EFFECT OF ASSETS SECURITY CONTROL ON OPERATING EFFICIENCY OF MANUFACTURING FIRMS IN NIGERIA

Ejike, Sylvester Ikechukwu Ph.D

Department of Accountancy

Institute of Management and Technology (IMT), Enugu

ABSTRACT

Every organization, either small, medium or large scale is concerned with performance as such performance is the bottom-line for every organization, business and non-business. This study examines the effect of assets security control on operating efficiency of manufacturing firms in Nigeria. The study adopted content Analysis using a cross sectional survey among 20 selected manufacturing firms listed in Nigeria Stock Exchange. Data were obtained from the financial statement of the various organizations. Inferential statistics of linear regression was used for the hypothesis. The result of the study shows that there is no perfect multi co-linearity in the independent variable, (0.5441). The result also shows a positive coefficient of 0.05887937 and p-value of 0.001386704 which is significant at 1% level of significance. It was concluded that ASC positively influences firms' operational efficiency in manufacturing firms in Nigeria within the period of study and manufacturing firms in Nigeria can reap reasonable benefits in inculcating good asset security control polices was recommend.

KEYWORDS: Assets Security Control, Operating Efficiency, Manufacturing Firms

INTRODUCTION

Every organization, either small, medium or large scale is concerned with performance, as such performance is the bottom-line for every organization, business and non-business alike. It is essential because non-performance can spell failure in every organization. Organizational performance could be in terms of increase sales, increase profitability, increasing in staff welfare as well as better asset management.

This study, however, focuses on financial performance of firms as it relates to asset security and its influence on organizational profitability. The term, financial performance, used as a general measure of a firm's overall financial health over a given period of time, can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. In broader sense, financial performance refers to the degree to which financial objectives has been accomplished. All organizations have financial performance measures as part of their performance management, although there is debate as to the relative importance of financial and non-financial indicators. Proponents of financial performance measures argue that they are necessary because of the primary objectives of firms (Abu-Musa, & Ahmad, 2010).

Traditionally, financial performance measures are split into the following categories: profitability, liquidity/working capital, and gearing and investor ratios. The corporate financial management literature conventionally focuses on the study of long-term financial resources where a number of studies have analysed the topics related to capital structure, investments, dividends and firm valuation (Anyanwu, 2007). Current assets represent a major share of total assets on the statement of financial position of the firms. The management of these short term assets falls in the area of current asset management (CAM). Current assets could represent a significant component of firm's total assets. For a number of organizations, current assets management can make or mar the organization's financial performance as it is described to be the life blood of every firm (Flanagan, 2005).

Current asset management is the handling of the current assets of a firm (Wisegeek, 2015). Any asset that a firm has that is the equivalent of cash or can be liquidated into cash in within a year is considered a current asset. Typically, current assets are the inventory a company has, as well as the accounts receivables and any current investments it has in place. The main principle in current asset management is to keep the proper flow of income in balance. Managing current assets also takes into account the non-current investments of a firm, but current asset is important in determining the liquidity of a firm. Extant literatures established that the performance or profitability of a firm largely depends upon the manner of its current asset management. If a firm is inefficient in managing

current asset, it will not only reduce profitability but may also lead to financial crisis. Both inadequate and excessive current asset is detrimental for a firm. The excessive current asset can result in idle funds which could be used for earning profit while the inadequate current asset will interrupt the operations and will also impairs profitability (Chowdhary & Amin, 2007). Therefore understanding the relationship between corporate asset management and profitability remains cardinal to organizational success.

Adequate management of organizational asset relies on the organization internal control policy, which implies the integration of the activities, plans, attitudes, policies, systems, of the people of an organization in order to achieve set objectives (Nawera, 2012). Utilization of internal control ensures organization realization of its financial goal (Auditing Practice Committee [APC], 2010). Internal control mechanisms must be institutionalized by management as a system of controls, financial and otherwise. Afam (2011) defines security controls as safeguards or countermeasures to avoid, detect, counteract, or minimize security risks to physical property, information, computer systems, or other assets. Studies have been conducted in different parts of the world on the role of asset security in determining corporate performance. These studies provide different opinions on the direction of their association. The outcome of the studies, which are mostly, conducted in developed nations motivated more studies in the area in order to investigate whether these components of corporate liquidity can influence profitability in different economies.

Olokoyo (2012) and Muritala (2012) focused on firm's capital structure and financial performance in Nigeria and neglected its impact on their operating performance. Appah, Okoroafo and Bariweni (2013) study fails to incorporate the use of operating performance variables in their analysis; instead, they used financial performance variables.

Studies that attempts to consider operating performance concentrated on solvency and operating performance of firms in India such as Gurbachan and Sumesh (2014) and Sandeep (2012). This study therefore is an attempt to examine the effect of asset security on the operating performance of manufacturing firms in Nigeria.

OBJECTIVE OF THE STUDY

The main objective of the study is to examine effect of assets security control on operating efficiency of manufacturing firms in Nigeria.

RESEARCH QUESTION

1) To what extent does asset security control affects operating efficiency of manufacturing firms in Nigeria?

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RESEARCH HYPOTHESIS

H$_O$: Asset security has no significant effect on the operating efficiency of manufacturing firms in Nigeria.

REVIEW OF RELATED LITERATURES

Various literatures that relates to the work were reviewed here to add credence to the present study.

ASSETS SECURITY CONTROL

Afam (2011) defines security controls as a safeguards or countermeasures to avoid, detect, counteract, or minimizing security risks to physical property, information and communications systems or other assets. They can be classified by several criteria. For example, according to the time that they act, relative to a security incident: Before the event, preventive controls are intended to prevent an incident from occurring e.g. by locking out unauthorized intruders; During the event, detective controls are intended to identify and characterize an incident in progress e.g. by sounding the intruder alarm and alerting the security guards or police.

After the event, corrective controls are intended to limit the extent of any damage caused by the incident e.g. by recovering the organization to normal working status as efficiently as possible. According to their nature, example: physical controls like, doors, locks and fire extinguishers; procedural controls e.g. incident response processes, management oversight, security awareness and training. Technical controls includes user authentication (login) and logical access controls, antivirus software, firewalls; Legal and regulatory or compliance controls e.g. privacy laws, policies and clauses.

A similar categorization distinguishes control involving people, technology and operations. In the field of information security, such controls protect the confidentiality, integrity and/or availability of information - the so-called CIA Triad Systems of controls can be referred to as frameworks or standards. Frameworks can enable an organization to manage security controls across different types of assets with consistency. It could be argued that when management is unable to adequately utilize the firms' current and noncurrent asset, revenue of the firm may not be adequate to cover operating expenses and hence, it may affect profitability of the firms. Then, how could a company have good financial performance when faced with this situation? This explains the importance and pride of operating performance over financial performance. Previous studies such as Olokoyo (2012) and Muritala (2012) focused on firm's capital structure and financial performance in Nigeria and neglected its impact on their operating performance. Even Appah, Okoroafo and Bariweni (2013)

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that titled their study as capital structure and operating performance did not actually use operating performance variables in their analysis, instead, they used financial performance variables.

Studies that attempts to consider operating performance concentrated on solvency and operating performance of firms in India such as Gurbachan and Sumesh (2014) and Sandeep (2012). Despite the challenges of operational deficiencies facing Nigeria manufacturing companies, corporate strategist have kept experimenting on how best to reduce costs and improve on the efficient and proper utilization of resources. One emphasis of the strategists focuses on is the usefulness of the organizational system mechanisms, unfortunately the challenges in organizational control mechanism in most developing countries such as Nigeria has been largely blamed on factors hinging on the organizational climate, effectiveness and stability of system mechanisms, quality and availability of accounting information and effectiveness of monitoring mechanism in place (Afam, 2014). Previous works have been conducted on the effect of internal control and operational efficiency as it relates to operational profitability. In a study by Olademeji and Adamu, (2010) on internal control mechanism in Nigerian firms, they noted that inadequate control consciousness of staff activities as it affects control on account receivable of those firms, are to a large extend accountable for a bad financial performance of manufacturing companies in Nigeria. The study found a negative statistical evidence of control environment on account receivable on operational efficiency. The study reveals that weak internal control on account receivables were evident in the sector due to existence of rubber stamp board that are not willing to enforce internal control system. They also observed that the internal audit unit that should monitor and enforce internal controls, collaborate with external auditors from the regulatory authority to compromise.

Ahmed and Mohammed, (2009) carried out a study on modelling internal control and their evaluation and auditing. The central objective of their research was to explore the effect of monitoring and feedback of workers on financial performance of selected firms. Primary data was through structured questionnaire. The research hypothesis made use of T-test. He discovered that about 75% of inadequate financial performance in firms is based on poor monitoring and feedback of workers. Corrections are made where necessary in order to correct poor performances in the future when there is adequate monitoring and feedback of employees.

OPERATIONAL EFFICIENCY

According to Raheman et al., (2011) every business is most concerned with its efficiency of operation; the authors defined efficiency/profitability as when an organization, company, firm, or an enterprise make profit from all the business activities they are engaged in. Furthermore, it is the effective management and deployment of organizational resources to exploit the market of

opportunities. Efficiency ratios have become the commonest parameter of financial ratio analysis because; it is organizational bottom line parameter. Sohail et al., (2011) defined efficiency as the ability of a firm to earn returns on investment made in its assets that has a positive net present value. They further lament that a valuable accounting tasks of present value will be an assets for shareholders. A financial action resulting in a negative net present value should be dropped because it will endanger shareholders' wealth. Hill et al., (2012) describes firm's operational efficiency as the capacity to attract above its costs.   However, efficiency assesses administrative usefulness in resource management for the good of the organization. Kurawa (2011) further explains that, in effective internal control system, the more the growth of inputs, the more the costs while the more the turnover, the more the profit. He further asserts that efficiency can best be measured in term of Gross Operating Profit on assets, Returns on Equity as well as Returns on Capital Employed.

Equally, Rahem et al., (2011) highlights that company's overall efficiency and performance can be accessed through their operational efficiency ratios. The authors further opined that management efficiency is tied to profitability and the two are positively related in the sense that a positive linear movement with low turnover predicting poor administrative usefulness interchangeably; poor management efficiency may equally predict poor profitability to the detriment of the shareholders goals and objectiveness. The authors continued that unless an acceptable return in control of current assets is made obtained, wealth maximization and investment may be jeopardized. However, companies need liquidity for business engagement.

An organization is efficient if it certain amounts of her inputs can produce the greatest amount of output possible. It may also be defined as the proper utilization of organizational resources to achieve maximized output at reduces cost to the organization. Efficiency per se is a concept driven in the mind of scarce resource which the organization need to maximized t yield the best possible result in relation to organizational input to output, cost and profit. Koopmans (1951) introduced the concept of efficiency in the 1950s as "as a possible point […] in the commodity space is called efficient whenever an increase in one of its coordinates (the net output of one good) can be achieved only at the cost of a decrease in some other coordinates (the net output of another good)." Suffix this to the degree of efficiency between outputs and inputs. The distance function measures the distance between the points in what Koopmans called the commodity space that represents the achieved output of a firm and the point that it might have achieved if none of the inputs had been wasted. The greater the distance, the less efficient is the producer. Efficiency was defined as "a numerical evaluation of the 'deadweight loss' associated with a non-optimal situation (in Pareto sense) of an economic system" (Debreu, 1951). The general idea of this measure is to determine the

ratio of inputs to outputs. Debreu (op.cit) showed that the distance function is well suited for analysing efficiency. Shepard (1953) used the same concept of distance functions, but stating it as a problem that a producer uses too many inputs to produce a certain amount of output. Shepard has an input oriented approach while Koopmans has an output approach.

RESEARCH METHODOLOGY

This section describes the method that was adopted to achieve the aim and of the study. These include; the research design, population, sampling technique, sample size, research instruments, data collection procedures, data analysis and presentations, statistical model and hypothesis testing.

RESEARCH DESIGN

The work adopted content Analysis using a cross sectional survey. It is a research technique used to make replicable and valid inferences by interpreting and coding textual materials qualitative data can be converted into quantitative data. In a cross sectional survey, data is collected at a point in time from a sample selected to describe some larger population.

POPULATION OF THE STUDY

The population of the study is made up of the entire 40 manufacturing firms quoted on the Nigerian Stock Exchange as at December 2016.

SAMPLE

Twenty firms were purposively selected; the choice of selection was based on the following criteria:

Firms that was compliant with CAMA schedule2 which stipulates that all listed companies in Nigeria should publish and submit their audited annual report and accounts to the Nigerian Stock Exchange (NSE).

All manufacturing firms which have remained quoted on the Nigeria Stock Exchange Between 2003 - 2016.

Based on the above criteria, the following firms were chosen: Unilever Plc, 7UP Bottling Company Plc, Nestle Plc, Dangote Floor Mills Plc, Cadbury Plc, National Salt Company of Nigeria Plc, Fidson Healthcare Plc, Mobile Oil Plc, Evans Medical Plc, Total Nigeria Plc, Glaxo Smithkline Plc, MRS Oil Nigeria Plc, Nigerian Breweries Plc, Berger Paints Plc, Guinness Nigeria Plc, Nigerian Ropes Plc, International Breweries Plc, Ashaka Cement Plc, Vita Foam Nigeria Plc, and Cement Company of Northern Nigeria Plc.

METHOD OF DATA COLLECTION

Secondary data from annual reports and accounts of the sample firms under study for the period of thirteen years (2003 – 2016) were used.

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3.5 VARIABLES USED FOR THE STUDY

The choice of the variables used for the study was primarily guided by previous empirical studies and availability of data.

3.5.1 Dependent Variable

The dependent variable is the variable that has been predicted or projected. In this study the dependent variables is operating profit. This is obtained from the organization statement of financial position.

3.5.2 INDEPENDENT VARIABLES

Independent variables also known as the predictors or explanatories are the variables that cause the change to happen anytime they are concomitantly manipulated with the dependent variables. This study used manufacturing firms asset security control obtained from the company financial statement.

3.6 DATA ANALYSIS TECHNIQUES

The study used inferential statistic. The choice of inferential statistic for the analysis of data is as a result of its great importance in establishing the effect and relationship between variables and its ease of comprehension. Hence ordinary least square regression technique was adopted in testing the study hypothesis at 5% level of significance. The analysis was conducted using MINITAB program.

3.7 MODEL SPECIFICATIONS

Multiple regression in the form $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \ldots \beta_n X_n$..equation1

Operationally OPE (Operational Efficiency) of a company is a function of asset security control represented functionally as:

ASC = f(IC)…equation

2. But OPE is proxied by Operating profit (OP), while ASC was used as an independent variable.

Substituting this in equation1 we will have:

$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + \ldots + b_t X_t + \mu$

Where:

Y = Independent Variable on Analysis

X_1, X2, X_3, X_t = All dependent variables on analysis

a = intercept

b_1, b_2, b_3, b_t = coefficients/parameters estimates

μ= regression residual/error term

It is applied in this study as:

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Model: MTit= β_0+ β_1DIit +μit

Where:

MTit = Operating Profit

DIit = Asset Security Control

And β_0, β_1, β_2, are the coefficients/parameters estimate; β_0 intercept

μit = Residual

DATA ANALYSIS

DECISION RULE

Reject H_0 if p-value ≤ .05, otherwise accept H_0

Model 1: RE= β_0+ β_1DIit+ β_2LOit +μ

RESULTS

Data collected for the study are presented and analysed with interpretations of the tests conduct. Result presented in descriptive statistics of the data while analysis and discussion inferential statistics was used for the hypothesis.

Table 1: Descriptive Statistics of the Variables: All firms (2003 to 2016).

VAR	MIN	MAX	MEAN	STD	SKY	KUR	N
OP	0.25	103	48	22	0.57	0.64	200
ASC	5	351	131	89	0.37	-0.87	200

MINITAB VER 20 OUTPUT

Table 1 show that our measure of operational efficiency (OP) has a minimum value of 0.25 and 103 as the maximum value. The average value of the OP is 48 with standard deviation of 22, which implies that the deviations from both side of the mean value is 22. From the above, the implication is that there is a wide dispersion of the data (operational efficiency of listed manufacturing firms in Nigeria who were studied). The standard deviation is closer to the mean whereas the kurtosis value which is -0.64 suggests that majority of the data are not higher than mean; also, the data is positively skewed as evidenced by the Skewness coefficient value of 0.57 and thus, symmetrical distribution assumption was not met by the data. The results from the table also indicate that the minimum and maximum values of 5 and 351 respectively. On average, ASC in the sample manufacturing firms are 131 with standard deviation of 89. That is, the deviation from the mean is 89 days; the coefficient of Skewness 0.37 implies that the data is positively skewed, and therefore did not conform to the symmetrical distribution requirement. Moreover, the coefficient of Kurtosis -0.87 also indicates that ASC did not meet the Gaussian distribution assumption. The table also

indicates that on average, proportion of non-executive director's has a score of 160 with standard deviation of 97, implying that the deviation from the mean is 97 days in the sample firms

Table 2 Results of Normality Test

VARIABLES	W/E	V/Con.index	Z -order	Prob>Z	N
OE(GOP)	4.459	1.000	2.247	0.012	200
ASC	0.333	3.660	0.94	0.085	200

Source: STATA Output (Appendix II)

Table 2 variables of the study are subjected to Shapiro-Wilk (W) test for data normality; also test of the null hypothesis (that the data is normal), that is, whether the variable came from a normally distributed population is carried out. From the result in Table 4.3 above, there is indication that the data collated for all the variables are not normally distributed ass supported by the P-values which are significant at .01 (1%) level of significance (consider LBD, value of 0.085) nd .05 (5%) level of significance (consider OE Prob>Z value of 0.012). Based on the above, the null hypothesis (that, the data is normally distributed) is therefore confirmed. Consequently, the implication may affect the results since there is an assumption that most of the parametric tools of analysis including regression are normally distributed.

4.3 INFERENTIAL STATISTICS

In this section, the results of the inferential statistics of the study is presented and discussed. The section covers regression output of the study model from which the research hypotheses were tested.

4.4. RESULTS OF ROBUSTNESS TEST

In this section, the results of co-linearity test and heteroskedasticity are presented and discussed, as shown by Table 5 as follows;

Table 3: Result of the Robustness Test of the Model of the Study

Multi co-linearity Test		
Variables	VIF	TV
OE(GOP)	1.83	0.5441
ASC	1.43	0.6987

Source: STATA Output (Appendix IV)

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The classical assumption of OLS regression model assumed that the error terms are normally distributed and independent (that is the error terms are uncorrelated); the explanatory variables are not perfectly correlated (absence of multi co-linearity); the variance of the error terms is constant (Homoskedastic). When these assumptions have not been met, the estimators are biased and cannot be used in drawing any inference. However, the results from Table 5 proved the absence of perfect multi co-linearity in the independent variable, because the smallest tolerance value (TV) is 0.5441, corresponding with the highest variance inflation factor (VIF) of 1.83. The rule of thumb for the Tolerance Value is that any value of 0.1 and below implies the presence of perfect multi-co-linearity in the estimates, while for the Variance Inflation Factor a value of 10 and above is an indication of perfect multi-co-linearity. Following the robustness of the results, OLS estimators are used in the test of hypotheses formulated in this study.

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4.6 HYPOTHESES TESTING

In this section, the study tested the hypotheses formulated; Table 6 presents the coefficients of the variables of the study from which the hypotheses are tested. The hypothesis tested was: H_0: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$ H_1: At least one of (β_1, β_2, β_3, β_4, β_5)$\neq 0$

Table 5 Regression Coefficients of the Study (2003 to 2016)

Variables	Coefficient	P-value
Intercept/Constant	56.14584815	6.5005231
OP	-0.06175656	0.004357858
ASC	-0.09416348	0.005899845

Source, Minitab, 2016)

Studying the table equally shows that considering a positive coefficient of 0.05887937 and p-value of 0.001386704which is significant at 1% level of significance, ASC has a positive and significant effect on the operational efficiency of manufacturing firms in Nigeria. Being that, the study infers that as the operational efficiency of Nigerian manufacturing firms increases, there is a decrease in ASC implying that internal control policies has significant effect on the operational efficiency of manufacturing firms in Nigeria. Therefore, the null hypothesis which states that ASC has no significant effect on the operational efficiency of manufacturing firms in Nigeria is not confirmed.

CONCLUSIONS AND RECOMMENDATIONS

The results of regression showed that there was a positive significant linear relationship between ASC and operational efficiency. This relationship was illustrated by regression coefficient. This was supported by the operational efficiency value which was at 1% significant level; this indicates that there was less than 1% chance that result occurred by chance. The findings implied that the ASC positively influences firms' operational efficiency in manufacturing firms in Nigeria within the period of study. These findings led to the rejection of null hypothesis and acceptance of alternative hypothesis that internal control policies significantly influence operational efficiency of manufacturing firms in Nigeria. It is therefore asserted alternatively that asset security control affects operational efficiency positive and statistical related, based on that, it recommends that manufacturing firms in Nigeria can reap reasonable benefits in inculcating good asset security control polices. It is also evident that adequate ASC on accounts payables encourage firms maintain the right amount of credit with their suppliers.

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