



**Effect of Firm Characteristics on Profitability of Listed Consumer Goods Companies in Nigeria**

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**Abstract**

The aim of this research is to examine the effect of firm characteristics on profitability of listed consumer goods companies in Nigeria. Profitability is the dependent variable proxied by Return on sales (ROS), while firm characteristics is the independent variable proxied by firm age, firm size, sales growth, liquidity and leverage. The population of the study consists of twenty two (22) listed consumer goods companies as at 31st December, 2016. Eighteen of the listed consumer goods companies are selected to form the sample of the study for the period of six years (2011-2016). The study employed multiple regressions as tool for analysis. A hypothesis was formulated and tested for the study; which states that: Firm characteristics have no significant effect on profitability of listed consumer goods companies in Nigeria. Secondary data obtained from the financial statements of the companies were analyzed. Panel data techniques (fixed and random effects models) were utilized to examine the effect of firm characteristics on profitability and Hausman specification test confirmed that random effects model was more appropriate for the study. The results show that firm size, sales growth and leverage have significant effects on profitability. In contrast, firm age and liquidity are not significantly affecting profitability of listed consumer goods companies in Nigeria. The study therefore recommended that, consumer goods companies in Nigeria should conduct careful evaluation and take into consideration the firm characteristics (firm size, sales growth, and leverage) that affect the profits of the company before making major business decisions as this will help in improving their profitability.

## **1.0 Introduction**

Profitability can be described as a measurement of how well a firm uses its assets from its primary mode of business to generate income. The term is also used as general measure of a firm's overall financial health over a given period of time. Certain firm characteristics have been associated with firm profitability such as firm age (Swiss, 2008), firm size (Malik, 2011), liquidity (Dogan, 2013), and leverage (Mule & Mukras, 2015). The profitability of firms could be affected by both internal and external firm characteristics. The internal characteristics are those management controllable factors which account for the inter-firm differences in profitability. On the other hand, external characteristics are those uncontrollable factor which affect firms' decisions and which management has no control over.

In line with the earlier explanation, the internal factors which focus on consumer goods firms characteristics are grouped into financial and non-financial variables. The financial characteristics are variables which can be derived from the financial statement of consumer goods companies. These include firm size, sales growth, liquidity, leverage, and so on. On the other hand, non-financial characteristics are those variables which cannot be obtained from the financial statement of consumer goods companies. They comprise of age of the firm, management competencies, and scope of operation.

The consumer goods sector is a category of stocks and companies that relate to items purchased by individuals rather than by manufacturers and industries. This sector includes companies involved with food production, packaged goods, clothing, beverages, automobiles and electronics (Investopedia, 2017). The importance of consumer goods companies to the economy and individuals is that they help to boost the manufacturing sector and exports, and also provide satisfaction to customers, thereby improving the Gross Domestic Product (GDP) of the economy.

Measuring the financial performance of companies has gained significant attention in the developed and some developing countries in the area of business and corporate finance literature. Profitability is a vital concern to all groups who have a direct or indirect interest in a firm. But, in spite of the vital role that profit plays in the going concern of firms, the

profitability status of consumer goods firms operating in Nigeria in relation to firm age, firm size, liquidity, sales growth and leverage of the firm have not attracted much attention of researchers. This may be attributed to a lack of thorough evaluation of the factors that play significant role in profit realization of consumer goods firms in Nigeria. Therefore, it became of interest to the researchers to examine the effect of these firm characteristics (firm age, firm size, liquidity, sales growth and leverage) on the profitability of listed consumer goods companies in Nigeria in terms of their return on sales. The aim of this study therefore, is to assess the effect of firm characteristics on profitability of listed consumer goods companies in Nigeria for the period of 2011 to 2016. In order to achieve this objective, the following hypothesis stated in null form is formulated and tested:

**Ho<sub>1</sub>:** Firm characteristics have no significant effect on profitability of listed consumer goods companies in Nigeria.

Section 2 of this study reviews previous empirical literature on the effect of firm characteristics on profitability, section 3 deals with the methodology that was adopted for the study. Section 4 presents the analysis of results, and finally, section 5 carries the summary and recommendations made by the researchers.

## **2.0 Review of Related Literature**

### ***Concept of firm characteristics***

Firm characteristics are factors that are mostly under the control of management. The firm characteristics include firm size, liquidity, leverage, sales growth, and firm age. On the other hand, the macroeconomic indicators are those factors that are beyond the control of management. This includes interest rate, GDP, and industry size (Sumaira & Amjad, 2013). This means that the profitability of consumer goods companies could be ascertained using firm specific attributes (internal attributes) and macroeconomics variables (external attributes) as major determinants of profitability of the companies.

### ***Concept of Profitability***

It has been known from literature that the profitability of corporate organizations has been one of the major concerns of management experts, investors and as well as researchers. In view of this, profitability is the most important and reliable indicator of corporate growth as it gives a broad indicator of the ability of companies to raise their income level (Ahmed, Naveed, and Usman, 2011). This therefore makes profitability to become one of the most

important objectives of financial management, because one of the goals of financial management is to maximize company owner's wealth and profitability which in turn indicates better financial performance (Malik, 2011).

### ***Empirical Literature***

This sub-section presents previous related studies carried out on effect of firm characteristics on profitability of firms, both abroad and in Nigeria.

Daniel and Tilahun (2012) examined the impact of firm level characteristics ( firm size, leverage, tangibility, Loss ratio (risk), growth in written premium, liquidity and firm age) on performance of insurance companies in Ethiopia. Return on total assets (ROA) a key indicator of company's profitability was used as dependent variable while age of company, size of the company, growth in written premium, liquidity, leverage and loss ratio were independent variables. The sample included 9 insurance companies listed on the Ethiopian Stock Exchange within the period of 2005-2010. The results of regression analysis revealed that firm size, tangibility and leverage are statistically significant and positively related with return on total assets; however, loss ratio (risk) is statistically significant but negatively related with ROA.

Still in Ethiopia, Yuvaraj and Abate (2013) examined the effects of firm specific factors (age of company, size of company, volume of capital, leverage ratio, liquidity ratio, growth and tangibility of assets) on profitability measured by Return on Assets. The sample of the study included nine of the listed insurance companies over nine years (2003-2011). From the regression results; growth, leverage, volume of capital, company size, and liquidity were identified as most important determinants of profitability. Hence, growth, size, and volume of capital are positively related. In contrast, liquidity ratio and leverage ratio are negatively but significantly related with profitability. The age of companies and tangibility of assets were found not to be significantly related with profitability.

Dogan (2013) studied the effect of firm size on profitability of 200 companies listed at the Istanbul Stock Exchange using data from the year 2008 to 2011 by using multiple regressions model. He introduced other control variables in his study such as liquidity which was measured by total current assets over total current liabilities, leverage measured as total debt over total assets as well as firm age measured by number of years in operations. He found that firm size and liquidity are positively related to profitability as

measured by ROA, while leverage and firm age were negatively related to profitability measured by ROA. Issa (2013) examined the effect of some selected firm characteristics on financial performance of firms listed in the agricultural sector of the Nairobi Securities Exchange. The study adopted a correlational research design and used multiple linear regressions as method of analysis. He found that of the variables used to represent firm characteristics, only liquidity had statistically significant effect on financial performance of listed agricultural firms measured by ROA. The other variables; firm size, leverage, and firm age, though they had positive coefficients showed no significant effect on financial performance. The study recommends that management of firms should focus their effort on those firm specific variables that positively affect their long-term financial performance.

Sumaira and Amjad (2013) studied the determinants of profitability in insurance sector of Pakistan with a panel data set of 31 insurance firms (life insurance and non-life insurance sector) of Pakistan from 2006-2011. To examine the determinants of profitability, panel data techniques (fixed effects and random effects models) were employed and then Hausman specification test was applied to select the more effective model. The test proved that fixed effects model was the more appropriate model for the study. The outcome of the study showed that leverage, firm size, and age of the firm are significant determinants of profitability, while sales growth and liquidity were not significant.

Yazdanfar (2013) examined profitability determinants among micro firms using Swedish data of a sample of 12,530 micro firms from four different industries namely healthcare, transport, metal and retail trade industries having approximately 87,000 observations from data collected from the year 2006 to 2007. He found that there was a positive and significant relationship between firm growth, firm size, productivity and firm profitability measured by ROA. The study also revealed a significant and negative relationship between firm age and firm profitability explaining that younger firms were more profitable than older firms. The researcher employed the OLS multiple regression analysis and correlation in the analysis of the collected data. He went ahead and analyzed all the four industries separately by running another multiple regression to see whether the results will vary, but all the findings were similar as the combined regression.

Alhassan, Bajaher, and Alsherhri (2015) carried out a study on the determinants of profitability of eleven (11) banks listed on the Saudi Stock Exchange from 2007-2012. Parts

of their independent variables were firm size and leverage. Using multiple linear regressions, they found that, of all the independent variables used in the study only firm size calculated as the natural logarithm of total assets had a significant effect on the profitability of the listed banks measured by return on assets.

Idris and Bala (2015) carried out a study on the effect of firm specific characteristics on profitability of listed Foods and Beverage companies in Nigeria. They studied 9 firms out of a population of 21 firms using OLS regression for a period of 7 years from 2007-2013. Their finding revealed that firm specific characteristics have both positive and negative significant effects on profitability measured by stock market returns. They therefore, recommended that firms should pay more attention to those factors that are peculiar to their industry environment. Mohammed and Usman (2016) examined the impact of corporate attributes on the profitability of listed pharmaceutical firms in Nigeria using a panel data of five sampled firms for a period of ten years (2004-2013). They extracted data from the annual accounts of the selected firms. Multiple regression technique was employed to examine the influence of corporate attributes on the profitability of listed pharmaceutical firms in Nigeria. The study reveals that firm size, leverage, and growth have positive and significant relationship with profitability implying that they have impact in increasing share price. However, the relationship between liquidity and profitability was found to be insignificant and negative, indicating that liquidity has no influence in enhancing share price of listed pharmaceutical firms in Nigeria. The study therefore, recommended that firm size, leverage, and firm growth should be enhanced in view of their influence in increasing profitability, while liquidity should not be given any attention in an effort to raise profit.

Finally, Uwuigbe, Uwuigbe, Adeyemo, and Ogunbajo (2016) examined the effect of corporate attributes on the profitability of companies by employing the annual reports of thirty selected companies listed on the Nigerian Stock Exchange (NSE) for a period of 5 years (2007-2011). They used Ordinary Least Square (OLS) regression to test for the effects of the selected corporate attributes on profitability. They tested for the relationship between leverage, firm size, firm age and return on assets using Pearson's product moment correlation coefficient. Of the three corporate attributes employed in the study, only firm age showed a positive statistically significant relationship with profitability measured by

return on assets. They therefore observed that older firms perform better than younger ones. They recommended that companies should pay adequate attention to financial leverage, because firms that are highly leveraged are at the risk of insolvency. Their finding supports the argument that, older firms are likely to perform better than younger firms because they are more experienced, have enjoyed the benefits of learning, are not prone to the liabilities of inventiveness, and can therefore enjoy superior profitability.

As can be observed from the review of empirical literature, the effect of different firm characteristics on profitability of firms have been studied, both abroad and in Nigeria, but to the best of the researchers' knowledge no empirical evidence has been provided from the consumer goods sector in Nigeria on the subject measuring profitability in terms of Return on sales. This therefore, necessitated for a study on the effect of firm characteristics on profitability of listed consumer goods companies in Nigeria to be carried out.

### ***Theoretical Review***

#### **Resource based Theory**

This study is underpinned under the resource based theory which was propounded by Wernerfelt in the year 1984. Pearce and Robinson (2011) define the resource-based theory (RBT) as a method of analyzing and identifying a firm's strategic advantages based on examining its distinct combination of assets, skills, capabilities, and intangibles as an organization. This theory is concerned with internal firm characteristics and their effect on firm performance. It views the firm as a bundle of resources which are combined to create organizational capabilities which it can use to earn above average profitability (Grant, 1991). Each firm develops competencies from these resources, and when they are well developed, these become the source of the firm's competitive advantages. This theory will aide in explaining profitability variation of intra industry firms as it specifically addresses firm characteristics rather than industry factors. The financial resources are normally measured by leverage ratios which enable the firm to increase its project financing by borrowing from debt providers. Liquidity measures also the spontaneous financial resources available to conduct normal business operations. The physical resources as measured by the assets size is one of the tangible resources the firm can use to gain competitive advantage, whereas business experience of the firm gives the firm

organizational capabilities that it can use to gain a competitive advantage over its competitors thus being able to earn an above average financial performance.

### **3.0 Research Methodology**

This study adopts the descriptive research design method. The population of the study consists of the twenty two (22) consumer goods companies listed on the Nigerian Stock Exchange as at 31st December, 2016. The use of listed consumer goods firms can be justified based on availability and reliability of their financial data. Census sampling technique was adopted for the study. This means that the whole population of the study forms the sample size of the study, but due to obstructions in operations of two of the firms (DUNLOP and UNIONDICON) during the study period, and unavailability of the financial data of two other firms (GOLDBREW and MULTITREX), only 18 of the listed consumer goods companies were included in the study sample.

To achieve the stated research objective, the study employed panel data from secondary sources which are quantitative in nature. The data were obtained from the annual reports of individual consumer goods companies submitted to the Nigerian Stock Exchange. The technique of data analysis employed in this study is the multiple regression analysis. The study adopted this technique to ascertain the effect of the firm characteristics (firm age, firm size, liquidity, sales growth, and leverage) on profitability of listed consumer goods companies in Nigeria which is measured by Return on Sales (ROS). The data was analyzed using STATA 15 statistical package, and the outcome was used to test the hypothesis formulated for the study after conducting necessary tests. Various robustness tests such as test for multicollinearity between the independent variables were carried out to improve the validity of the results obtained.

Profitability of consumer goods companies is estimated using Return on Sales (ROS) as its proxy. This is expressed as follows:

$$\textit{Profitability} = \textit{(ROS)}$$

Profitability which is measured by ROS, is a function of five explanatory variables, namely: firm age (FAG), firm size (FSZE), liquidity (LIQ), Sales Growth (SAG) and leverage (LEV).



That is;

$$ROS = f(FAG, FSZE, SAG, LIQ, LEV)$$

The Ordinary Least Square (OLS) regression model was used to estimate the effect of the explanatory variables on the explained variable, ROS. The model is given below:

$$ROS_{i,t} = \beta_0 + \beta_1FAG_{i,t} + \beta_2FSZE_{i,t} + \beta_3SAG_{i,t} + \beta_4LIQ_{i,t} + \beta_5LEV_{i,t} + e_{i,t} \dots\dots\dots (1)$$

Where:

$\beta_0, \beta_1, \beta_2, \beta_3, \dots, \beta_5$  are parameters to be estimated with a priori expectation.

**FAG = Firm Age**, measured as logarithm of number of years in operation.

**FSZE = Firm Size**, measured as natural logarithm of total assets.

**SAG = Sales Growth**, measured as percentage increase in turnover.

**LIQ = Liquidity**, measured as ratio of total current assets to total current liabilities.

**LEV = Leverage**, measured as ratio of total liabilities to total assets.

$\beta_0$  = Constant

$e$  = Error term

#### 4.0 Results and Discussion

This section presents the results from the analysis of data and its interpretation.

**Table 1 Summary of Descriptive Statistics**

<i>Variables</i>	<i>Observations</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>Minimum</i>	<i>Maximum</i>
<i>ROS</i>	<i>108</i>	.0551898	.2077947	-1.0803	.3726
<i>FAG</i>	<i>108</i>	1.572687	.3159425	.6989	1.9684
<i>FSZE</i>	<i>105</i>	7.467364	.7217575	5.3513	8.5654
<i>SAG</i>	<i>108</i>	8.483189	23.14614	-90.7015	106.6377
<i>LIQ</i>	<i>105</i>	1.207195	.6902604	.0739	4.3314
<i>LEV</i>	<i>105</i>	.5986381	.1936462	.2299	1.5147

**SOURCE: Descriptive Statistics Result using STATA 15**

Table 1 shows the descriptive details of the dependent and independent variables of the study. The average ROS for the 108 observations made from eighteen companies from the year 2011 to 2016 is 5.51% with a high standard deviation of 0.2077. This is because the data includes an observation from a firm making a loss on its turnover to a tune of -

108.03%, whereas a maximum ROS of 37.26% implies an observation from a firm whose performance is remarkable earning 37.26% profits as a percentage of its turnover. In respect of firm age, which is measured as the logarithm of number of years in operation its average value shows 1.5726 with a standard deviation of 0.3159. This implies that there is a huge variation of age amongst the companies due to this standard deviation. The age of the consumer goods companies in the industry ranges from a minimum of 10 years to maximum of 93 years. The table also shows that the mean value of firm size as measured by the natural logarithm of total assets is 7.4673 with a standard deviation of 0.7217. This shows that there is large variation in size across the sample of listed consumer goods companies in Nigeria. Hence, the highly deviated size may have significant effect on the profitability of listed consumer goods firms in Nigeria as will be shown in the regression result. The sales growth of consumer goods companies in Nigeria shows an average value of 8.48% increase in sales with a standard deviation of 23.14. This implies that the sales growth of the firms within the study period deviates from its mean value up to 23.14 times. Liquidity of the companies on average is 1.2071 as a proportion of total current assets to total current liabilities. This implies that for every Naira of current liability there is 1.21 Naira of current assets to settle it as and when it falls due, with a standard deviation of 0.6902 as a proportion of total current assets to total current liabilities varying from a low observation from a firm having Naira0.07 of current assets to settle every Naira of current liability to a maximum observation from a firm having Naira4.33 worth of current assets to settle every Naira of current liability.

Lastly, the average leverage from the observations is 0.5986 as ratio of debt levels to total assets, implying that on average 59.86% debt was used in financing total assets. The standard deviation of 0.1936 in debt levels to total assets varies from a range of lowest observation of a firm having 22.99% debt levels in financing its total assets to the maximum observation showing that 151.47% of debt was used in financing total assets. Therefore, this study is conducted to determine the extent to which the variations in firm characteristics affect the profitability of listed consumer goods companies in Nigeria.

**Table 2** Summary of Regression Result

<i>Variable</i>	<i>Co-efficient value</i>	<i>Robust Std Error</i>	<i>Z-value</i>	<i>P-</i>
<b>CONSTANT</b>	-.3166326	.2944044	-1.08	0.282
<b>FAG</b>	.0854534	.0624487	1.37	0.171
<b>FSZE</b>	.0879946	.0423407	2.08	<b>0.038</b>
<b>SAG</b>	.0011471	.0006513	1.76	<b>0.078</b>
<b>LIQ</b>	-.003095	.0164294	-0.19	0.851
<b>LEV</b>	-.6962283	.0524092	-13.28	<b>0.000</b>
<b>R-Sq:</b>				
<b>Within</b>	<b>0.6997</b>			
<b>Between</b>	<b>0.4046</b>			
<b>Overall</b>	<b>0.5292</b>			
<b>Wald Chi<sup>2</sup></b>	<b>477.10</b>			
<b>Prob &gt; chi<sup>2</sup></b>	<b>(0.0000)</b>			

**SOURCE: RESULT OUTPUT FROM STATA 15**

The result of random effects regression model is shown in table 2, because from the heteroskedasticity test carried out, the regression model proved to be heteroskedastic. Hence, fixed and random effects regression were carried out, and as both models proved to be significant at 1% level of significance, a Hausman specification test was carried out (SEE APPENDIX B) to choose between the two models which is more appropriate for the study. From the results of the test, it showed that random effects model is the more appropriate model for the study, hence, our discussion of results will be based on the results of the random effects model which is presented in Table 2 above. From the table, it can be seen that variables such as firm size, sales growth and leverage are significant, while firm age and liquidity are not significant. Leverage (LEV) is significant at 1%, firm size (FSZE) is significant at 5%, while sales growth is significant at 10% level of significance. On the other hand, age of the firm (FAG) and liquidity (LIQ) are not significant. The within R<sup>2</sup> of this model is 69.97%, between R<sup>2</sup> is 40.46% while the overall R<sup>2</sup> of the panel is 52.92%. This model is also significant as indicated by Wald chi<sup>2</sup> of 477.10 at 1% level of significance.

## **Discussion of Regression Result**

### **Firm Age and Profitability**

The age of consumer goods firms measured by the natural logarithm of difference between observation year and year of incorporation shows a z-value of 1.37 and a coefficient of 0.0854 with p-value of 0.171 in random effects model which is statistically insignificant. This result shows that age of consumer goods companies is not significant in explaining and predicting the profitability of listed consumer goods firms in Nigeria within the study period. This result contradicts the resource based theory which states that older firms will perform better than younger firms because they are more experienced and are not prone to the liabilities of newness. This finding is in line with the finding of Yuvaraj and Abate (2013), but it is in contrast with that of Sumaira and Amjad (2013).

### **Firm Size and Profitability**

The random effects regression result revealed that firm size as shown in Table 2 has a z-value of 2.08 and a coefficient value of 0.0879 with a significant p-value of 0.038. This result signifies that firm size has a positive significant effect on profitability of listed consumer goods firms in Nigeria, that is, the greater the size of a firm, the higher its reported ROS. The finding supports the resource based theory which articulates a positive and significant relationship between firm size and profitability of a firm. The result is also in line with the finding of Daniel and Tilahun (2012).

### **Sales Growth and Profitability**

The random effects regression result revealed that sales growth has significant effect on profitability of listed consumer goods firms in Nigeria, though the effect is not much as can be seen from the coefficient value in Table 2. As shown in the table, the coefficient of sales growth is 0.0011 with a z-value of 1.76 and a p-value of 0.078 which is statistically significant at 10% level of significance. This result signifies that sales growth (SAG) significantly affected the profitability of listed consumer goods firms in Nigeria within the study period. This finding is in contrast with that of Sumaira and Amjad (2013).

### **Liquidity and Profitability**

Liquidity as measured by the ratio of total current assets to total current liabilities shows a z-value of -0.19 with a coefficient value of -0.0030 and an insignificant p-value of 0.851. This implies that the level of liquidity is negatively, but not significantly affecting the

profitability of listed consumer goods firms in Nigeria within the study period. This finding is not consistent with the resource based theory which suggests that firms with higher liquidity ratio perform better than others, because they have financial resources available to conduct normal business operations.

### **Leverage and Profitability**

Leverage was measured as the ratio of total liabilities to total assets in this study. As can be seen on table 2, it shows the z-value for leverage as -13.28 with coefficient of -0.6962 and a p-value of 0.000 which is statistically significant at 1% level of significance. This result signifies that leverage is negatively and significantly affecting the profitability of listed consumer goods firms in Nigeria. This implies that the higher the level of leverage, the lower the profitability of listed consumer goods firms proxied by ROS. This finding is in harmony with the finding of Yuvaraj and Abate (2013), but contradicts the finding of Mohammed and Usman (2016). This finding also does not support the resource based theory which postulate that greater leverage brings about higher profitability.

### **Test of Hypothesis**

**Ho<sub>1</sub>:** Firm characteristics have no significant effect on profitability of listed consumer goods companies in Nigeria.

Firm characteristics which are measured by firm age, firm size, sales growth, liquidity, and leverage of the companies showed that three out of the five proxies (firm size, sales growth and leverage) have significant effects on profitability of listed consumer goods firms in Nigeria. This therefore suggests that, firm characteristics significantly affect profitability measured by ROS. Thus, this provides enough evidence to reject the null hypothesis of the study which states that: Firm characteristics have no significant effect on profitability of listed consumer goods companies in Nigeria.

### **Robustness Test**

Multicollinearity test was conducted using tolerance and variance inflation factor (VIF) values. A tolerance value above 10 indicates that the variable under consideration is almost a perfect linear combination of the explanatory variable already in the equation, and that it should not be included in the regression equation. The tolerance value and VIF are employed in this study to test for multicollinearity between the independent variables. The result of the multicollinearity test is presented in APPENDIX B. The Variance Inflation

Factors (VIF) and Tolerance Values (TV) for all the variables showed to be consistently smaller than 10 and 1.00 respectively, indicating absence of multicollinearity. This shows the appropriateness of the model of the study with the five explanatory variables.

## **5.0 Conclusion and Recommendations**

The objective of this study is to examine the effect of firm characteristics on profitability of listed consumer goods companies in Nigeria for the period 2011-2016. The study used secondary data obtained from the annual reports and accounts of 18 of the listed consumer goods companies. Multiple regression technique was used with the aim of explaining and predicting empirically the effect of firm characteristics on profitability of the companies. The result of the regression model reveals that firm size, sales growth, and leverage are significant determinants of profitability, while firm age and liquidity are not significant determinants of firm profitability. Thus, from this result, the study concludes that firm characteristics affect the profitability of listed consumer goods companies in Nigeria.

From the findings, the study recommends that:

- (i) The management of consumer goods companies should be more inclined to finding ways to increase and obtain the optimal utilization of their assets, while making the best use of their resources during the process of producing and distributing their products as this may go a long way in improving their profits.
- (ii) Consumer goods firms in Nigeria should not only be focused in growing their sales alone while abandoning other alternatives of boosting profits (such as investments) that could improve their profitability. Also, they should focus more on customer-centric products that will boost their sales revenue.
- (iii) The management of consumer goods firms should caution their decisions in respect to leverage. The financing decision should be more of equity than debt to avoid high leverage and low profitability through issuing of more shares in the capital market and declining excessive loans and debentures.

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## APPENDIX A

S/N	Listed Consumer Goods Companies	Company Ticker	Year Incorporated	Year Listed on NSE
1	7UP Bottling Company Plc	7UP	1959	1986
2	Cadbury Nigeria Plc	CADBURY	1965	1976
3	Champion Breweries Plc	CHAMPION	1974	1983
4	Dangote Flour Mills Plc	DANGFLOUR	2006	2008
5	Dangote Sugar Refinery Plc	DANGSUGAR	2005	2007
6	DN Tyre and Rubber Plc	DUNLOP	1961	Not Available
7	Flour Mills of Nigeria Plc	FLOURMILL	1960	1979
8	Golden Guinea Breweries Plc	GOLDBREW	1962	1978
9	Guinness Nigeria Plc	GUINNESS	1950	1965
10	Honeywell Flour Mill Plc	HONYFLOUR	1985	2009
11	International Breweries Plc	INTBREW	1971	1995
12	McNichols Plc	MCNICHOLS	2004	2009
13	Multi-Trex Integrated Foods Plc	MULTITREX	1999	2010
14	Northern Nigeria Flour Mills Plc	NNFM	1971	1978
15	Nascon Allied Industries Plc	NASCON	1973	1992
16	Nestle Nigeria Plc	NESTLE	1969	1979
17	Nigerian Breweries Plc	NB	1946	1973
18	Nigerian Enamelware Plc	ENAMELWA	1960	1979
19	PZ Cussons Nigeria Plc	PZ	1948	1972
20	Unilever Nigeria Plc	UNILEVER	1923	1973
21	Union Dicon Salt Plc	UNIONDICON	1991	1993
22	VitaFoam Nigeria Plc	VITAFOAM	1962	1978

List of Consumer Goods Companies listed on the floor of the Nigerian Stock Exchange

## APPENDIX B

*Fixed Effects Regression Model*

Variable	Co-efficient	Robust Std Error	T-value	P-value
<b>CONSTANT</b>	-.6216911	.6428577	-0.97	0.336
<b>FAG</b>	-.0556967	.2005326	-0.28	0.782
<b>FSZE</b>	.1579167	.0873902	1.81	<b>0.074</b>
<b>SAG</b>	.0010902	.0003549	3.07	<b>0.003</b>
<b>LIQ</b>	-.0003032	.0185393	-0.02	0.987
<b>LEV</b>	-.6914018	.054578	-12.67	<b>0.000</b>
<b>R-Sq:</b>				
<b>Within</b>	<b>0.7029</b>			
<b>Between</b>	<b>0.2739</b>			
<b>Overall</b>	<b>0.4284</b>			
<b>Prob &gt; F</b>	<b>(0.0000)</b>			

SOURCE: RESULT OUTPUT FROM STATA 15

**Hausman Specification Test**

<b>Variable</b>	<b>Fixed</b>	<b>Random</b>	<b>Difference</b>
<b>FAG</b>	-.0556967	.0854534	-.1411501
<b>FSZE</b>	.1579167	.0879946	.0699221
<b>SAG</b>	.0010902	.0011471	-.0000569
<b>LIQ</b>	-.0003032	-.003095	.0027918
<b>LEV</b>	-.6914018	-.6962283	.0048264
<b>Chi<sup>2</sup></b>	<b>1.35</b>		
<b>Prob &gt; chi<sup>2</sup></b>	<b>(0.9298)</b>		

**SOURCE: RESULT OUTPUT FROM STATA 15**

**Multicollinearity Test**

<b>Variables</b>	<b>VIF</b>	<b>TV(1/VIF)</b>
<b>Liquidity</b>	1.39	0.721432
<b>Leverage</b>	1.33	0.753028
<b>Firm Size</b>	1.15	0.866578
<b>Firm Age</b>	1.11	0.904837
<b>Sales Growth</b>	1.05	0.949220

**SOURCE: Result output from STATA 15**