyne, E., Coyne, J. & Walker, K., 2017. Big Data Information Governance by Accountants. *International Journal of Accounting and Information Management (forthcoming),* Volume Working paper

Crawford, K. & Boyd, D., 2011. Six Provocations for Big Data. *Oxford Internet Institute*.

Earley, C. E., 2015. Data analytics in auditing: Opportunities and Challenges. *Business Horizons,* Volume 58.

Hay, D., Knechel, R. & Wong, N., 2006. Audit Fees: A Meta-analysis of the Effect of Supply and Demand Attributes. *Contemporary Accounting Research,*.

Hayes, R., Gortemaker, H. & Wallage, P., 2014. *Principles of Auditing.* 3rd ed. Harlow: Pearson Education Limited.

Kessel, P. V., 2014. *Big Data: Changing the way business operate,* United Kingdom: Ernst & Young.

Liddy, J., 2015. How Data and Analytics Are Enhancing Audit Quality and Value. *The CPA Journal,*

NBA, 2013. Big four investeren fors in big data. *Accountant. The National Accountant, 15(4),* 18-23.

Abdullahi, N. A. (2006). Role of the Accountancy Profession in Tackling Corruption. The *National Accountant, 4(3), 21-26*

Agwu, T. G. (2011). International Audit Function and Business Performance in Quoted Manufacturing Companies in Nigeria. A Ph.D dissertation of Rivers State University of Science and Technology, Port Harcourt.

Arens, A. A. (2003). Auditing and Assurance Services: An Integrated Approach. New Jersey: Prentice – Hall Inc.

I. I.A. (2009). The Role of Internal Auditing in Enterprises-wide Risk Management (ERM). A

Kiabel, B. D. (2009). Auditing Theory and Practice. Port Harcourt: Mgbaa Commercial Ent.

Lemon, N. (1993). Attitutde and their Measurement. London: B.T. Batsford Limited.

Loebbecke, J. K. (2000). Auditing: A Practice Approach. Canada Series in Accounting Ontario John Deyell Publishing Company.

Millichamp, A. H. (2002). Auditing. Hampshire: D. P. Publications Ltd

Nwayanwu, L. A. (2002). The Role of Internal Auditors in Public Sector Administration in Nigeria. *International Journal for Development, 4(*2), 43-47.

Prince, P. N. G. (1996). Internal Audit and the Statory Auditor: *The Accountant (ICAEW), 3(5), 137-138.*

Soyode, A. (2001). A Framework for the Evaluation of Performance in Public Corporations. *The Quarterly Journal of Administration, 9(3), 48-52.*

Stamp, E. (2000). Auditor and the Independence Issue. *The Accountant (ICAEW), 2(3), 43-50.*

Tamunomiebi, M. D., & Hamilton, D. I. (2001). *Introduction to Business Policy.* Nigeria: Odesaa Press.

Ukpai, N. A., Kellyiyi, K. I., & Hamilton, D. I. (2006). Auditing: A Strategy Evaluation Emphasis. Sophia: Journal of African Philosophy, 8(2), 109-117.

Van-Buul, M. (2010). Successful Strategy Implementation: A Job for the Internal Auditor, M.Sc Executive Master of Internal Audit Thesis of the Amsterdam Business University of Amsterdam.

Appendix

	FUND EMP	Turn over	EPS		logFUNDE	logTURNO
2017	11,535,212	27,064,325	202	**NASCON**	7.062026	7.432397
2016	8,046,227	18,291,792	91		6.905592	7.262256
2015	7,088,236	16178197	79		6.850538	7.20893
2014	6,307,306	11250544	70		6.799844	7.051174
2013	6,892,626	10837261	102		6.838385	7.03492
2017	44,878,177	244,151,417	4255	**NESTLE**	7.652035	8.387659
2016	30,578,075	181,910,977	10		7.48541	8.259859
2015	38,007,074	151,271,526	2995		7.579864	8.179757
2014	35,939,643	143,328,982	28.05		7.555574	8.156334
2013	40594801	133,084,076	28.08		7.60847	8.124126
2017	4,463,206	15,921,022	18	**VITAFOAM**	6.649647	7.201971
2016	4,299,252	12,189,558	-8		6.633393	7.085988
2015	3,828,904	15,519,856	-1		6.583074	7.190888
2014	3,267,313	15592358	81		6.514191	7.192912
2013	3,117,467	14126527	48		6.493802	7.150035
2017	11,742,791	33,079,446	16	**BURY**	7.069771	7.519558
2016	11,056,733	29,979,410	-16		7.043627	7.476823
2015	12,285,297	27,823,194	61		7.089386	7.444407
2014	12749451	30,518,586	106		7.105491	7.484564
2013	24,577,724	35,760,753	211		7.390542	7.553407
2017	2,242,220	7,113,950	214	**CAP**	6.350678	6.852111
2016	2,283,490	6,813,984	229		6.358599	6.833401
2015	1,520,133	7,056,876	249		6.181882	6.848612
2014	1,180,573	6987604	237		6.072093	6.844328
2013	1,268,148	6,195,824	202		6.10317	6.792099