

Full Length Research Paper

Relationship between assets utilization and corporate profitability: A case study of food and beverage industry quoted on the Nigerian stock exchange

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This study examined the relationship between assets utilization and corporate efficiency: A case study of food and beverage industry on the Nigerian Stock Exchange. No matter the different of industry, scale, management mechanism and management level should have their own assets structure because without assets production cannot take place. The general objective of this study is to find out the relationship between assets utilization and corporate efficiency. In addition, six other objectives are to be achieved by the study. The population of the study is made up of all the firms in food and beverage industry quoted on the Nigerian stock Exchange. Stratified sampling method was used to select the sample selected. Out of 21 companies two-third of the company was selected for study. The study adopted ex-post facto research design method. Secondary data collected from the financial statement of the sampled companies from 2007-2011 using STATA12 to analyzed the data. Multiple regression was used to determine the magnitude and statistics of the coefficient of the independent variables using this model $ROA = \alpha + \beta_1(DRTO) + \beta_2(INVTO) + \beta_3(DEPASSET) + \beta_4(DEPSALES) + \beta_5(SALESPLANT) + \beta_6(PLANTASSET) + \epsilon$. The result of hypotheses showed that only hypothesis one which says that there is no significant relationship between return on asset and debtors' turnover was accepted.

Keywords: Assets utilization, corporate efficiency, returns on assets, management, production.

INTRODUCTION

Production is a function of sales. Hence what to be produced will be determined by what the marketing department can effectively pass to third party. This is why budget of every company starts with sales budget. The production department will now decide whether it is fully equipped to meet the target of the marketing department, and if not what equipments will be needed to meet the sales budget. The fixed capital needs of a manufacturing concern would vary with the scale of production, usually, the larger the scale, the heavier would be the investment in fixed assets. Therefore, the success of any enterprise is tied to its ability to manage and leverage its assets.

Hefty sales and profits can hide any number of inefficiencies. By examining several relationships between sales and assets, asset utilization delivers a reasonably detailed picture of how well a company is being managed and led—certainly enough to call attention both to sources of trouble and to role-model operations.

Asset utilization is particularly useful to companies considering expansion or capital investment if production can be increased by improving the efficiency of existing resources, there is no need to spend the sums expansion would cost.

Statement of the problem

The main objective of a business organization is maximization of profit which will lead to maximization of shareholders wealth. However, there may be conflict between a firm's competing objectives. For instance, the sales manager may want to have the highest growth possible, while the finance manager may want to maintain a certain credit rating to boost sales. As a result of growth in sales, production plan will be altered leading to procurement of more equipment to meet increase in sales. Higher sales growth could mean a wide variety of products is needed, which in turn calls for higher inventory. Higher inventory levels may mean less efficient use of assets (lower asset turnover). Hence, high growth may mean borrowing if this growth cannot be financed through fund generated from operation. More borrowing may mean a lower crediting rating. This competing interest must be balanced to improve corporate efficiency through asset utilization.

Motivation (Gap) of the research

Corporate organization invested so much capital on acquisition of tangible assets as well as current assets to aid business execution and thereby generate revenue for the running of the business. To justify the enormous amount of money spent on these assets, the company must adequate return which is commensurate with the huge amount spent. Equally important there is no research on this topic in the literature addressing the issue of relationship between assets utilization and corporate efficiency using food and beverage industry sector of the companies quoted on the Nigerian Stock Exchange.

Objectives of the study

To be able to proffer solution to the problem enumerated above, the objectives of the study are divided into general objective and specific objective. The general objective of this study is to find out the relationship between assets utilization and corporate efficiency. The specific objectives on the other hands are to:

- i. Examine the relationship between total assets turnover and debtor's turnover.
- ii. Examine the relationship between total assets turnover and inventory turnover.
- iii. Examine the relationship between total assets turnover and depreciation/assets
- iv. Examine the association between total assets turnover and depreciation/sales
- v. Examine the relationship between total assets turnover and sales/plant

- vi. Examine the relationship between total assets turnover and plant/assets

Research questions

To achieve the above stated objectives the following questions are formulated

- i. To what extent is the relationship between total assets turnover and debtors turnover?
- ii. What is the relationship between total assets turnover and inventory turnover?
- iii. What is the relationship between total assets turnover and depreciation/assets
- iv. To what extent is the association between total assets turnover and depreciation/sales?
- v. What extent is the relationship between total assets turnover and sales/plant?
- vi. To what extent is the correlation between total assets turnover and plant/assets?

Statement of hypotheses

To realize the objectives of the study and provide answers to the questions raised above, the following hypotheses are formulated.

Hypothesis one

H₀1: There is no significant relationship between total assets turnover and debtors' turnover.

H₁1: There is significant relationship between total assets and debtors turnover.

Hypothesis two

H₀2: There is no significant relationship between total assets turnover and stock turnover.

H₁2: There is significant relationship between total assets turnover and stock turnover.

Hypothesis three

H₀3: There is no significant association between total assets turnover and depreciation/assets.

H₁ 3: There is significant association between total assets turnover and depreciation/assets.

Hypothesis four

H₀4: There is no significant relationship between total

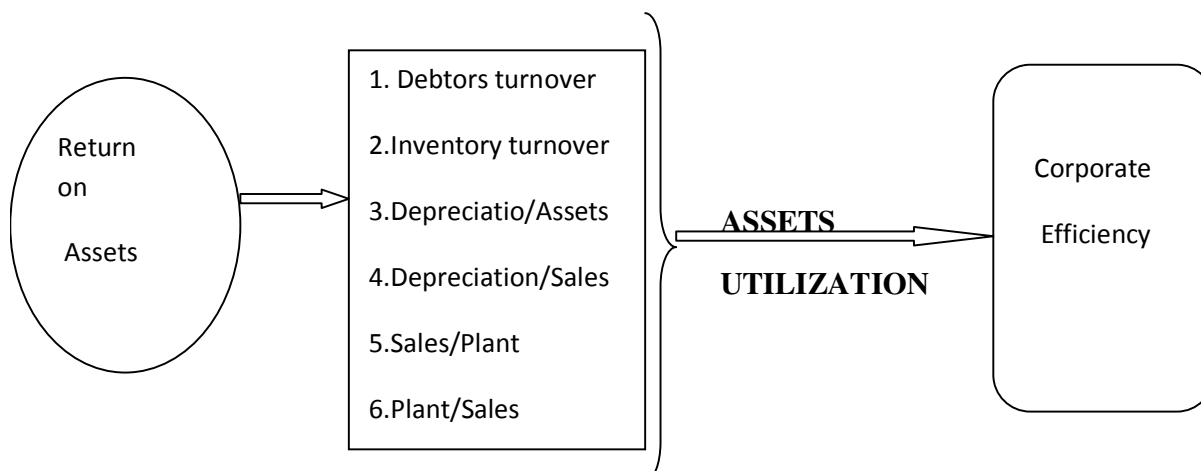


Figure 1. Researcher Model, 2013

assets turnover and depreciation/sales.

H₁₄: There is significant relationship between total assets turnover and depreciation/sales.

Hypothesis five

H₀₅: There is no significant association between total assets turnover and depreciation to sales.

H₁₅: There is significant association between total assets turnover and sales/plant

Hypothesis six

H₀₆: There is no significant relationship between total assets turnover and plant/assets.

H₁₆: There is significant relationship between total assets turnover and plant/assets.

Rationale for the hypotheses

Assets utilization ratios provide a measure of management effectiveness. It serves as guide to critical factors as regards the use of the firm's assets. Assets utilization ratios are especially important for internal monitoring regarding performance over a number of years. This serves as a warning signals or yard stick to draw meaningful conclusion concerning operational issues.

Model specification

The model formulated for this study is stated below:

$$Y = \alpha + \beta_1(X_1) + \beta_2(X_2) + \beta_3(X_3) + \beta_4(X_4) + \beta_5(X_5) + \beta_6(X_6) + \epsilon$$

Where:

Y= Total assets turnover

X₁= Debtors turnover

X₂= Inventory turnover

X₃= Depreciation/assets

X₄= Depreciation/sales

X₅= Sales/plant

X₆= Plant/assets

METHODOLOGY

The research instrument many a time dictates the research design to be adopted. This study therefore adopted an ex-post facto (cause and effect) research. This method is justified because events to be investigated had taken place and financial data for transactions are already in existence. In this instance, the independent variable or variables have already occurred, the study would start with the observation of dependent variable or variables. Independent variable or variables are then studied in retrospect for their possible relation to and effects on the dependent variable or variables. This method had been adopted in many previous research work (Dong and Su, 2010; Karaduman et al., 2011; Padachi, 2006; Uyar, 2009, and Wang, 2002).

Ex-post facto research was adopted to explain the relationship between variables. This method was adopted in this study as it is found appropriate for the purpose of achieving the research objectives of the study. Since the data input and the study exhibited the following characteristics:

a. The study depended grossly on secondary data collected from the annual report and account of companies under food and beverages industry.

Table 1. Review of related literature

Name of author	Year	Title of the study	Methodology	Findings
Okwo, I. M., Ugwunta D.O. and Nweze, A.U.	2012	Investment in fixed assets and firm profitability: Evidence from the Nigerian brewery industry	A cross sectional data was gathered from the annual report of the sampled brewery firms for a period of 1995-2009	Regression analysis was used to ascertain the relationship between level of investment in fixed assets and its impact on the operating profit. It was found that the relationship is positive but the result is not statistically significant. Therefore, the result did not suggest any strong positive impact of investment in fixed assets on the operating profit of brewery firms in Nigeria.
ZhengSheng, Xu and NuoZhi, Xu	2013	The research of the optimal allocation of assets structure and business performance	The paper used secondary data through the financial statement of the sample company.	The finding showed statistically significant relationship between assets Structure and business performance.
Sayeed, M. A. and Hogue, M.S.	2009	Impact of assets and liability management on profitability: A study of public vs private commercial bank in Bangladesh.	Secondary method of data collection was used through published accounts and reports of the company concerned,	The result showed that the use of total income, the dependent variable for private and public banks showed evidence that all of the assets have significant contribution to total income of the private banks. Too, six of eleven independent variables have significant impact on total income to assets ratio of public sector banks.
Paradogonas, T.A.	2007	The financial performance of large and small firms: Evidence from Greece.	Secondary method of data collection was used. Data were collected from the financial statement of the sampled firms for 1995-1999. The analysis used regression models performed on a longitudinal sample of 3035 firms.	The finding reveals that size, managerial efficiency, debt structure, investment in fixed assets and sales affect significantly a firm's profitability.
Adelegan, O. J.	2008	Tax investment and Q: Evidence from firm and industry level data in Nigeria.		The study revealed that adjusted cash flow , debt shield and cost of capital have significant positive effects on investment, while at the same time marginal tax rates and interest expenses have significant effects on a firms fixed investment.

b. The study is non experimental and it investigated causal relationship between the relevant variables of the study.

c. The study also considered whether one or more pre-existing conditions could possibly have caused subsequent differences in group of subjects.

- d. Also the researcher attempted to discover whether differences between groups of the variables have resulted in an observed difference in the dependent variables.

Population and sampling method

The statistical population of the research is composed of firms in food and beverages industry listed in the Nigerian Stock Exchange. The statistical sample of this research has been selected using stratified sampling method. According to publication of the Nigerian Stock Exchange of 2012, there are 21 companies listed in the Nigerian Stock Exchange under food and beverages industry. It is distributed as follows:

Beverages- Breweries/Distillers=7, Beverages- Non-Alcoholic=1, Food Product=11, Food Product-Diversified=2, making a total of 21 companies. Two-third of the population is selected using proportional sampling method coupled with simple random sampling method. The number selected is arrived at as follows: Beverages-Breweries/Distillers $\frac{2}{3} \times 7 = 4.6 \approx 5$, Beverages- Non-Alcoholic $\frac{2}{3} \times 1 = 0.67 \approx 1$, Food Product $\frac{2}{3} \times 11 = 7.33 \approx 7$, Food Product- Diversified $\frac{2}{3} \times 2 = 1.33 \approx 1$. Therefore, the total number of data worked upon is $14 \times 5 = 70$.

The data utilized in this study is secondary extracted from the financial statements of the selected companies (Owolabi and Obida, 2012). The methodical reasons for using secondary data are as follows: Secondary data, if reliable and accurate, provides opportunity for replication. The availability of data over time enables the researcher to employ longitudinal research designs. It improves measurement by expanding the scope of independent variables employed in the operationalization of concepts. Finally, secondary data can be used for triangulation, that is increasing the validity of research findings obtained with primary data (Frankfort-Nachmias and Nachimias, 2009). On economic reason, it is cheaper to use existing data rather than to collect new data.

Data analysis and interpretation

The data is analyzed using multiple regression analysis. After this, the hypotheses were tested using STATA12.

Multiple regression analysis

Parameter estimates

Coefficient

These are the values of the regression equation for predicting the dependent variable from the independent

variables. $ROA = \alpha + \beta_1 (DRTO) + \beta_2 (INVTO) + \beta_3 (DEPASSET) + \beta_4 (DEPSALES) + \beta_5 (SALESPLANT) + \beta_6 (PLANTASSET) + \epsilon$. The column for estimates provides the values for $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ and β_6 as shown in this equation.

$$ROA = 29.4995 + \beta_1 (.4149541) + \beta_2 (-.1780128) + \beta_3 (61.45258) + \beta_4 (27.25945) + \beta_5 (-123.6307) + \beta_6 (-3.79724) + \epsilon$$

This is discussed under the following:

Magnitude (the size of the effect)

DRTO- The coefficient is .4149541. Therefore, for every unit increase in DRTO, a corresponding .4149541 in ROA is predicted holding all other variables constant. This showed that debtor turnover is positively correlated with return on asset.

INVTO- For every unit increase in INVTO, it is expected that a -.1780128 unit decrease in ROA, holding all other variables constant and vice versa.

DEPASSET- The coefficient for DEPASSET is 61.45258. So, for every unit increase in DEPASSET, it is expected that an approximately 61.45 point increase in ROA, holding all other variables constant.

DEPSALES- The coefficient for DEPSALES is 27.25945. So, for every unit increase in DEPSALES an approximately corresponding increase of 27.25945 in ROA is expected holding all other variables constant.

SALESPLANT- The coefficient is -123.6307. Therefore, for every unit decrease in SALESPLANT, a -123.6307 unit increase in ROA is expected holding all other variables constant.

PLANTASSET- The coefficient is -13.79724. This means that for every unit decrease in PLANTASSET, a -13.79724 unit increase in ROA is expected and vice versa, all other things being equal.

Significance

This is the statistical significance of the estimated coefficient. Significance is typically measured by t-statistic or p-value in the regression. These are the columns 't' and 'p>|t|'.

t-statistic is used in testing whether a given coefficient is significantly different from zero. On the other hand p>|t| shows the 2-tailed p-value used in testing the null hypothesis that the coefficient (parameter) is 0.

Using an alpha of 0.05 the coefficient of DRTO which is .4149541 is significantly different from 0, because its p-value is 0.000, which is smaller than 0.05.

The coefficient for INTO (-.1780128) is not statistically significantly different from 0, because its p-value is larger than 0.05 that is (0.130).

The coefficient for DEPASSET (61.45258) is not sta-

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