Assessment of Advertising on the Sales Revenue and Profitability of Nigerian Bottling Company Plc

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Abstract
This study evaluates the effectiveness of advertising expenses on the sales revenue and profitability of Nigerian Bottling Company Plc. This study is based on secondary data collected for advertising expenditure, sales revenue and profitability of Nigerian Bottling Company Plc over the period of 1996 to 2009 from the annual report and accounts of the company under study. Among the objectives of the study is to evaluate the extent of the effect of advertising on the sales revenue of the company. Correlational and regression analysis study designs were adopted for the study. The contribution of the first hypothesis has found that advertising expenses has depicted significant relationship between advertising and the sales revenue of the company. Furthermore, the second hypothesis result has shown that advertising has no significant effect on the profitability of the company. This study concluded that advertising is considered as one of the most important medium of communication influencing the company's performance in more than one ways. But its influential strategic important could be suppressed by other factors which also try to receive equal attention at time of deciding any sales and profitability strategy. It is therefore recommended that not only advertising should be given adequate attention while formulating strategies relating to sales revenue and profitability promotion policy. Other factors which are crucial to increase sales revenue and profitability such as; sales promotion, personal selling, publicity etc which are crucial should be considered.
Keywords: Advertising, Expenditure, Profitability, Revenue, and Promotion Policy.

1. INTRODUCTION

The role play by advertising in the sales growth of an organization cannot be treated with just a wave of hand. Sales promotion in the form of advertising in promoting product and service awareness among consumers cannot be overstressed. Advertisement provides a platform for firms to create awareness about their products or services and how consumers can make the best out of such products. Olusegun (2006) opined that all advertisement must be honest and follow ethical standards and must be perceived by the target consumer as not lies; otherwise it can batter the image of a company and hinders it from building successful brands. Thus, for advertising to be effective, it must have an appeal, attract attention, commands interest, inspire conviction and must provoke interest. In the same vein, Okeji (2008) posited that a good advert message should not be boring but rather reflect the lifecycle of the product. He concluded that advertising must be exposed in the right medium as this will enable organization to reach the right people with the right message.

A number of studies such as Herbert (1982), Nigel (1994), Gladson and Chinedu (2005) and Meshach (2007) have shown that advertising is a major competitive tool in establishing position in the market place. Companies use advertising not only to market and promote their products but to among other things wade-off competitors, improve their brands and create a visage-front for their products in the presence of anticipated users, buyers or clientele. Persons, organizations, groups, government agencies and different sectors of many economics employ advertising to marshal messages to target public. This is because a well-crafted advertisement program can be a cost-effective way to disseminate messages and build brand preferences.

As it is the trend globally, companies in Nigeria also rely on sales production to get their existing and prospective consumers informed about their products and services. Among all the tools of sales promotion in Nigeria, advertising has grown over the years to become the most prominent and easily understandable to firms and the general public (Haruna, 2005). It is therefore not surprising that resources committed to advertisement by firms in Nigeria have grown astronomically over the years. Studies by Akanbi and Adeyeye (2011) have posited that in Nigeria, advertising is more prominent among manufacturing firms, especially those in the food and beverages sector as awareness regarding their products can reach the consumers more rapidly through this channel. They also argued further that the Nigerian Bottling Company Plc stands distinct as a model for the use of advertisement to rapidly reach out to consumers. This can be substantiated by the revelations made by Kingsley (2012) who explained that Euro Monitor International in the outcome of its recent findings showed that the Nigerian food and beverages sector was ranked one the best-performing segments of Nigeria's manufacturing industry. The findings further revealed that operating capacity was generally at a higher level in the sector than within the Nigerian manufacturing sector as a whole, and the sector have shown good returns in the Stock Exchange.

Analysts have argued that even though the use of advertisement as a promotional tool is common among manufacturing firms in Nigeria like the Nigerian Bottling Company Plc, committing huge sums of money into advertising companies does not automatically translate to better performance indices for the organization. It has been argued that advertising, even when very extensive, does not lead automatically to purchase because it is the culmination of a whole sequence of events (Abiodun, 2011).

The foregoing has shown clearly that advertising does not take place without the organization incurring some costs to that effect. Hence, many are of the believe that the desirability or otherwise of advertisement by firms in Nigeria can also be established when it is related in the context of sales and the profits that advertising companies realize at the end. Against this backdrop of controversy, it becomes very pertinent to investigate the extent to which the advertising costs of manufacturing firms in Nigeria affect their sales revenue and profits. Consequently, this study would be conducted with the intent of establishing the extent to which the advert costs of the Nigerian Bottling Company Plc affect the sales revenue and net profits.

2. Significance of the Study

The study expects to yield a number of desirable benefits, the most essential of which is contribution to existing knowledge. Specifically, the findings of the study will provide direction as to the effect of advertising costs or expenditures on the sales revenue and profit of manufacturing companies, especially those in the food and beverages sector. Thus, the study is expected to contribute to the not-so-well-developed body of knowledge regarding the association between advertising expenditures and the sales and profitability of manufacturing companies in Nigeria by empirically ascertaining the effect of such costs on the sales revenue and net profit of the Nigerian Bottling Company Plc. Similarly, the study also hopes to expand the frontiers of knowledge in the area of conducting its analysis through the use of techniques that have been hitherto overlooked by previous researchers on the effect of advertising on the sales of companies in Nigeria.

Finally, the study is also expected to be of immense utility to shareholders whose primary goal is to maximize their wealth. The findings of the study will help shareholders in their bid to monitor managers and ensure that only costs that will ensure the maximization of shareholders' wealth are incurred by managers on behalf of shareholders.

3. LITERATURE REVIEW AND THEORETICALFRAMEWORK

3.1 The Concept of Advertising

The meaning of advertising cannot be definite as it means different things to different people depending on their perceptions of what it is. According to Kotler (2000), advertising is any non-personal presentation and promotion of ideas, goods, or services by an identified sponsor. Advertiser includes not only business firms but also museums, charitable organizations and government agencies that direct messages to target public. Advertising can also be defined as any paid non-personal communication about an organization, products, services or ideas by an identified sponsor (Bennet, 2006). Advertising is any paid message presented through various media, such as television, radio, magazine, newspapers or billboards by an identified source.

Scholars have argued that advertising is a cost-effective way to disseminate messages, for instance to build brand preference for a product or to educate people about government policies or to avoid consumption of hard drugs. Companies embark upon advertising not only to sell their products, promote their goods, but also to create efficient defense to curtail competitors' moves. Frank (2005) saw advertising with the aim to persuade people to buy. Modern advertising is a product of the twentieth century; however, communication has been a part of the selling process ever since the exchange of goods between people started (Kazimi, 2005). Modern commercial advertising is the persuasive force that aims at changing customer's behaviors. This is important because consumer wants and needs change as their economic positions improve and as they pass through different stages. It is therefore desirable for advertisers to assess the impact of advertisement on their products' performance from time to time (Kotler, 2000).

Shimp (2007) in corroborating Richards and Curran (2002) defined advertising as a paid, mediated form of communication from an identifiable source, designed to persuade the receiver to take some action, now or in the future. A broad variety of rational motives can be used as the source for advertising appeals such as convenience, economy, health, sensory benefits, quality, performance, comfort, reliability, durability, efficiency, efficacy etc; all of these are to stimulate the consumer to patronize a product (Duncan,2002).

According to Giles (1974) as cited in Adewale (2004) advertising is a non-personal communication directed at target audience through various media in order to present and promote products, services and ideas. Hancock and Holloway (2002) stated that advertising are those marketing activities other than personal selling, publicity and public relations that stimulate consumer purchasing and dealers effectiveness, such as displays, shows and exhibitions, demonstrations and various non-recurrent selling efforts not in ordinary routine. Wright (2000) defined advertising as a short term incentive to the traders or consumers to induce the purchase of a product. Engel (2000) stated that advertising informs customers about a product and also sells the product.

All the aforementioned definitions made modest efforts to define advertising. However, one or two deficiencies can be observed from some of the definitions. The study finds the definition by Bennet (2006) that advertising is any paid non-personal communication about an organization, products, services or ideas by an identified sponsor as a better one and hence it was adopted by it. The definition appears to be adequate for the purpose of the study, and encompasses all the important dimensions to advertising such as the product, awareness and sales among others.

3.2 Theoretical Framework

A number of theories have emerged over the decades to explain what advertising is and the behavioural influence it has on the consumers and the firms. However, it is noteworthy that most of the theories on advertising concentrate on its relationship to the consumer in terms of how it is able to persuade, create awareness and promote brand loyalty. Some of these include the persuasive argument, the informative view and competitive view. However, an argument often neglected is the sales effect an effective advertising framework can create for the company. The sales effect model was put forward by Leads and Shultz (1990) and it is based on the argument that advertising like any other firm commitment that involves the use of its scarce resources should be measurable. They further contended that the best way to measure the effect of advertising is to critically analyze the extent to which it is able to influence the company's sales level.

According to them, an effective advertising programme should increase sales revenue of the advertising company by an amount or a proportion more than the expenditure on the advertising process or the advertising budget. Previous studies such as expanded the argument further by contending that since all expenses relating to advertising are eventually deductible from gross earnings, the actual benefits of advertising will be more visible in the advertising firm's net profit of the company paints a truer picture of the real effects of the advertising programmme in monetary terms.

Given that the focus of the study is to establish the link between advertising expenditure and the sales and profits of the Nigerian Bottling Company Plc, the study adopts the sales effect theory as its framework. This is necessary, especially considering the fact that the actual sales and by extension the profit effects of advertising for manufacturing firms in Nigeria like the Nigerian Bottling Company Plc are yet to be empirically established.

3.3 Review of Previous Studies

Okeji (2008) evaluated effectiveness of advertising as an effective marketing tool in Nigeria. Evidence from food and beverages industry. He employed a total sample of fifty members of staff of the Nigerian Bottling Company as respondents to investigate their perception regarding the effectiveness of advertising as a marketing tool in the company. The responses were analyzed using correlation and the Chi-square statistic. The study found that advertising contributes positively to sales of the Nigerian Bottling company Plc as depicted by 100% response rate. The weakness of the study lies in its arbitrary drawing of sample size without recourse to any objective criteria. Thus it becomes very difficult and unsafe to generalize based on the findings of the study.

Abiodun (2011) examined the impact of advertising on sales volume of Starcoms Plc. The study used frequency tables, percentages and Chi-square to establish relationship between advertising and sales volume of the company.

Despite the attempt made by the study to establish relationship between advertising and sales volume of the company, the study suffers from a number of weaknesses. The study failed to clearly reveal the impact of advertising on the sales volume of the firm because it utilized primary data that does not adequately capture the impact of relationships. Similarly, the sampling procedure of the study and the absence of validity and reliability test for the research instruments may have affected the data collected and by implication the findings of the study. Lastly, the number of questionnaire copies filled and returned was not adequate by any systematic standard for the test of hypothesis.

In a related study, Akanbi and Adeyeye (2011) examined the relationship between advertising and sales volume of Nigerian Bottling Company Plc between 1999 and 2009.

Using the OLS regression technique and t-test on annual time series data of advert costs and sales volume as surrogates; the study found a significant relationship between advertising and sales volume of the company.

Despite the fact that the study provided a modest attempt to establish relationship between advertising and sales volume of NBC Plc, it is not completely spared of some limitations. First and foremost, the study failed to establish the stationarity of the time series data used for testing the relationship. Furthermore, given that the study aims at finding out how change in advert costs can improve sales, the right proxies to employ should have been changes in advert cost and sales and not their absolute values. Thus, it is highly unlikely if the results of the study were not affected by these methodological issues. These gaps are what the current study was designed to fill.

Furthermore, Akeen (2011) evaluated customer attitude towards internet advertising and online sales using MTN Nigeria as a case study. In the study, a simple random probability sampling technique, simple frequency tables and the Chi-square statistical tool were adopted for data analysis. The finding has shown that there is relationship between availability of un interruptible power supply and effective internet advertising/online sales.

A close look at the methodology of the study reveals a number of shortfalls. First and foremost, the study failed to employ the right measures of the variables to establish the relationship. Furthermore, the fact t that the sampling procedure was not systematic gave rise to the arbitrary selection of sample size that is inadequate to provide a rigorous study of online sales. Finally, the study's major recommendation has no linkage with any of its findings as the study was concerned with customer attitudes toward advertising and not the factors that affect online advertising generally.

Olufayo, Ladipo and Bakare (2012) evaluated the relationship between advertising and patronage of a new product using Nestle Plc as a case study. They utilized responses from 170 copies of a questionnaire administered to customer, employees and distributors of Nestle Plc. The descriptive statistics of the various responses were presented and analyzed while the hypotheses of the study were tested using Spearman's correlation coefficient. The study found that there is relationship between advertising and consumer patronage as well as between budget allocation to advertising and sales volume of the firm.

The study suffers from a number of issues which include the use of responses to establish relationships between variables. Similarly, the mere presence of correlation between the variables of the study is not in any way suggestive of the direction of influence since correlation does not reveal which variable influences the other. Lastly, the conclusion of the study may not have been derived from the results obtained from data analysis because of the inability of correlation to explain causality.

In a nutshell, there are relatively few studies that have sought to empirically establish the connection between advertising as a cost element and the behaviour of total sales volume of manufacturing firms in Nigeria. Although the work of Akanbi and Adeyeye (2011) relates to this study, the current study improves on its scopes and the stationarity of data to be used by the study.

4. RESEARCH METHODOLOGY

This research work intends to utilize the correlational research design as the approach for the study. The choice of the design is necessitated by the fact that the study seeks to establish relationship among variables. Since the study specifically intends to establish the effect of costs on the sales revenue and profitability of the Nigerian Bottling Company Plc, the appropriate design for the research work is the correlational design.

4.1 Population and Sample of the Study

The population of the study consists of the fifteen firms listed under the food, beverages and tobacco sector of the Nigerian Stock Exchange at 31st December 2009. The Nigerian Bottling Company Plc was purposively selected as a sample by the study because of the special and distinct attention the company gives to advertising. Thus, Nigerian Bottling Company Plc is therefore used as case study. Industry analysts believe that the company's use of advertising is unique within the industry (Kingsley, 2012).

4.2 Sources and Method of Data Collection

Data for the study was collected purely through secondary sources by extracting the relevant data from the annual report and accounts of the Nigerian Bottling Company Plc from 1996 to 2009. The study therefore intended to use annual figures for advertising expenses available in the annual report and accounts of the company from 1996 to 2009 as a measure of advertising. Furthermore, data relating to the annual total sales revenue of the company for the period of the study was collected from the same annual report and accounts. Lastly, data on the profit after tax or the net profit of the company which is also available in the annual report and accounts will also be collected over the period of the study.

4.3 Technique of Data Analysis

Analysis will first begin by establishing the stationarity of the variables to be utilized by the study. Given the fact that the variables to be employed by the study were collected over time, the need to establish the stationarity of such variables may be spurious. To address this, the study woul employ the Augmented Dickey-Fuller (ADF) test to establish the absence of unit root in the time series of advert cost, sales revenue and net profit of the Nigerian Bottling Company Plc. The ADF test is conducted based on the model below:

$$y_t - y_t = \Delta y_t = \alpha_0 + \alpha_{1y_{t-1}} + \varepsilon_t \quad - \quad - \quad -- \quad - \quad - \quad - \quad - \quad - \quad - \qquad 1$$

Where y is a non-stationary series; a_0 and a_1 are parameters to be estimated and e_t is a random disturbance term. The null hypothesis for the presence of a unit root in the series is rejected if the Dickey-Fuller statistic is less than the critical value at a given apriori alpha level and the alternative hypothesis of a stationary time series is accepted. The reverse is true if the test statistic is greater than the critical value.

The study intends to employ the Ordinary Least Squares (OLS) multiple regression analysis to ascertain the effect of advert cost on the sales revenue and the profit after tax of the Nigerian Bottling Company Plc. The use of the natural logarithm of total assets as a control variable makes the regression multiple in nature since more than one independent variables is involved.

In order to ensure that none of the assumptions guiding OLS estimation is violated, the residuals of the regression model will be subjected to the Breusch-Godfrey serial correlation test in order to ensure that there is no serial dependence among the variables of the study. The Breusch-Godfery test belongs to the family of Lagrange-Multiplier (LM) test for asymptotic sample and is run based on the model below (EViews, 7).

$$e_2 = X_t\gamma + \left(\sum_{s=1}^{p} \alpha_s e_{t-s}\right) + v_t \quad - - - - - - - - - - - - \quad 2$$

Where e is the residual. Like the other LM tests, this test is also based on a t-statistic and LM statistic. The significance of the t-statistic and the LM statistic at an apriori alpha level indicates the presence of serial correlation in the residuals, and vice versa (EViews, 2001).

Furthermore, the White (1980), test for heteroskedasticity will also be conducted on the residuals of the series to ensure that there are no traces of heteroskedasticity in the data series. Given a linear regression with two variables x and z, the test statistic is based on the following regression:

$$e_{i,t}^2 = \alpha_0 + \alpha_1 x_t + \alpha_2 z_t + \alpha_3 x_i^2 + \alpha_4 z_i^2 + a_5 x_t z_t + v_t \quad - - \quad 3$$

Where x and z are variables to be estimated, and e is the residual of the linear model. The significance of the t-statistic and the LM-statistic at apriori alpha rejection of the hypothesis of non-presence of heteroskedasticity in the series, and vice versa (Agung, 2009).

4.4 Model Specification and Development

The model of the study is premised on the simple linear relationship that advertising should have some sort of effect on sales. This relationship can be modeled below:

$$TS_{i,t} = \alpha_0 + \beta_1 AC_{i,t} + \epsilon_{i,t} \quad - - - - - - - - - - - - \quad 4$$

Where $TS_{i,t}$ is the total sales revenue for the company at time t, α_0 and β are the intercepts and coefficients to be estimated, $AC_{i,t}$ is the advertising cost of the company at time t, and $\epsilon_{i,t}$ is the random disturbance term. However, the study feels that the influence of the total asset of the company in generating sales cannot be ignored. (As a solution, total asset will be treated as a control variable as shown by equation (5):

$$TS_{i,t} = \alpha_0 + \beta_1 AC_{i,t} + \beta_2 logTA_{i,t} + \epsilon_{i,t} \quad - - - - - - - - - \quad 5$$

Where $TS_{i,t} = \alpha_0 + B_1 AC_{i,t}$ *and* $e_{i,t}$ are as defined above, B_2 is the coefficient of the control variable and $TA_{i,t}$ is the total asset of the company at time t. To model the effect of advertising on the net profit of the company, the following simple relationship becomes obvious:

$$PAT_{i,t} = \alpha_0 + \beta_1 AC_{i,t} + \epsilon_{i,t} \quad - - - - - - - - - - - - \quad 6$$

Where $PAT_{i,t}$ is the profit after tax for the company at time t, and a_o, B_1, $AC_{i,t}$ and $e_{i,t}$ are as defined above. It is also clear that the effect of total asset cannot be completely ignored as far as the relationship is concerned. As a remedy, total asset was modeled as a control variable as shown in equation (7).

$$PAT_{i,t} = \alpha_0 + \beta_1 AC_{i,t} + \beta_2 logTA_{i,t} + \epsilon_{i,t} \quad - - - - - - - - \quad 7$$

Where $PAT_{i,t}$ ao, B_1, $AC_{i,t}$, B_2,$TA_{i,t}$ and $e_{i,t}$ are as defined above. Thus, hypothesis one of the study would be tested using equation (5), while hypothesis two would be tested based on equation (7). Table 3.1 provides a summary of the variables and their description as they will be used by the study.

5. Descriptive Statistic

The table below shows the descriptive statistics of advert cost, total sales, profit after tax and total assets.

Table 1: Descriptive Statistic of Advert, Total Sales, Total assets and PAT

	ADCOST	PAT	TOTSALES	TOTASET
Mean	3040000000	3290000000	44100000000	15200000000
Median	3200000000	2500000000	4250000000	16300000000
Maximum	3735000000	20024931000	90195981000	29926117000
Minimum	2229000000	-1614777000	16635449000	4305652000
Std. Dev.	381000000	5070000000	2420000000	7810000000
Skewness	-0.404960	2.761939	0.482261	0.120449
Kurtosis	2.849992	9.926437	2.080717	1.990824
Jarque-Bera	0.395776	45.78511	1.035641	0.627939
Probability	0.820462	0.000000	0.595818	0.730541
Sum	4.25E+10	4.60E+10	6.17E+11	2.13E+11
Sum Sq. Dev.	1.88E+18	3.34E+20	7.60E+21	7.92E+20
Observations	14	14	14	14

Source: Computed using Eview Version 7

The basic characteristics of the variables under study are shown in table two above in the form of descriptive statistic. The average expenditure on advert is N3.04 billion. Similarly, the average total sales revenue generated is N4.41billion and the average for profit after tax is N3.29 billion during the period under study. While the mean average for total asset is N1.52 billion. On the other hand, the minimum value for advert cost is N2.23 billion and its maximum value stood at N3.73 billion. For total sales, the minimum value is N1.1 billion while the maximum value is 9.02 billion. Profit after tax has depicted a minimum average loss value of N-161 with the highest level of profit of N2 billion within the period of the study. Further, the minimum average for total asset is N4.30 billion and a maximum accumulation of asset value of N 2.99. The standard deviation of 3.8; 5.07; 2.42 5, 0.4 and 7.8 for advertising cost; total sales, profit after tax and total assets respectively are indicative of the variables' deviation around their respective means.

In terms of skewness, advert cost of -0.4, implying that the distribution of the series is negatively skewed with a left long tail. For total sales of 0.45; profit after tax of 2.8 and total asset of 0.12 have indicated positive skewness respectively, meaning that the series exhibit flatness. Further, in terms of the kurtosis, advert cost has a value of 2.8; implying that the series portrayed flatness. This behavior is true for total sales; profit after tax and total asset series for this study.

5.1 Test of Hypotheses

For the fact that the data was collected over time, there is the need to establish the stationarity for the variables to avoid the results to be estimated being spurious. Thus, to test the hypotheses, the study first examined the stationarity property of the data for the presence of unit root. The test was done using Argument Dickey Fuller (ADF) test and the results of stationarity test are presented as depicted below:

5.2 Stationarity Test

Being time series data, the study is tested for the presence of unit root in the various time series variables of advertising costs; total sales; profit after tax and total assets of the company. To achieve the stationarity of the time series data, the study employed the utilization of the Augmented Dickey-Fuller (ADF) test for unit root.

5.3 Test for Hypothesis One

The hypothesis to be tested is:

Ho_1: Advertising cost has no significant effect on the sales revenue of Nigerian Bottling Company PlcThe result is presented below:

Table 2. Regression Result for Hypothesis One

DependentVariable: D(TOTSAES,2)
Method: Least Squares
Date: 06/15/13 Time: 13:01
Sample: 1996 2009
Included observations: 14

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.08E+09	1.82E+10	-0.224619	0.8264
D(ADCOST)	1.041802	5.680214	0.183409	0.8578
D(TOTASET)	2.962426	0.277080	10.69158	0.0000

R-squared	0.912434	Mean dependent var	4.41E+10
Adjusted R squared	0.896513	S.D. dependent var	2.42E+10
S.E. of regression	7.78E+09	Akaike info criterion	48.57490
Sum squared resid	6.66E+20	Schwarz criterion	48.71185
Log likelihood	-337.0243	Hannan-Quinn criter.	48.56223
F-statistic	57.31012	Durbin-Watson stat	1.290523
Prob(F-statistic)	0.000002		

Source: Computed using Eview Version 7

The table above portrayed the output of the result of OLS conducted. Going through the table above, the value of R^2 is 0.912 i.e. 91%. This implies that the level of the relationship that exist between total sales and advert cost with total asset as a control variable jointly explained about 91%. The remaining percentage is explained by other factors not explicitly captured by the model. The F-statistic is 57.3 while the probability value is 0.0000, and this value is less than 5% indicating that the model is fit. The advert cost and the size of total assets of the Nigerian Bottling Company Plc have significantly affected their sales for the period under study. Thus, the null hypothesis is rejected implying that there is a significant relationship between advert cost and total revenue of the firm. Further, the value of Durbin-Watson statistic of 1.2 indicated absence of autocorrelations; therefore, the result can be depended on.

A unit increase in the value of advert will result to a 1.04% increase in sales revenue. However, this is not significant as indicated by the p-value of 0.85. Further, a unit increase in total asset will lead to a 2.9% increment in sales revenue and this is significant with a p-value of 0.0000.

5.4 Test for Hypothesis Two

The hypothesis that is tested here is stated below:

Ho_2: Advertising cost has no significant effect on the net profit of Nigerian Bottling Company Plc

Table 3. Regression Result for Hypothesis Two

Dependent Variable: PAT
Method: Least Squares
Date: 06/15/13 Time: 15:09
Sample: 1996 2009
Included observations: 14

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8.28E+09	1.19E+10	-0.698151	0.4996
D(ADCOST)	2.673678	3.706113	0.721424	0.4857
D(TOTASET)	0.226256	0.180784	1.251529	0.2367

R-squared	0.151979	Mean dependent var	3.29E+09
Adjusted R-squared	-0.002207	S.D. dependent var	5.07E+09
S.E. of regression	5.08E+09	Akaike info criterion	47.72089
Sum squared resid	2.83E+20	Schwarz criterion	47.85784
Log likelihood	-331.0463	Hannan-Quinn criter.	47.70822
F-statistic	0.985685	Durbin-Watson stat	2.479271
Prob(F-statistic)	0.403866		

Source: Computed using Eview Version 7

In the above result, the co-efficient of determination which is represented by the value of R^2 is 15 which imply that only 15% of the variables of advertising accounted for the profitability of the company, while the remaining 85% is as a result of other factors outside the model. Further, the F-statistics is very high with the value of 0.98 and probability value of 0.40.This is far above 5%, indicating that the model is not fit. Based on this, the null hypothesis cannot be rejected .Thus; it means that there is no significant relationship between advertising and profitability of Nigerian Bottling Company Plc. However, the Durbin Watson value of more than two sufficiently mitigated the possibility for the presence of serial dependence among the residuals of the model. To further confirm the result suggested by the Durbin Watson test, the Breausch-Godfrey test for serial correlation was utilized to test for the presence of autocorrelation in the residuals.

6. Discussion of Findings

In this study, the results of the regression for the equation 5 i.e. first hypothesis revealed that there is a significant relationship between advertising expenditure and sales revenue of the firm under study. The coefficient of determination represented by R^2 is 91% explains that the variation in sales revenue is signified by advertising up to 91% while the remaining is determined by other factors such other than advertising such as; competitors 'price, the reputation of the company, brand name, sales promotion, product features, product quality, customers' loyalty etc. become operative. However, the results are consistent with prior findings of Okeji (2008), Nigeria data; Abiodun (2011), Nigeria data; Akeem (2011), Nigeria data; Akanbi & Adeyeye (2011), Nigeria data; and Olufayo, Ladipo & Bakare (2012), Nigeria data.

The implication of this finding is that advertising cost is important in influencing sales revenue of the Nigerian Bottling Company Plc.

In this study, utilizing equation 7 of the regression model i.e. second hypothesis, it is found that there is no significant relationship between advertising and profitability of the firm. The coefficient of the determinant as given by 15% depicted that advertising did not significantly make impact on the profitability of the company under study. Thus, the p-value of F. statistics in the above table is 40% which implies that the level of confidence is less than 60%. It is therefore concluded that advertising alone is not capable of increasing reasonably the profitability of the company. However, since the profit used in this study is the profit after tax and interest, it is possible that the firm paid higher taxes and interest, thus impairing on the impact of advertising on its profitability. Also, probably the company might have over advertised very heavily during the period of the study. This may likely affect the net profit of the company in question. This finding contradicts with the study of Comanor and Wilson (1967), Chicago data; and Carl and David (n.d), Germany data and apriori expectation.

The implication of this finding is that advertising cost has depicted a weak capacity to impact positively on the profitability of the Nigerian Bottling Company Plc.

6.1 CONLUSION AND RECOMMENDATION

Advertising is a persuasive communication which attempts to change or reinforce one's prior attitude and it is basically done not only to inform customers about products, rather it is a process which further influences and persuades customers to purchase. This study is based on the secondary data collected for the advertising expenditure, sales revenue and profitability of Nigerian Bottling Company Plc. It purposively selected Nigerian Bottling Company Plc as a case study. The data utilized in this study was collected from the annual accounts and reports of the company under study from the period of 1996-2009.

In this study, Nigerian Bottling Company Plc's data of such variables as advertising expenses, sales revenue and profit figures were utilized to estimate effectiveness of advertising on the sales revenue and profitability of the company. The study has found a significant relationship between advertising and sales revenue of the company notwithstanding the competitive nature of similar soft drink companies operating within the sector. The reason for the increase in sales revenue of the company could be due to such factors as adequate attention given by the management towards advertising by voting large chunk of financial resources to advertising, regularity in advertising, brand name, product quality, reputation, etc.

The second finding of the present study indicated the existence of complex effect i.e. there is no significant relationship between advertising and profitability of the company. How much to be in cured in advertising depends to a large extent on the nature and size of industries. Companies which are operating at a large scale can better utilize their marketing expenses due to the economies of scales and hence can be more result oriented for longer period of time.

However, the reason for the in significant of the profitability of the company might be attributable to the fact that the company is over advertising. Also, the total advertising cost as a percentage of sales may affect the profitability of the company. Thus, there is likely hold that it could affect the profitability of the company. It could be taken into consideration that advertising expenses alone is not the only factor to determine profitability of an organization. Other factors such as: personal selling, publicity, sales promotion, etc are also very crucial.

It could be wrapped up by stating that advertising is considered as one of the most important medium of communication influencing the company's performance in more than one ways. But its influential roles could be suppressed by other factors which also seek equal attention at the time of framing up any sales and profitability promotion policy.

6.2:1 Recommendations

Based on the findings and the conclusion reached in this study, the following recommendations are made:

i. The management of the company should not only muscle its strength on advertising, it should also give adequate attention to other factors which might influence sales and profitability while formulating strategies relating to sales revenue and profitability promotion policy. Such other factors which are crucial to increase sales revenue and profitability are; sales promotion, personal selling, publicity etc. which are crucial should be considered.
ii. The company should emphasize on cost effective advertisement and strategic promotional policy aimed at sustaining increased sales revenue. This can be achieved through the employment of a diversified and cost effective method of advertisement from time to time in line with economic realities.
iii. The management of the company should moderate its spending on advertising. By this; it will still have increased sales and equally enhance the company's profitability. The company can equally use the reduced expenditure on advertising to employ more sales persons to increase her profits.

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Appendix

Table 1: Stationarity Test for Advert Cost

Null Hypothesis: D(ADCOST) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on AIC, maxlag=2)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.442441	0.0307
Test critical values:	1% level	-4.121990	
	5% level	-3.144920	
	10% level	-2.713751	

*MacKinnon (1996) one-sided p-values.

Source: Computed using Eview Version 7

Table 2: Stationarity Test for Total Sales

Null Hypothesis: D(TOTSALES,2) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=2)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.618805	0.0272
Test critical values:	1% level	-4.297073	
	5% level	-3.212696	
	10% level	-2.747676	

*MacKinnon (1996) one-sided p-values.
Source: Computed using Eview Version 7

Table 3: Stationarity Test for Profit after Tax

Null Hypothesis: PAT has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=2)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.504931	0.0260
Test critical values:	1% level	-4.057910	
	5% level	-3.119910	
	10% level	-2.701103	

*MacKinnon (1996) one-sided p-values.
Source: Computed using Eview Version 7

Table 4: Stationarity Test for Total Asset

Null Hypothesis: D(TOTASET) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=2)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.565221	0.0049
Test critical values:	1% level	-4.121990	
	5% level	-3.144920	
	10% level	-2.713751	

*MacKinnon (1996) one-sided p-values.
Source: Computed using Eview Version 7