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Research Paper

The Effect of Receivable Management on the Profitability of Building Materials/Chemical and Paint Manufacturing Firms In Nigeria.

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ABSTRACT:- This study is very important since many organizations are becoming victims of premature death. The study examines the effect of the management of accounts receivable on the profitability of building materials/chemical and paint companies in Nigeria. The data were collected from the Annual Reports of the companies under study. The hypotheses were tested using multiple regression technique. At the end of the study, the results showed that accounts receivable had positive and significant effects with the profitability ratio at 1% levels of significance. This means that unit increase in the variables shall bring about corresponding increase in the profitability ratio of the Building/Chemical and paint companies in Nigeria. Both Debt ratio and sales growth rate had negative and non-significant effect on these companies.

Keywords:- Receivable, profitability and multiple regression.

I. INTRODUCTION

Accounts receivable are customers who have not yet made payment for goods or services which the firm has provided. The objective of the debtor management is to minimize the time-lapse between completion of sales and receipts of payment. The management of accounts receivable is largely influenced by the credit policy and collection procedure of a firm. Accounts receivable represents the rate at which the firms collects payments from its customers (Falope and Ajilore, 2009, Sharma and Kumar 2011). Excessive level of accounts receivable ratio on profitability may lead to negative effect. This is because if a firm has so many Debtors o pay, they may become short of cash which may lead to difficulty in settling their short-term financial obligations. Profit may be called real profit after receivables are turned into cash. The management of accounts receivable is largely influenced by the credit policy and collection of a firm. A credit policy specifies requirements to value the worth of customers and a collection procedure which provides guidelines to collect unpaid invoice that will reduce delays for customers who have not yet made payment for goods and services and outstanding receivables. In this study Nigeria is used the cape study.

II. STATEMENT OF RESEARCH PROBLEM

Some manufacturing firms that are still in business and are also listed in the Nigeria stock exchange cannot pay dividend to their shareholders. Some Nigeria workers were forcefully thrown out of employment example Ajokuta steel industry reduced their staff from 5000 to 1000. Some of these firms with high rate of returns had turned out to be failures and were frustrated out of office. It is on this note that the researcher deemed it necessary to study on the effect of accounts receivable management on profitability of Building/Chemical and paint manufacturing companies listed in Nigeria Stock Exchange (NSE).

III. OBJECTIVES OF THE STUDY

The following are the objectives of this study.

1. To examine the impact of accounts receivable ratio on profitability.
2. To ascertain the impact of Debt ratio on profitability.
3. To indentify the impact of sales growth rate on the profitability of Building Materials/Chemical and Paint Companies in Nigeria.

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Hypotheses

1. Accounts receivable has no significant effect on profitability.
2. Debt ratio has no significant effect on profitability.
3. There is no significant relationship between sales growth rate and the profitability of Building/Chemical and Paint Companies in Nigeria.

IV. REVIEW OF RELATED LITERATURE

Ranchandran, A and Janakiraman, M, (2009), Analyzed the relationship between working efficiency and earning before interest and tax of the paper Industry in Indian capital management. The study revealed that capnl conversion cycle and inventory days had negative correlative with earning before interest and tax, while accounts payable days and accounts receivable days related positively with earning before interest and tax. Grzeg or2 m. m (2008) in his study a portfolio management approach in accounts receivable management, used portfolio management theory to determine the level of accounts receivable in a firm he paid out that there was an increase in level of accounts receivable in a firm increase both net working capital and cost of holding and managing account receivables.

In ksenija (2013), he investigates how public companies listed at the regulated market in the republic of Serbia manage their accounts receivable during recession times. A sample of 108 firms is used. The accounts receivables polices are examined in the crisis period of 2008-2011. The short-term affects are tested and the study shows that between accounts receivables and two dependent variables on profitability, return on total asset and operating profit margin, there is a positive but no significant relation. This suggests that the impact of receivables on firm's profitability is changing times of crisis.

Researcher studies by Deloof (2003) Laziridis and Tryfonidis (2006) Garcia-Jeruel and Martinez-Solano (2007), Samiloglu and Demrigunes (2008) and Mathura (2010), in belginm, Greece, U.S.A, Spain, turkey and Kenya respectively, all point out to a negative relation between accounts receivable and firm profitability. Contradicting evidence is found by Sharma and Kumar (2011) who find a positive relation between ROA and accounts receivable.

Singh and Pandey (2008) had an attempt to study the working capital components and its impact on profitability of hildalco industries limited for a period 1990 to 2007. Results of the study showed that receivable turnover ration had statistical significant impact on the profitability of hibdalco industries limited

Jack and Matthew (1994) state in their article management of accounts receivable That the simplest means of recovering your accounts receivable is to take active steps to avoid the process entirely.

Venkata et al (2013):- Their study impact of receivables management on working capital and profitability : A study of selected cement companies in Indian collected their data from the animal reports the selected cement companies from 2001 -2010. the ratios which highlight the efficiency of receivables management viz, receivables to current assets ratio receivable to total assets ratio, receivable to sales ratio, receivable to turnover ratio, average collection period, working capital ratio profitability ratio have been completed using ANOVA statistical tool to know the impact of working capital and profitability of the selected cement companies. Working capital management and profitability were considered as dependent variables. The investigation reveals that the receivable management across cement industry is efficient and showing significant impact on working capital and profitability

V. RESEARCH METHODOLOGY

The research work focus on the empirical analysis of the relationship between receivable management and corporate profitability in some selected manufacturing companies in Nigeria. The ex-post factor research design was used because it involves events that have already taken place in the past. The records observed were from 2000-2011, a period of twelve years. The variables tested were accounts receivable, return on total assets, debt and sales.

Population and Sample Size

The population of this study comprise of all manufacturing companies quoted in the Nigeria stock exchanges. The sample size consists of only companies in Building materials, chemical and Paint manufacturing sector and it is dependent on data availability.

Nature and Source of Data

The study used secondary data that were extracted from the selected Building materials, chemical and paint manufacturing companies in Nigeria. Data from annual reports are proven to be more reliable because companies are required to keep accounts and to produce accounts that give true and fair view of their company according to companies and allied matters decree 1990. The data for the study are profit before tax, total assets, receivable, long term debt, sales.

Descriptive Variables

The researchers made their choice primary guided by precious empirical studies along this line; variables are consistent with basley and brigam (2005) samiloglu and demrigunes (2008).

Dependent variable (profitability)

Profitability is the dependent variable of this study. Return on total assets was used to analyze the impact of accounts receivable management on the firm's profitability (pandey, 2008, lazarridis and trynidis, 2006).

$$\text{Profitability} = \frac{\text{PBT}}{\text{Total assets}}$$

Independent Variables

Accounts receivable

Accounts receivables are customers who have not yet made payment for goods or services which the firm has provided. In this respect account receivable is calculated as accounts receivable divided by sales. This variable represents the receivable that the firm will collect from its customers (Basley and bring ham, 2005 Samiloglu and Demrigunes, 2008).

$$\text{Account receivable} = \frac{\text{Receivables (Debtors)}}{\text{Sales}}$$

Debt

When external funds are borrowed. Example from banks at a fixed rate they are assured to be invested in the company and a higher interest paid to the bank. This is measured by long term debt divided by total assets.

$$\text{Debt} = \frac{\text{Total debt}}{\text{Total assets}}$$

Sales Growth

Sales growth is the increase or decrease of annual sales measured as a percentage. It is measured in this study as sales-sales divided by sales.

$$\text{Sales} = \frac{\text{Sales-Sales}}{\text{Sales}}$$

Analytical Tool for the Test of Hypotheses

The complicated date were analyzed using four functional models of multiple regression, and the best fitted to the analysis was selected. This four multiple regression models as follows:-

a. 1 Linear regression model:

Profitability: $= B_o + B_1 (AR) + B_2(SL) + B_3(DT) + U_1$………………………

b. Semi - log regression Model:

Profitability: $\text{Log } B_o + \text{Log } B_1 (AR) \text{ Log} + B_2(SL) + B_3(DT) + U_1$………………………

c. Double log regression Model:

Profitability $= \text{Log } B_o \log + B_1 (AR) + B_2(SL) + B_3(DT) + U_1$………………………

d. Exponential regression Model:

Log profitability $B_o + B_1 (AR) + B_2(SL) + B_3(DT)$

After obtaining the result of the four functional multiple regression model, decisions were taken on which among then should be chosen as the best-fit model in the analysis, the choice model were used in the interpretation of the results. Decisions and choice model were based on the one that has the highest number of variables.

Population and sample size

The population of this study is all the companies in Building/Chemical and paint companies in Nigeria, while the sample size is dependent on the ones whose data are available.

Nature and Sources of Data

Secondary data were used and were extracted from the Annual Report and Statement of Accounts & Building material/chemical and paint companies in Nigeria.

Technique used for test of Hypotheses

Generalized least square multiple regression analytical tool was used to test the hypotheses. It was used to measure the impact the variables have on profitability.

$Y= B_0 + B_1 + B_2 + B_3 + U$, ……………

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Where Y = Profitability

B_1 = Accounts receivable

B_2 = Debt

B_3 = Sales growth

Table 1: Raw Data for Benue Cement Company Nigeria Plc.

Years	Return on Asset Ratio	Accounts Receivable Ratio	Debt Ratio	Sales Growth Rate (%)
2000	-0.10239	0.257883	0.049438	-37.2788
2001	-0.27937	0.309324	0.324863	40.8999
2002	-0.48596	0.417114	0.150877	-47.7203
2003	-0.47319	0.614822	0.011947	-32.9348
2004	-0.12134	0	0	0
2005	-0.06948	0.243327	0.039317	0
2006	0.061145	0.277999	0.192292	50.53825
2007	0.050877	0.30078	0.009276	-9.21796
2008	-0.49101	0.35029	0.078497	-21.0928
2009	-0.09077	0.616123	0.023004	46.62865
2010	-0.08465	0.618571	0.015857	0.290235
2011	-0.1001	0.573751	0.022139	5.599682

Source: Author's Computation from Annual Accounts of Firm 2000-2011.

This company did not make profit in almost all the years; it was in 2006 and 2007 that they made little profit. They had more to receive than to pay and they borrowed in almost all the years. The company did not make sales in 2004 and 2005 respectively.

Table 2: Raw Data for Berger Paints Nigeria Plc.

Years	Return on Asset Ratio	Accounts Receivable Ratio	Debt Ratio	Sales Growth Rate (%)
2000	0.040842	0.225659	0	-83.2194
2001	0.149082	0.015042	0	1271.29
2002	0.104144	0.029615	0	-5.96092
2003	0.027384	0.304388	0	-89.8095
2004	0.101776	0.185786	0	24.72222
2005	-0.03298	0.163377	0	3.774959
2006	0.055236	0.127628	0	20.1845
2007	0.105111	0.113769	0	-1.09792
2008	0.119973	0.067981	0	11.39888
2009	0.141529	0.086668	0	-6.1101
2010	0.199542	0.075142	0	15.83131
2011	0.09189	0.041688	0	-6.61135

Source: Author's Computation from Annual Accounts of Firm 2000-2011.

The return on asset ratio of this company is low. Receivable ratio is low and their payable ratio is also low. The company has liquidity ratio of 3.705 in 2002 which is comfortable. They did not borrow in all the years. They made the highest sales in 2001.

Table 3: Raw Data for Premier Paints Nigeria Plc.

Years	Return on Asset Ratio	Accounts Receivable Ratio	Debt Ratio	Sales Growth Rate (%)
2000	0.031775	0.220372	0	4563.757
2001	-0.01297	0.188504	0	23.95242
2002	-0.04412	0.269069	0	14.48656
2003	-0.07276	0.260572	0.019877	16.9352
2004	-0.03865	0.139605	0	-6.88844
2005	0.033165	0.15418	0.111846	1.911046
2006	0.059564	0.075673	0	7.420559
2007	0.042811	0.119833	0	-8.40279
2008	0.042385	0.114605	0.187566	26.29176
2009	-0.07876	0.138092	0	-99.9049
2010	-0.31878	0.089328	0.104972	-25.703
2011	-0.33598	0.121703	0.457924	10.04324

Source: Author's Computation from Annual Accounts of Firm 2000-2011.

This company did not make profit in many years, it was only in 2005 -2008 that they made little profit. They also have more to pay than to receive. They borrowed in only 2003, 2005, 2008, 2010 and 2011. They have the highest sales in 2000 followed by 2008.

Table 4: Multiple Regression Analysis showing the relationship between Profitability, DT and SL of Building Materials, Chemical and Paint firms in Nigeria

Variables	Linear Regression	Semi Log Regression	Double Log Regression	Exponential Regression
Constant	32.226 (0.802)	-26.319 (-0.446)	-0.578 (-1.077)	-0.541** (-2.078)
Accounts Receivable Ratio (AR]	48.276 (0.364)	-4.002 (-0.068)	0.143 (0.266)	0.213 (0.248)
Debt Ratio (DT) (Control)	**-129.112 (-0.806)**	**-52.295 (-1.723)**	**-0.215 (-0.781)**	**0.870 (0.838)**
Sales Growth Rate (SL) (Control)	0.000 (-0.006)	-2.038 (-0.109)	-0.082 (-0.482)	0.000 (-1.100)
R^2	0.086	0.212	0.293	0.134
Adjusted R^2	-0.142	0.015	0.116	-0.082
F-Ratio	0.378	1.075	1.616	0.621

NB*: 1.Profitability=Bo + B1 (AR) + B2(DT)+ B3(SL) + U*i……………

*2. Also, 1%, 5%, 10% levels of significance are represented by ***; ** and * respectively*

3. Values in brackets are coefficients while those outside brackets are t-values of the variables

The results of multiple regression analysis for the variable influencing the profitability ratio of Building materials, chemical and Paint industries in Nigeria were summarized. Out of the four functional models of the multiple regression calculated, the Double log regression model was chosen because it has the highest number of significant variables as well as a very significant F-ratio(1.616***) which indicated that the choice model fitted the analysis. Furthermore, the results of the analysis revealed an R^2 value of 0.293 thus indicating that 29.3% variation in the profitability ratio (dependent variable) of Building Materials, Chemicals and Paints Industries in Nigeria was accounted for by the explanatory (independent) variables considered in the analysis. Specifically, **in the test of Hypothesis one**, the industries' **AR** had significant and positive relationships with the profitability ratio at 1% levels of significance. This means that unit increases in the variables shall bring about corresponding increase in the profitability ratio of the industries in Nigeria, **in the test of Hypotheses two and three**,both debt ratio [**DT**] and sales growth rate[**SL**] had negative but significant effect on the profitability of Building materials, chemical and paint companies in Nigeria.

Test of Hypotheses [See table above].

Hypotheses 1

Ho: Accounts receivable has no significant effect on profitability.
Hi: Accounts receivable has significant effect on profitability.

Hypotheses 2

Ho; Debt ratio has no significant effect on profitability.
Hi: Debt ratio has significant effect on profitability.

Hypotheses 3

Ho: there is no significant relationship between sales growth rate and the profitability of Building Material/Chemical and paint companies in Nigeria.
Hi: there is a significant relationship between sales growth rate and the profitability of Building Materials/Chemical and paint companies in Nigeria.

VI. CONCLUSION

Accounts receivable are customers who have not yet made payment for goods and services which the firm has provided. It is also an important facet of financial management, and its adequate management brings continuous growth and survival of firms. The aim of this study is to examine the effect accounts receivable management has on profitability of Building Materials/Chemicals and paint companies in Nigeria. The results showed that accounts receivable had positive and significant effect on profitability, while debt ratio and sales growth rate had negative and non-significant effect on the profitability of Building Materials/Chemical and Paint companies listed in Nigeria stock exchange.

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