



## Determinants of Economic Sustainability and Performance of Listed Pharmaceutical Manufacturing Firms in Nigeria

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*The study focused on the Economic sustainability of the Performance of the listed Pharmaceutical firms in Nigeria. the variable employed are revenue and foreign exchange charge on return on assets. The study has two objectives and its purpose was to ascertain the effect of revenue on return on assets; determine the effect of foreign exchange charges on return on assets. Ex post facto research design was employed. Data were obtained from annual reports/financial statements of listed pharmaceutical manufacturing firms in Nigeria Exchange Group and Central Bank of Nigeria Statistical Bulletin. The data were analyzed using Panel least squares. The results revealed that, revenue has significant effect on return on assets ( $t = 30.40386$ ,  $P = 0.0000$ , and  $p < 0.05$ ) while foreign exchange charge has no significant effect on return on assets ( $t = 1.534456$ ,  $P = 0.1615$  and  $p > 0.05$ ). We conclude that revenue has a significant positive effect on the firm assets while foreign exchange charge is an insignificant and negative effect on the firm assets. We recommended that Organizations should effectively plan and focus on the right determinants of economic sustainability.*

←  
ABSTRACT

**Keywords:** Economic Sustainability, Listed Pharmaceutical Manufacturing Firms, Foreign Exchange Charges

## Introduction

Globally, organizations focus on effective determinants of economic sustainability (revenue, foreign exchange charge, interest charge, corporate income tax, market share, and cost of sales) that would take them to achieve corporate and business unit smart objectives. This could be achieved by maximizing resource productivity that is, by staking out some sustainable position based on a unique advantage they create with a set of activities (value chain). These determinants of economic sustainability such as revenue, foreign exchange charge, interest charge, corporate income tax, market share, and cost of sales are imperative for an organization's performance which evolves a distinctive competence to provide a company with a competitive advantage. The Pharmaceutical industry has tremendous potential and it plays a pivotal role in the economic growth and development of any economy. This is due to its strong link to health and consequently, labour productivity (Wheelen and Hunger 2010).

According to Chouinard, Ellison, and Ridgeway (2011), in the global business environment no nation these days can vividly and seriously deny the imperative of sustainable business practices. Even those concerned about only business and not the fate of the planet recognize that the viability of the business itself depends on the resources of healthy ecosystems fresh water, clean air, robust biodiversity, productive land, and the stability of just societies. The concept of sustainability has evolved across three eras. In the beginning, it was seen as an operational concern, consisting of largely defensive efforts to reduce companies' environmental footprints and cut waste. That evolved into a more strategic stance called sustainability. The focus shifted from cost reduction to innovation and initiatives began to consider whole value chains (Chouinard, *et al.*, 2011).

Economic stability is a significant economic variable. A degree of price stability is highly desirable since managers are required to make many fairly long ranges of commitments and are almost forced to rely largely upon financial data for much of their planning control (Ile, 2010). The stability of any nation is on the three pillars of the ecosystem the economic, social, and environment and for a pillar of sustainability to be strong it must be sustainable and as well support the goal of the system. The goal of a sustainable economy is (or should be) to optimize the long-term quality of life for those living and their descendants' life. To do that we need what is called the poverty threshold. The poverty threshold or poverty line is defined as "the minimum level of income deemed necessary to achieve an adequate standard of living in a given country." The more accurate term is "preferred minimum standard of living level (Einstein, 2014).

## Statement of the Problem

Pharmaceutical industries in developing nations like Nigeria encounter some challenging issues in terms of focusing on the right and core determinants of economic sustainability on performance such as revenue, foreign exchange charge, interest charge, corporate income tax, market share, and cost of sales. The dwindling situations of poor performance in some manufacturing firms might have been caused by the low generation of revenue, the inability of firms to achieve reasonable profit; high fluctuation of foreign exchange charges, high cost of sales, and the absence of enabling environment for banks to charge reasonable interest and high corporate income taxes by the government, spiralling cost of business as a result of the high cost of inputs, etc. Therefore, it was in this scenario, that this research examined the determinants of economic sustainability on the performance of listed pharmaceutical manufacturing firms in Nigeria.

## The Objectives of the Study

The main objective of the study was the determinants of economic sustainability and performance of listed pharmaceutical manufacturing firms in Nigeria while the specific objectives are to:

- i. Ascertain the effect of revenue on return on assets of listed pharmaceutical manufacturing firms in Nigeria.
- ii. Determine the effect of foreign exchange charges on the return on assets of listed pharmaceutical manufacturing firms in Nigeria.

### Statement of Hypotheses

The null hypotheses of the study were formulated in line with the objectives of the study as follows:

- i. Revenue has no significant effect on the return assets of listed pharmaceutical manufacturing firms in Nigeria.
- ii. Foreign exchange charge has no significant effect on the return on assets of listed Pharmaceutical manufacturing firms in Nigeria.

### Review of Related Literature

#### Conceptual Review

##### Economic Sustainability

Economic sustainability is the ability of an economy to support a defined level of economic production indefinitely. Economic sustainability is not simply traditional corporate capital. Economic Sustainability can also be defined as the ability to meet the economic needs of the present without diminishing economic opportunities for the future (Grodach, 2011). In the Triple Bottom Line approach, economic capital under this Triple Bottom Line model should be measured in terms of how much of an impact business has on its economic environment – Political, Environment, Social, Technological, Legal, and Economical. The organizations are committed to providing the highest quality industrial mineral products to their clients around the globe and aggressively pursuing new markets, developing new products, and improving the products they make today using more efficient processes and technologies.

All over the world today, people are looking for all-natural, environmentally-friendly alternatives to harsh chemicals and toxic products. They are making great strides in producing and bringing those products to market. Organizations make extensive capital improvements at plants to reduce carbon dioxide (CO<sub>2</sub>) emissions and improve air quality, support the local communities where they do business with good employment opportunities as well as provide economic benefits.

The business that strengthens the economy, is part of this one that will continue to succeed in the future since it contributes to the overall economic health of its support networks and community. Of course, a business needs to be aware of its traditional profits as well, as the Triple Bottom Line accounts.

##### Revenue

According to Bragg (2018), sales revenue is the amount realized by a business from the sale of goods or services. This figure is used to define the size of a business. The concept can be broken down into two variations, which are:

- i. Gross sales revenue. Includes all receipts and billings from the sale of goods or services; does not include any subtractions for sales returns and allowances.
- ii. Net sales revenue. Subtracts sales returns and allowances from the gross sales revenue figure. This variation better represents the amount of cash that a business receives from its customers.

Sales revenue is typically reported for a standard period, such as a month, quarter, or year, though other non-standard intervals can be used.

The key figure against which sales revenue is compared is net profits so that the analyst can see the percentage of sales revenue that is being converted into profits. This net profit percentage is usually tracked on a trend line, to see if there are any material changes in performance.

Investors also like to track sales revenue on a trend line, and especially the percentage rate of growth, to see if there is any evidence of changes in the growth rate. A declining growth rate may trigger a sell-off among shareholders.

Revenue according to Ross (2019) refers to all funds that are gathered by governments to sustain their social systems like welfare, education, healthcare, infrastructure development, defence, and everything else that pertains to the day-to-day running of a country. These funds can be gathered using taxation (civil society & corporate taxes) or using loans from the IMF or grants from international donors

Ross (2019) Revenue is the total income generated by the sale of goods or services, related to the company's core operations.

- i. Revenue is often referred to as the “top line” because it sits at the top of the income statement.
- ii. Revenue is the income a company generates before any expenses are subtracted from the calculation. Therefore, a company reporting “top-line growth” is experiencing an increase in gross sales or revenue.

Kenton (2017) Revenue is the amount of money that a company receives during a specific period, including discounts and deductions for returned merchandise. It is the top line or gross income figure from which costs are subtracted to determine net income. Revenue is calculated by multiplying the price at which goods or services are sold by the number of units or amounts sold. Revenue is also known as sales on the income statement.

Sales revenue is the income received by a company from its sales of goods or the provision of services. In accounting, the terms “sales” and “revenue” can be used interchangeably and mean the same thing. It is important to note that revenue does not necessarily mean cash received. A portion of sales revenue may be paid in cash and a portion may be paid on credit, through terms such as accounts receivables.

Sales revenue can be listed on the income statement as either the gross revenue amount or net revenue. Net revenue includes all deductions for the return of goods, the possibility of undeliverable merchandise, and the expense for unrecoverable accounts receivables (also known as bad debt expense, which flows into the balance sheet as the allowance for doubtful accounts). Gross revenue, on the other hand, does not include these deductions. The gross revenue presentation will have the deductions below gross revenue, and a subtotal for net revenue below that.

#### **Foreign Exchange Charge**

Karen *et al* (2018) A foreign transaction fee is a charge assessed by a financial institution to a company or customer who purchases a foreign currency. Foreign transaction fees usually apply to bank charges through letters of credit purchases made in foreign countries while buying raw materials, but they can also apply to purchases made online from your home country where the vendor is foreign and processes the transaction in its local currency. Foreign transaction fees are also called “foreign purchase transaction fees” or “foreign currency transaction fees.”

#### **Theoretical Framework**

##### **Theory of Sustainability**

This theory was propounded by Felix Ekardt in 2009. Felix Ekardt is Director of the Research Unit Sustainability and Climate Policy in Leipzig which he founded in 2009. Since 2009, he is also Professor of public law and legal philosophy at Rostock University (Faculty of Law) as well as a member of the Leibniz Science Campus on Phosphorus Research - as well as a member of the interdisciplinary faculty (department knowledge-culture-transformation). His scientific focus lies in issues around human science sustainability studies. Since 2007, Felix Ekardt has given speeches and presentations at some 60 international conferences on questions of sustainability, climate change, justice, human rights, phosphorus scarcity, land use, etc.

Sustainability describes a form of economy and society that is lasting and can be lived on a global scale. The society-changing potential of the claim: ‘More justice between generations, more global justice – at the same time faces the peril of getting out sight. Sustainability is just not the trivial general claim to take social, economic, and environmental policy seriously independent of any relationship in time and space and to strike a sound balance between these aspects. And sustainability in the sense of the Rio Conference 1992 does not mean a ‘Three Column Conception’ at least not in a separating or additive sense. From the stance of policy-making and social sciences (e. g. law, political sciences, social sciences, economics, theology, psychology, etc.) diverse working fields and problems are affected, namely

1. a clear definition of the concept ‘sustainability’ (level of definition);
2. the – partly only scientific – descriptive analysis of how sustainable societies currently are if measured against this yardstick and which developments take place;
3. the likewise descriptive question of which external hindrances and motivations have so far obstructed the enforcement of sustainability; (level of causes)
4. the normative question is why sustainability is attractive and what, based on that assessment, its exact content is; (level of necessity)

5. how much sustainability is required from a legal or moral point of view if it is balanced against competing interests, e. g. short-term economic growth, including the question of which institutions have to resolve this issue and which margin of discretion they should enjoy in doing so; (level of balancing)
6. which means can be employed to effectively attain the chosen goals, including possible obstructions, actors, strategies, etc. (level of enforcement)

### **Empirical Review**

Adebayo & Onyeiwu (2018) in their study in Nigeria examined the determinants of profitability of manufacturing organizations in Nigeria. They sampled twelve firms and analyzed them using panel data regression analysis. The result showed the average return on equity is as high as 27 percent with limited volatility.

Ahmed, Awais & Kashif (2018) carried out a study in Karachi, Pakistan to investigate the optimal level of capital structure that firms can adopt to improve their financial performance, using annual reports of 100 manufacturing firms listed on the Karachi Stock Exchange from 2005 to 2014. The result indicates that interest cover and sales growth as the most significant variables impacting firms' profitability.

Rosikah, Prananingrum, Muthalib, Azis, & Rohansyah (2018) conducted a study in Indonesia to identify and analyze the effect of ROA, ROE, and EPS simultaneously on firm value using purposive sampling of 114 firms & multiple regression analysis. The result revealed that Return on Asset has a positive and significant effect on firm value, and return on assets, return on equity and earnings per share have a simultaneous significant effect on firm value.

Irom, Okpanachi, Ahmed, & Emmanuel (2018) in their study in Nigeria examines the effect of firm attributes on the return on assets of listed companies in Nigeria They sampled 41 listed manufacturing companies in NSE as of 31 December 2016. Using regression analysis. The result showed that all firm attributes apart from operating expenses and firm size had a negative and significant effect on return on asset.

Şamiloğlu, Öztop & Kahraman (2017) carried out a study in Istanbul to investigate the determinants of firms' financial performance indicators (ROA, ROE) by using financial ratios. They sampled 51 banks and the result depicted that there is a significant and negative relationship between ROA and Price-to-Earnings (PE)ratio.

Ahsan, Naveeda, & Raja (2017) conducted a study in Pakistan to examine the impact of financial leverage (debt ratio) on the financial performance (return on asset) of pharmaceutical companies in Pakistan. Regression Analysis was used with 100 % population. Results revealed that there is a significant positive relationship between debt ratio and return on assets.

### **Methodology**

Ex post facto research design was employed in the study (Asika, 2012). The use of the ex post facto design in the study became necessary because the researcher was interested in observing what was happening to the variables of the firms from its annual reports and financial statements obtained without any attempt to manipulate or control them. Data were obtained from annual reports/financial statements of listed pharmaceutical manufacturing firms in Nigeria Exchange Group and Central Bank of Nigeria Statistical Bulletin. Five pharmaceutical manufacturing firms were selected from the list (GlaxoSmithKline Plc, Fidson Healthcare Plc, May and Bayer Nigeria Plc, Neimeth International Plc, and Pharma-Deko Plc). The data were analyzed using Panel least squares.

**Model Specification**

$ROA_{it} = a + b_1REV_{it} + U_{it}$ . Where  $U_{it}$  = Error term;  $a$  = Intercept of the variables;  $b_1$  = slope; ROA = Return on Assets; REV = Revenue

**Data Presentation and Analyses**

**Table 1 Data Presentation**

<i>Year</i>	<i>REVENUE</i> <i>N'000000</i>	<i>COST OF</i> <i>SALES</i> <i>N'000000</i>	<i>TAXATION</i> <i>N'000000</i>	<i>PROFIT &amp;</i> <i>LOSS</i> <i>N'000000</i>	<i>NET ASSETS</i> <i>N'000000</i>	<i>FX CHARGE</i> <i>N'000000</i>	<i>INT</i> <i>CHARGE</i> <i>N'000000</i>
2011	12545	6960	574	1163	9611	26	0.89
2012	14952	8278	768	1702	12078	25	1.45
2013	16864	9270	958	1977	14254	26	31.64
2014	21148	12314	1136	2554	14165	34	16.06
2015	25127	14991	1316	2755	21571	27	0.15
2016	29184	17582	1396	2916	26022	0	0.51
2017	30521	19720	903	1831	27789	45	5.12
2018	30635	20308	192	956	31122	-602	3.70
2019	14385	5418	-2192	2378	27981	3698	0.11
2020	16090	11610	638	485	26286	504	0.00
TOTAL	211450	126451	5688	18718	210881	3783	59.6
MEAN	21145.03	12645.13	568.8	1871.8	21088.1	378.3	6.0

Source Author's Compilation, 2021

**Data Analysis and Test of Hypotheses**

The panel least square estimation is a technique where the behaviour of entities is observed across time and allows the control for unobservable variables that change over time and across firms. Panel data analysis exploits both the cross-section and the time dimension of the data. In this study, the fixed effects (FE) estimator was assumed. A fixed effects estimator is used to refer to estimator coefficients in the regression model when fixed effects are assumed, and time-independent effects for each entity (firm) that are possibly correlated with the regressors are imposed. The fixed effect assumptions also strengthen our decision criteria for the acceptance and rejection of set hypotheses. In deciding to accept or reject a null hypothesis, the following steps were taken;

- i. the hypotheses were restated in null and alternate forms,
- ii. the results of the panel least squares were presented and analyzed and,
- iii. the presentation of the Redundant Fixed Effect test confirming the appropriate assumption of "fixed effects" in the estimation,
- iv. statement of the decision rule for the rejection or acceptance of the null hypothesis,
- v. decision.

**Test of Hypothesis One**

**Step One: Restatement of Hypothesis in Null and Alternate Form**

**H<sub>0</sub>:** Revenue did not have a significant effect on the return on assets of listed Pharmaceutical manufacturing firms in Nigeria.

**Table 2: Panel Regression Result**

Dependent Variable: RETURN\_\_ON\_\_ASSETS\_\_

Method: Panel Least Squares

Date: 06/20/19 Time: 10:25

Sample: 2008 2017

Periods included: 10

Cross-sections included: 5

Total panel (balanced) observations: 50

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TURNOVER/ REVENUE	464.5443	80.12860	5.797485	0.0003
C	-367.9642	476.2232	-0.769439	0.5645

Effects Specification

Cross-section fixed (dummy variables)

The period fixed (dummy variables)

R-squared	0.787093	Mean dependent var	467.4262
Adjusted R-squared	0.701930	S.D. dependent var	848.6961
S.E. of regression	463.3525	Akaike info criterion	15.35818
Sum squared resid	7514345.	Schwarz criterion	15.93179
Log-likelihood	-368.9545	Hannan-Quinn criteria.	15.57661
F-statistic	9.242197	Durbin-Watson stat	2.058810
Prob(F-statistic)	0.000000		

Source: Author's Eviews 9.0 Output, 2019

Results from Table 2 showed that the revenue exerts a positive and significant effect on the return on assets of listed pharmaceutical firms in Nigeria. This was explained by the positive coefficient value of the independent variable revenue at 464.5443; t-statistics of 5.797485 and the corresponding probability value of 0.0003 < 0.05 and significance at 5%. However, this implies that an increase in revenue brings about an increase in return on assets and vice versa. The Adjusted R-squared which tells how much of the variations in the dependent variable are caused by the independent variables shows that 78.7 % of the changes in return on assets are caused by the independent variable (revenue) in the model. The overall regression fits as explained by the Prob(F-statistic) 0.000000 < 0.05 been significant at 5%. This implies that the entire model is significant. The Durbin-Watson stat of 2.058810 shows no trace of autocorrelation in the model.

The redundant fixed effect test was conducted to ascertain the adequacy of the assumption of "fixed effect". The result of the test is presented in Table 3.



**Table 3: Redundant Fixed Effects Tests**

Equation: Untitled

Test cross-section and period fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	92.525934	(4,35)	0.0081
Cross-section Chi-square	102.680851	4	0.0029
Period F	0.428679	(9,35)	0.9105
Period Chi-square	5.228442	9	0.8140
Cross-Section/Period F	7.263256	(13,35)	0.0002
Cross-Section/Period Chi-square	109.236216	13	0.0000

Source: Author's Eviews 9.0 Output, 2021

The null hypothesis is that the set of dummies,  $h_i$  and  $h_t$ , are not statistically different from 0. A look at Table 3 presenting the cross-section and period fixed effects for the equation  $ROA_{it} = a + b_1REV_{it} + U_{it}$  revealed that the probability of the Cross-section/Period F of 7.263256 and Cross-Section/Period Chi-square of 109.236216 are significant at  $0.0000 < 0.05$ . We, therefore, reject the null hypothesis and conclude that  $h_i$  and  $h_t$  are statistically significant from 0 thus implying that the cross-sectional and time-specific effects are appropriately applied in our estimation.

**Step Four: Decision**

Given the decision rule to accept  $H_0$  if t-statistics  $< 2.2$  and probability of t-statistics  $> 0.05$ ; otherwise, reject  $H_0$  and accept  $H_1$  accordingly, we reject the null hypothesis and conclude that revenue has a significant effect on the return on assets of listed Pharmaceutical manufacturing firms in Nigeria. This is evidenced by the t-statistics of  $5.797485 > 2.2$  and probability value of  $0.0003 < 0.05$  and significant at 5%.

**Test of Hypothesis Two**

**Step One: Restatement of Hypothesis in Null and Alternate Form**

**H<sub>0</sub>:** Foreign exchange charge did not have a significant effect on the return on assets of listed Pharmaceutical manufacturing firms in Nigeria.

**H<sub>1</sub>:** Foreign exchange charge has a significant effect on the return on assets of listed Pharmaceutical manufacturing firms in Nigeria.

**Step Two: Decision Rule/Criteria**

Accept  $H_0$  if t-statistics  $< 2.2$  and probability of t-statistics  $> 0.05$ ; otherwise, reject  $H_0$  and accept  $H_1$  accordingly.

**Step Three: Presentation of the Panel Regression Result**

The result of the panel least squares for the test of hypothesis two is presented in Table 4.

**Table 4: Panel Regression Result**

Dependent Variable: RETURN\_\_ON\_\_ASSETS\_\_

Method: Panel Least Squares

Date: 06/20/19 Time: 10:36

Sample: 2008 2017

Periods included: 10

Cross-sections included: 5

Total panel (balanced) observations: 50

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FOREIGN_EXCHANGE_CHARGE_	23.05660	11.58876	1.959565	0.0779
C	448.5839	70.92176	6.325053	0.0000

Effects Specification



Cross-section fixed (dummy variables)  
 The period fixed (dummy variables)

R-squared	0.779287	Mean dependent var	467.4262
Adjusted R-squared	0.691002	S.D. dependent var	848.6961
S.E. of regression	471.7697	Akaike info criterion	15.39418
Sum squared resid	7789834.	Schwarz criterion	15.96779
Log-likelihood	-369.8546	Hannan-Quinn criter.	15.61262
F-statistic	8.826931	Durbin-Watson stat	1.684330
Prob(F-statistic)	0.000000		

Source: Author's Eviews 9.0 Output, 2021

Results from Table 4 show that the foreign exchange charge exerts a positive but insignificant effect on the return on assets of listed pharmaceutical firms in Nigeria. This was explained by the positive coefficient value of the independent variable foreign exchange charge at 23.05660; t-statistics of 1.959565 and the corresponding probability value of 0.0779 > 0.05 and not significant at 5%. However, this implies that an increase in foreign exchange charges brings about a decrease in return on assets and vice versa. The Adjusted R-squared which tells how much of the variations in the dependent variable are caused by the independent variables shows that 77.92% of the changes in return on assets are caused by the independent variable (foreign exchange charge) in the model. The overall regression fits as explained by the Prob(F-statistic) 0.000000 < 0.05 been significant at 5%. This implies that the entire model is significant. The Durbin-Watson stat of 1.684330 shows no trace of autocorrelation in the model.

The redundant fixed effect test was conducted to ascertain the adequacy of the assumption of "fixed effect". The result of the test is presented in Table 5.

**Table 5: Redundant Fixed Effects Tests**

Equation: Untitled

Test cross-section and period fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	26.172940	(4,35)	0.0000
Cross-section Chi-square	69.204512	4	0.0000
Period F	0.487096	(9,35)	0.8733
Period Chi-square	5.900404	9	0.7498
Cross-Section/Period F	8.544237	(13,35)	0.0000
Cross-Section/Period Chi-square	71.438632	13	0.0000

Source: Author's Eviews 9.0 Output, 2019

The null hypothesis is that the set of dummies,  $h_i$  and  $h_t$ , are not statistically different from 0. A look at Table 5 presenting the cross-section and period fixed effects for the equation  $ROA_{it} = a + b_1FC_{it} + U_{it}$  revealed that the probability of the Cross-section/Period F of 8.544237 and Cross-Section/Period Chi-square of 71.438632 are significant at 0.0000 < 0.05. We, therefore, reject the null hypothesis and conclude that  $h_i$  and  $h_t$  are statistically significant from 0 thus implying that the cross-sectional and time-specific effects are appropriately applied in our estimation.

**Step Four: Decision**

Given the decision rule to accept  $H_0$  if t-statistics < 2.2 and probability of t-statistics > 0.05; otherwise, reject  $H_0$  and accept  $H_1$  accordingly, we accept the null hypothesis and conclude that foreign exchange charge did not have a significant effect on the return on assets of listed Pharmaceutical manufacturing firms in Nigeria. This is evidenced by the t-statistics of 1.959565 and the corresponding probability value of 0.0779 > 0.05 and not significant at 5%.

**H<sub>1</sub>:** Revenue has a significant effect on the return on assets of listed Pharmaceutical manufacturing firms in Nigeria.

**Step Two: Decision Rule/Criteria**

Accept  $H_0$  if t-statistics < 2.2 and probability of t-statistics > 0.05; otherwise, reject  $H_0$  and accept  $H_1$  accordingly.

### Step Three: Presentation of the Panel Regression Result

The result of the panel least squares for the test of hypothesis one is presented in Table 2.

### Discussion of Findings

Hypothesis one: Revenue has no significant effect on the return on assets of listed Pharmaceutical manufacturing firms in Nigeria. The result of revenue effect on return on assets showed that t-value = 5.797485, p-value = 0.0003,  $\alpha = 0.05$ , and since the *P-value* is less than 0.05 ie  $p < 0.05$ , we reject the null hypothesis and accept the alternative hypothesis then we conclude that revenue has a significant effect on return on assets of listed Pharmaceutical manufacturing firms in Nigeria.

Hypothesis two: foreign exchange charge has no significant effect on the return on assets of listed Pharmaceutical manufacturing firms in Nigeria. The result showed that t- value = 1.959565 and p-value = 0.0779,  $\alpha = 0.05$ . Since the p-value is greater than 0.05 ie  $p > 0.05$  we accept the null hypothesis and reject the alternative hypothesis then we conclude that foreign exchange charge has no significant effect on the return on assets of listed Pharmaceutical manufacturing firms in Nigeria.

### Conclusion

A sustainable organization is being assessed or evaluated by its performance periodically and its performance resulting in being economically sustainable was attributed to its ability to generate reasonable revenues and profits for firms; the ability of the firms to carry out foreign exchange transactions at the prevailing exchange market rate for the procurement of raw materials, its ability pay stipulated interest charges for bank loans and overdrafts within the period. Finally, the ability to pay its company tax to the government regularly.

### Recommendations

Based on the findings of the study, the following recommendations were made on the economic sustainability of the performance of Pharmaceutical manufacturing firms. These firms have a great role to play in any economy due to their link to health and labour productivity in the economy.

1. Organizations should effectively plan and focus on the right determinants of economic sustainability (revenue, foreign exchange charge, interest charge, corporate income tax, market share, and cost of sales) to achieve the desired goal of the pharmaceutical manufacturing firms in Nigeria.
2. The organization should understand that focusing on these right determinants of economic sustainability will help them to prioritize the activities of the firms that yield positive and significant results on performance.

## References

- Adebayo, S. I. & Onyeiwu, C. (2018). The determinants of profitability of manufacturing firms in Nigeria. *International Journal of Economics, Commerce and Management*, 6(4), 479 - 493.
- Agha, N. C., & Ejike, S. I. (2018). Impact of Operating Liquidity on Profitability of Pharmaceutical Firms in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 8(3), 73-82.
- Ahmed, F., Awais, I., & Kashif, M. (2018). Financial Leverage and Firms' Performance: Empirical Evidence from KSE-100 Index. *Etikonomi: Journal*
- Ahsan, J., Naveeda, Z., & Raja N-U-D-J (2017). Impact of Financial Leverage on Performance of Pharmaceutical Listed Companies in Pakistan. *European Journal of Business and Management* 22(9) [www.iiste.org](http://www.iiste.org)
- Bragg, S. (2018) what is revenue? <https://www.accountingtools.com/articles/what-is-sales-revenue.html>
- Chouinard, Y., Ellison, J. and Ridgeway, R. (2011): <https://hbr.org/sustainable> Economy
- Einstein, A. (2014), Finding and Resolving the Root Causes of the Sustainability Problem, Thwink.org
- Felix Ekardt, LL.M, M.A (2009) Research Group Sustainability and Climate Policy
- Grodach, C. (2011). Barriers to sustainable economic development: The Dallas-Fort-Worth Experience. *Cities*, 28, 300-309.
- Irom, I. M., Okpanachi J., Ahmed, M. N., & Emmanuel, N. (2018). Effect of firm attributes on return on asset of listed manufacturing companies in Nigeria. *Journal of Accounting, Finance and Auditing Studies*, 4(3), 223-240.
- Kenton, W. (2017) What is Revenue <https://www.investopedia.com/terms/r/revenue.asp>
- Ross, S. (2019). What Is the Difference Between Sales and Revenue? <https://www.accountingtools.com/articles/category/Revenue>
- Rosikah, M., Prananingrum, D. K., Muthalib, D. A., Azis, M.I., & Rohansyah, M. (2018). Effects of return on asset, return on equity, earning per share on corporate value. *The International Journal of Engineering and Science*, 7(3), 06-14.
- Samiloglu, F., Oztop, A. O., & Kahraman, Y. (2017). The determinants of firm financial performance: Evidence from Istanbul stock exchange (BIST). *Journal of Economics and Finance*, 8(6), 62-67.
- Wheelen, T.L. and Hunger, D. J.(2010). *Strategic Management and Business Policy: Achieving Sustainability*, Twelfth Edition, New Jersey, Pearson Education, Inc.