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The Impact of Effective Management of Credit Sales on Profitability and Liquidity of Food and Beverage Industries in Nigeria

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The study centered mainly on the effect of each of the individual components of credit sales, profitability, liquidity and activity level of the companies under study which include the credit sales percentage, gross profit margin, net profit margin, return on capital employed, debtors collection period, debtors turnover, acid test ratio and return on current assets. Also the credit policy variables were examined which include credit standards, credit terms and collection policy and procedures.

Data were obtained from the Annual reports and Accounts of the selected companies of year (2007-2011). The relevant data were subjected to statistical analysis.

Analysis of variance (ANOVA) was used in testing the hypotheses. The study revealed that when credit sales are effectively managed profitability is at a desirable level. Lastly, the finding revealed that when a firm's debtors turnover is favourable, liquidity is at a desirable level.

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THE IMPACT OF EFFECTIVE MANAGEMENT OF CREDIT SALES ON PROFITABILITY AND LIQUIDITY OF FOOD AND BEVERAGE INDUSTRIES IN NIGERIA

Strictly as per the compliance and regulations of:

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The researchers recommended that companies should consider their mission, the nature of their businesses and their business environment before setting up a credit policy

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I. Introduction

a) Background information

Business organizations in their attempts to make profit adopt several strategies and one of which is allowing credit to customers. Pandey, (2004). Submitted that credit is a marketing tool for expanding sales. Credit sales to customers however must be well monitored because regardless of an organizations share of the market and demand for its products, if there are no measures put in place to regulate sales made to customers on credit, there could be problems especially those related to liquidity and cash flow.

Trade credit arises when a firm sells its products or services on credit and does not receive cash immediately. It is an essential marketing tool, acting as a bridge for the movement of goods through production and distribution stages to customers. According to Pandey (2004), a firm grants trade credit to protect its sales from the competitors and attract the potential customers to buy its products at favourable terms. Trade credit creates accounts receivable or trade debtors that the firm is expected to collect in the near future.

A firm's investment in accounts receivable depends on volume of credit sales and collection period. The customers from whom receivable have to be collected in the future are called trade debtors or simply as debtors and represent the firm's claim or asset.

Trade debtors form a major portion of the current assets of any company next to stock. It arises when customers are allowed to buy goods or services on credit and payment deferred till later date. Thus, the working capital management presumes the effective use of trade debtors (accounts receivables) to ensure increased profitability and liquidity in the firm.

The issue of management of trade credit has every cause to be given reasonable attention considering the incessant liquidation (Winding -up) of some manufacturing firms in recent times due to the effect of credit sales.

Granting of credit indeed increases sales volume and consequently profit level. In a competitive environment such as Nigeria, increasing ones level of profit is one of the ways to ensure survival or continuity in business.

The important of credit policy therefore to any business organization cannot be over emphasized because it is a factor that has a strong influence on the cash inflow of an organization from its sales activities which is very critical to an any business organization. Every credit policy set by an organization seeks to achieve adequate profitability and flow of cash (liquidity) which are the two basic factors that sustain a business in the present and determines its position in the long run.

A company's credit policy refers to the actions taken by a business to grant, monitor, and collect the cash for outstanding accounts receivable (Maysami, 2010). The credit policy of a typical organization contains the following variables: collection policy, cash

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discount, credit period and credit standard, while Miller (2008), classified it as credit limits, credit term, deposits, customer information and documentation. And each of the components of a company's credit policy is used as a tool for monitoring account receivables which is the outcome of credit sales; it covers from the kind of customers that credit may be extended to when actual collections would be made.

There is however no particular universal credit policy that should be adopted by every organization. The credit policy of an organization should therefore be based on its particular business and cash flow circumstances, industry standards, current economic conditions, and the degree of risk involve. For a manufacturing business organization to achieve its critical objectives of liquidity as it allows credit to customers, concern should be given to its credit policy, it should be adequately planned and its adherence must be strictly emphasized.

However, it has not been an easy task for firms that grant credit to deserving customers because of the costs associated with credit sales. Also, many firms in Nigeria that do not grant credit have bitter experiences. In the same vein granting of credit amounts to temporary deprivation of the use of the company's or firm's fund thereby locking up that amount of the capital which might be profitably for other purposes, (Pandey, 1993). This implies investing in the debtors concerned and probably looking for other sources of finance in the day to day operations of the firm. It is not certain whether the credit will be paid on terms agreed upon.

It is a bitter experience to note that most companies in Nigeria do not grant credit and a few that do merely allow a small portion of their total sales as credit sales. This is a problem arising from inefficient management of credit sales or trade debtors. The reasons sometimes given by firms for not granting credit include insufficient information about the customers, the level of trust in our business environment today due to the activities of fraudsters. It is in this regard that the chief Olusegun Obasanjo led administration introduced an agency called Economic and Financial Crimes and other related issues.

Granting of credit no doubt leads to bad debts. In the words of Pandey (2004), a credit sale has three characteristics:

i. It involves an element of risk that should be carefully analyzed.
ii. It is based on economic value. To the buyer, the economic value in goods or services passes immediately at the time of sale, which the seller expects on equivalent value to be received later on.
iii. It implies futurity. The buyer will make the cash payment for goods or services received by him in a future period.

The customers from whom receivables have to be collected in future are called trade debtors and they represent a company's claim on assets.

According to Pandey (2004), Debtors constitute a substantial portion of current assets of several firms. For example in India, trade debtors, after inventories (Stock), are the major components of current assets. They form about one-third of current assets in India. Granting credit and creating debtors amount to the blocking of the firm's funds. The interval between the date of sale and the date of payment has to be financed out of working capital. This necessitates the firm to get funds from banks or other sources. Thus, trade debtors represent investment. As substantial amounts are tied-up in trade debtors, it needs careful analysis and proper management.

From the foregoing analysis, it implies that granting of credit by a firm to his customers needs careful analysis and proper management. The firm's success or failure is significantly affected by the strength of credit policy adopted.

b) *Statement of the Problem*

The growth in economic activities as currently witnessed in Nigeria; in our present democratic government with its attendant limited financial resources available to the operators of the market has no doubt brought about increase in credit transaction. The impact depends on the skill and prowess with which the companies manage their credit sales.

Beckan and Richard (1984) have seen that most companies after granting credit sales rely on them as assets without providing adequately for possible. bad and doubtful debts. With this situation, the financial statements of such companies obviously will lack true and fair view because of the fact that the amount of trade debtors cannot be fully realized.

In the same vein liquidity problem is not left out when granting credit sales. This arises from over investment in receivables especially when the debtors are of high risk class. A company suffering from liquidity problem implies that the cost of obtaining funds from other sources may be high and a credit sale beyond the optimal level of credit is dangerous. On the other hand, sales level and profitability are reduced as a result of high or tight credit policy or not granting credit at all.

According to Atuche, (1999), Research work has shown that credit sales enhance both profitability and liquidity positions of firms if properly managed.

The investment in accounts receivable may be expressed in terms of costs of sales instead of sales value.

According to Pandey (2004), the volume of credit sales is a function of the firm's total sales and the percentage of credit sales to total sales. Total sales depend on market size, firm's market share, product quality, intensity of competition, economic conditions etc. The financial manager hardly has any control over these variables. The percentage of credit sales to total sales is mostly influenced by the nature of business and industry norms. For example, car manufactures in India, until recently, were not selling cars on credit. They required the customers to make payment at the time of delivery; some of them even asked for the payment to be made in advance. This was so because of the absence of genuine competition and a wide gap between demands for and supply of cars in India. This position changed after liberalisation which led to intense competition. In contrast, the Food and Beverage industries sold a small proportion of their total sales on credit to the wholesale dealers. These industries are not under serious financial pressure.

There is one way in which the management of firm can affect the volume of credit sales and collection period and consequently, investment in accounts receivable. That is through the changes in credit policy. The term credit policy refers to the combination of three decision variables: (i) credit standards, (ii) credit terms, and (Hi) collection efforts, on which the management has influence.

However, the extent at which credit sales increase both profitability and liquidity position has not been established. And thus, the researcher attempts to find out the extent at which credit sales enhance both profitability and liquidity position of manufacturing companies in Nigeria.

Purpose of the Study: The main objective of this study is to examine the impact of effective and efficient management of credit sales on profitability and liquidity of Food and Beverage industries in Nigeria. However, secondary objectives of the study are:

1. To establish the correlation between the level of credit granted to customers and operating profit of the companies.
2. To establish the relationship between liquidity position and debtors turnover.
3. To identify the various reasons for granting credit to customers by the firms
4. To ascertain the reliability of credit sales as a marketing tool for expanding sales volume in the companies.

c) *Hypotheses*

In order to achieve the objective of this research work, the following hypotheses were formulated. They are stated in the NULL (Ho) and ALTERNATIVE (H1) forms to enable the use of statistical test on the data collected. The hypotheses are as follows:

i. *Hypothesis One*

Null (Ho): There is no significant relationship between the level of credit granted to customers and operating profit of the companies.

Alternative (HI): There is significant relationship between the level of credit granted to customers and operating profit of the companies.

ii. *Hypothesis Two*

Null (Ho): There is no positive and significant correlation between liquidity position and debtors turnover of the companies

Alternative (HI): There is positive and significant correlation between liquidity position and debtor's turnover of the companies.

iii. *Significance of the Study*

Having stated earlier that companies grant credit to their credit worthy customers, invariable we have accepted the existence of accounts receivable or trade debtors.

The credit policy laid down by management as a guide for action in the determination of credit limit, standards, terms and collection efforts has strong implications. Credit terms granted to customers have effect on receivables, thus increasing working capital.

However, it should be reiterated that although management sets credit terms, its final determination depends on prevailing trading practices as well as changing economic conditions. It does not mean that the firm or company's management cannot use their discretion to determine its credit policy in such a way that liquid funds will always be available to meet operational needs.

It is this situation that necessitated this research work which is aimed at examining the impact of effective and efficient management of credit sales on the profitability and liquidity positions of Food and Beverage in Nigeria.

Trade credit is a vital and convenient source of financing mainly for companies who could not source funds from financial institutions. A company that fails to qualify for bank financing may receive trade credit if it is credit worthy.

In the light of the above, the study will serve as a source of information of companies granting credit with respect to the policies and procedures to be adopted.

It will also be relevant to students of accounting and other related courses for research purposes. The general public will equally benefit because it will serve as a reference material when adopting any credit policy. Also management practitioners will find the data and views expressed in this research work relevant to their day to day business decisions especially in the manufacturing industries.

II. Literature Review

a) *Credit Sales Management*

Having stated earlier that firms grant credit to their credit worthy customers, invariably we have accepted the existence of debtors. In other words,

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granting of credit leads to creation of trade debts in business which can be further classified into good debts, doubtful and bad debts.

Management of debtors is crucial in the management of working capital because poor management of trade debt can lead to the provision of large sum of funds for bad and doubtful debts.

According to Pandey (2004), bad debt losses arise when the firm is unable to collect its accounts receivable. The size of bad debt losses depends on the quality of accounts accepted by the firm.

In the words of Uchegbu (2001), it is wise to discourage bad debts and efforts should be made to encourage discount more importantly cash discount. This is contrary under competitive business environment were survival depends on the volume of turnover (sales) which in turn leads to trade debt accumulation. Here debtors cannot be completely avoided it is therefore the work of the management to initiate policies concerning credit sales so that they will survive in the business environment they find themselves.

In the words of Donald and Penne (1987: 110), debtors or accounts receivable in a firm are claims held against others in the operating circle. Trade debtors are further classified into trade debtors and non-trade debtors. The amount which is owed by customers for goods and services sold in the course of carrying on a business is termed trade debtors while on the other hand any amount owed by customers arising from a variety of transitions that are oral or written promises to pay other than goods at a later date is called non-trade debtors

Studies have shown that in the period of boom (economic boom) customers tend to make cash purchases, pay their debts on time and minimize the incidence of bad debts. On the other hand, the period of economic recession is another situation. The uncertainty, which befalls the repayment of such debts, has made the transactions to be based on customers integrity, trust worthiness and his or her ability to satisfy other conditionalities as placed by the selling organization.

b) *Reasons for Granting Credit*

Companies in the Food and Beverage Sector in Nigeria feel the necessity of granting credit for several reasons. They include:

1. Competition: Generally the higher the degree of competition, the more the credit granted by a firm (Pandey, 2004).
2. Company's bargaining power: If a company has a higher bargaining power vis-a-vis its buyers, it may grant no or less credit.
3. Marketing tool: Credit is used as a marketing tool, particularly when a new product is launched or which a company wants to push its weak product.
4. Buyers requirements: In a number of business sectors buyers/dealers are "not able to operate without extending credit. This is particularly so in the case of industrial products.
5. Buyers status: Large buyers demand easy credit terms because of buck purchases and higher bargaining power. Some companies follow a policy of not giving much credit to small retailers since it is quite difficult collect dues from them.
6. Relationship with dealers: According to Pandey (2004) companies sometimes extend credit to dealers to build long-term relationship with them or to reward them for their loyalty.

Efficient credit sales management is necessary for achieving liquidity and profitability of a company (Reddy and Kameswarri, 2004).

c) *Effective and Efficient Credit Policy*

According to Pandey (1993: 726), he opined that a firm's investments in receivables are effected by some external factors such as the general economic conditions: - Industry norms, competitive activities, political regulations and Technological change. But for effective management of trade debt, firms should lay down guidelines and procedures for granting credit to individual's customers and collecting the individual accounts.

Management naturally want to make efficient use of the available capital in the business and is also interested in rapid turnover of accounts. Given the circumstance, a firm should formulate a policy suitable for the firm and the commercial environment upon which credit sales will be based. There are three major credit policy variables (factors) Rama Moorthy (1976:183) V12: (i) credit standards (ii) credit term (iii) collection period/policy.

Credit standard: According to Pandey (1993.726), credit standards are the criteria, which a firm follows in selecting customers for the purpose of credit extension. He further reiterated that a firm may have light credit standards, that is, it may sell mostly on cash basis as may extend credit only to the most reliable and financially strong customers.

The implication of the above policy are many, for instance, it will result to less bad debt losses and cost of credit administration. But such a firm adopting the policy may not be able to expend sales. That is, the profit sacrificed on lost sales may be more than the cost saved by the firm on the contrary, if credit standards are loose, the firm may have large sales volume. But the firm will have to carry large receivables (debtors). The cost of administering credit and bad debts losses will also increase, thus, the choice of optimum credit standards involves a trade-off between incremental return and incremental cost.

Weston and Brigham (1986: 251), they enumerated the different types of cost associated with credit sales. Such as: (i) cost of capital tied up in receivables (debtors), (ii) bad debts, (iii) higher investigation, (iv) collection cost.

Pandey (2004: 603). States that the evaluation of a change in the firm's credit policy involves analysis of: (i) Opportunity cost and lost contribution, (ii) Credit administration cost and bad debt losses.

According to Solomon and Pringle (1977: 201), they states that, the firm's credit policy will be determined by the trade off between opportunity cost and credit administration cost including bad debts losses. In the figure 1; this trade off occurs at point A where the total of opportunity cost of lost contribution and credit administration cost and bad debts losses is minimum.

In the words of Brain (1981), the objective of credit control is to strike a correct balance between incremental return and incremental cost.

d) Credit Analysis

Credit standards influence the quality of firm's customers. There are two aspects of the quality of customers: (i) The time taken by customers to repay credit obligation and (ii) The default rate. The Average collection Period (ACP): Determines the speed of payment by customers. It measures the number of days for which credit sales remain outstanding. The longer the average collection period, the higher the firm's investment in accounts receivable.

Default Risk: Is the likelihood that a customer will fail to repay the credit obligation.

e) Credit Qualities

The credit managers should establish criteria for evaluating credit risk. The evaluation criteria according to Brigham (1986: 260) and Emekekwue (1990: 190) they are called the Five (5) C^s thus: Character: Refers to the customers willingness to pay their obligations.

i. *Capacity:* It refers to the customer's ability to pay. Ability to pay can be indeed by assessing the customer's capital and assets which he may offer as security.
ii. *Capital:* It is measured by the general financial ratio analysis, with special emphasis on the risk ratios- the debt/assets ratios, current ratio and times - interest-earned ratio.
iii. *Collateral:* This is represented by assets offered by the customers as a pledge for security of the credit extended.
iv. *Condition:* It refers to the preventing economic and other conditions which may affect the customer's ability to pay. Adverse Economic Conditions can affect the ability or willingness of a customer to pay. An experienced financial or credit manager will be able to Judge the extent and genuineness to which the customer's ability to pay is affected by the economic conditions.
v. *Credit Granting Decision:* Once a firm has assessed the credit worthiness of a customer, it has to decide whether or not credit should be granted. The firm should use the Net present Value (NPV) rule to make the decision.

f) Credit Terms

These are stipulations under which the firm sells on credit to customers. They include: credit period and cash discount.

Credit period refers to the length of time for which credit is extended to customers. Cash Discount is a reduction in payment offered to customers to induce them to repay credit obligations within a specified period of time, which will be less than the normal credit period. It is usually expressed as a percentage of sales.

g) Collection Policy and Procedures

Collection policy is necessary for effective and efficient management of credit sales because customers usually default in paying their debt as at when due, that is with reference to the terms of credit. The collection policy aims at accelerating collection from slow-payers and thus reducing incidence of Bad debts losses. Credit limit is the maximum amount of credit which the firm will extend at a point of firm. Once the firm has taken a decision to extend credit to the applicant, the amount and duration of the credit have to be decided. A collection policy should ensure prompt and regular collection. Prompt collection is needed for fast turnover of working capital, keeping collection

Costs and bad debts within limits and maintaining collection efficiency. Regularity in collections keeps debtors alert, and they tend to pay their dues promptly.

Some firms usually adopt a clear-sequence to collect the debt after the expiration of the normal credit period granted to the customers; Firms may send a polite letter to the customers (as reminder). A more severe letter will follow this afterwards. Other strategies may be the use of telephones and personal visit by a company's representative. If all the above strategies fail, the firm may resort to the use of collection agency and others such as legal action, etc.

The result will be a shift of loyalty and patronage to competitors and huge sales may be lost. However, a situation where soft collection procedure is adopted, debtors may increase with profitability being reduced. Hence, a fast and hard collection procedure is not desirable for a good firm to survive.

i. *Factoring and pledging of debtors accounts*

Factoring is a business involving a continuing legal relationship between a financial institution (the factor) and a business concern (the client) selling goods or providing services to trade customers

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(the customers) whereby the factor purchases the client's accounts receivable and in relation there to, controls the credit, extended to customers and administers the sales ledger (Pandey 204: 615).

Pledg.ing is a situation whereby the debtor's account of company may be used as a security for funds. When the lender accepts such security, the borrowing company retains the risk of default on the debts.

Liquidity: According to Solomon and Pringle (1977: 180) liquidity refers to the ability of a firm to meet its current liabilities as they fall due out of its current assets. Some common ratios connected with evaluating liquidity are the current ratio, the quick or acid ratio, debtor's turnover and inventory turnover.

Debtors Turnover Ratio: The ability of a firm to collect credit sales in a timely way affects the firm's liquidity. The debtors-turnover ratio measures the relative size of a firm's debtors and the success of its credit and collection policies. This ratio shows how many times on a average, the receivable turned out cash during the period. Profitability: A company's long term survival depends on its being able to earn satisfactory revenue. And such the investors will continue to remain in the business. In the words of Gee (1998), an evaluation of a firm's past earning power may give the investor a better basis for decision-making. A firm's ability to earn an income usually affects it liquidity. For this reason, evaluating profitability is important to both investors and creditors.

These ratios include: (i) Return on capital employed (ROCE) - it measures the overall profitability of a business and it shows how efficient management utilizes it resources to generate profit.

i.e

$$\text{(i)} \quad ROCE = \frac{\text{Profit x 100}}{\text{Capital employed}}$$

$$\text{(ii) Gross profit margin (GPM)} = \frac{\text{Gross profit}}{\text{Net sales}} \times \frac{100}{1}$$

$$\text{(iii) Net profit margin (NPM)} = \frac{\text{Net profit}}{\text{Net sale}} \times \frac{100}{1}$$

III. Data Collection and Analysis

The research work was carried out on the Food and Beverage Industries in Nigeria. The study was based on a sample of Six (6) out of sixteen (16) companies in the Food & Beverage Sector in Nigeria. A total of sixteen food and Beverage companies were quoted in the Nigerian Stock Exchange with a market capitalization of Nine Hundred and Nine Billion Forty Million Naira Only (N909, 040, 000.00). These six companies were selected for the study due to availability of their Annual Reports and Accounts of year 2007 - 2011 in the Nigerian Stock Exchange.

The research work was designed in such a way that data was generated from the annual reports and Accounts (2007 - 2011) of these companies as part of the secondary data: they include: Honey Well Hour Mills Plc, Cadbury Nig. Plc, National Salt company Nig. Plc, Nestle Nig. Plc, Multi-Trex Integrated foods Plc, and UTC Nig. Plc.

The companies in the Food and Beverage Sector were chosen for the study because of their size and wide range of products which are all over the country. To the best of the researcher's judgment, the companies make a good representation of the manufacturing industry in Nigeria.

Data analysis as related to this research work involves a statistical tool in analyzing the data collected to form a basis for the hypotheses. For the test of hypotheses, a statistical non-parametric test called Analysis of Variance (ANOVA) was used because it measures or tests three or more independent means. The data are presented in the tables and the results together with the interpretation are presented below. The profitability variables are as follow:

Credit sales percentage (ESP), Gross Profit Margin (GPM), Net Profit Margin (NPM) and Return on Capital Employed (ROCE). While the Liquidity Variables are as follows: Debtors Collection Period (DCP), Debtors Turnover Ratio (DTR), Return on Current Assets (ROCA) and Acid Test Ratio (ATR).

a) Data Analysis

The date are presented in tables, collected from the annual reports and accounts of year (2007-2011) of the companies under study in the Food and Beverage sector. Data obtained were subjected to statistical analysis using Analysis of Variance (ANOVA).

Table 1 : Computed Credit Sales percentage and Profitability ratios of companies in the Food and Beverage sector (2007-2011)

Name of Company	CSP (%)	GPM (%)	NPM (%)	ROCE (%)
Honey-Well Flour Mills PLC.	3	11	5	13
Cadbury Nig. PLC.	7	26	5	11

National Salt Co. Nig. PLC.	7	31	19	36
Nestle Nig. PLC.	7	35	16	58
Multi-Trex Integrated Foods PLC.	8	27	18	15
UTC Nig. PLC.	7	34	13	21

Source : Annual Reports and Account of the Various Companies for year (2007-2011)

Where:

CSP = Credit Sales Percentage (Average Credit sales % for 5 years).
GPM = Gross Profit Margin (Average Gross Profit Margin for 5 Years).
NPM = Net Profit Margin (Average Net Profit Margin for 5 years).
ROCE = Return on Capital Employed (Average ROCE for 5 years).

Table 2 : Computed Liquidity and activity ratios of companies in the Food and Beverage sector (2007-2011)

Name of Company	DCP	DTR(%)	ROCA(%)	ATR
Honey-Well Flour Mills PLC.	9	25	29	1.38
Cadbury Nig. PLC.	7	29	30	1.25
National Salt Co. Nig. PLC.	8	28	31	1.66
Nestle Nig. PLC.	6	34	40	1.38
Multi-Trex Integrated Foods PLC.	4	31	34	1.32
UTC Nig. PLC.	3	35	31	1.33

Source : Annual Reports and Accounts of the Various Companies for year (2007-2011).

Where:

DCP = Debtor's collection period (Average collection period for 5 years).
DTR = Debtor's turnover ratio (Average DTR for 5 years).
ROCA = Return on current assets (Average ROCA for 5 years).
ATR = Acid test Ratio (Average ATR for 5 years).

b) Hypotheses Testing

i. *Hypothesis One*

Null Hypothesis (Ho): There is no significant relationship between effective management of credit sales and operating profit of the Food and Beverage Industries in Nigeria.

Alternative Hypothesis (H1): There is significant relationship between effective management of credit sales and operating profit of the Food and Beverage Industries in Nigeria.

The above hypothesis was tested using data presented in table 1.

Table 3 : Analysis on the relationship between credit sales and operating profit in the Food and Beverage Industries in Nigeria using ANOVA Statistical Tool

	Honey Nell Flour Mills PLC.	Cadbury Nig Plc	National Salt Co. Nig PLC	Nestle Nig PLC.	Multi-Trex Integrated Foods Plc.	UTC Nig PLC.	TOTAL
CSP	3	7	7	7	8	7	
GPM	11	26	31	35	27	34	
NPM	5	5	19	16	18	13	
ROCE	13	11	36	58	15	21	1.
$\sum X$	32	49	93	116	68	75	433
X	8	12.25	23.25	29	17	18.75	108.25
$\sum X^2$	324	871	2667	4894	1342	1815	11,913
… x2	64	150	541	841	289	352	2237

Source : Researcher's Field Work, 2012.

Grand Mean (X) $= \frac{\sum X}{n} = \frac{433}{24} = 18.04$

Total sum of squares (TSS) $= \sum X^2 = -\frac{(\sum X)^2}{n} = 11913 - \frac{(433)^2}{24}$

$= 11913 - 7812.04 = 4{,}100.96$

Treatment Sum of Squares (TRSS) $= M\ (\sum X^{-2} - j\underline{(\sum X)^2}]$

$= 6[2237 - 4\ [433]^2 = [2237 - 1953]$

$= 1{,}704$

Error Sum of Squares (ESS) = TSS - TRSS = 4100.96 -1704

= 2396.96

Table 4 : ANOVA

Source of Variation	Sum of Squares (SS)	Degree of Freedom DF	Mean Squares (MS)	F-Value (F5%, V, V2)
Treatment (Between Samples)	TRSS = 1704	r-1=4-1=3	$\frac{1704}{3} = 568$	$\frac{TRMS}{EMS}$
Error (Within Samples)	ESS = 2396.96	n-r=24-4=20	$\frac{2396.96}{20} = 119.85$	$\frac{=568}{119.85}$ =4.74
TOTAL	TSS = 4100. 96	n-1= 24-1 = 23		

Source : Researcher's Field Work, 2012.

From the above table, the calculated F Value is 4. 74 at 5% level of significant, V, =r-1=4-1=3, V2 = n-r=24 -4 = 20 $Fo._{05}, V_1, V_2$

Therefore, (Fo.05, 3, 20). Tabulated F Value is 3.10.

c) Interpretation/Decision

The result shows that the calculated Value of F (4.74) is greater than the Tabulated value of F (3.10) at 5% level of significance. Therefore, the researcher rejected the null hypothesis and accepted the alternative hypothesis. Thus, there is significant relationship between effective management of credit sales and operating profit of the companies in the Food and Beverage Sector in Nigeria.

i. *Hypothesis Two*

Null hypothesis (Ho): There is no significant correlation between liquidity position and debtors turnover of the companies in the Food and Beverage Sector in Nigeria.

Alternative Hypothesis (H1): there is significant correlation between liquidity position and debtors turnover of the companies in the Food and Beverage Sector in Nigeria.

The above hypothesis was tested using data presented in table 2.

Table 5 : Analysis on the correlation between liquidity position and debtors turnover in the Food and Beverage industries in Nigeria

Liquidity/Activity Variables	Honey Well Flour Mills Plc	Cadbury Nig. Plc	National Salt Co. Nig Plc	Nestle Nig. Plc.	Multi- Trex Integrated Foods Plc	UTC Nig. Plc	TOTAL
DCP	9	7	8	6	4	3	
DTR (%)	25	29	28	34	31	35	
RPCA (%)	29	30	31	40	34	31	
ATR	1.38	1.25	1.66	1.38	1.32	1.33	
$\sum X$	64.38	67.25	68.66	81.38	70.32	70.33	422
$\bar{X}$	16.10	16.81	17.17	20.35	17.58	17.58	106

$\sum x^2$	1548.90	1791.56	1811. 76	2793.90	2134.74	2196.77	12278
.... X2	259	282.66	294.64	413.92	309.06	309.14	1868

Source : Researcher's Field Work, 2012.

$$\text{Grand Mean } (X) = \frac{\sum X}{n} = \frac{422}{24} = 17.58$$

$$\text{Total Sum of Squares (TSS)} = \sum X2 - \frac{(\sum X)^2}{n} = 12278 - \frac{(422)^2}{24}$$
$$= 4857.83$$

$$\text{Treatment Sum of Squares (Trss)} = M\left[\sum X^2 - j\,\frac{(\sum X)^2}{N}\right]$$
$$= 6\,[1868 - 4\,(17.58)^2] = [1868 - 1236.23]$$
$$= 3{,}790.62$$

$$\text{Error Sum of Squares (ESS)} = \text{TSS} - \text{Trss}$$
$$= 4857.83 - 3790.62$$
$$= 1067.21$$

Table 6 : ANOVA

Source of variation (SOV)	Sum of squares (SS)	Degree of Freedom (DF)	Means Squares (MS)	F value $(Fx, V_1 V_2$
Between Samples (Treatment)	TRSS = 3790.62	r-1=4-1=3	TRSS $= \frac{3790.62}{4 \quad 3}$	$\frac{TRMS}{EMS}$
Within Samples (Error)	ESS = 1067.21	n-r=24-4=20	$\frac{ESS}{DF} = \frac{1067.21}{20}$	= 126
Total (TSS)	TSS = 4857.83	n-1=24-1=23		

Source : Researchers Field Work, 2012.

At 5% level of significant, Degree of Freedom V, = 3, V2 =20 the Tabulated Value of F is 3.10.

d) Interpretation/Decision

The table above, depicts that the calculated value of F (23.68) is greater than the tabulated value of F (3.10). Therefore, the researcher rejected the null hypothesis and accepted the alternative hypothesis.

Thus, there is significant relationship between liquidity position and debtors' turnover of the companies in the Food and Beverage Sector in Nigeria.

IV. Summary and Conclusion

Summary of findings: This research work has evaluated the impact of effective management of credit sales on profitability and liquidity of Food and Beverage Industries in Nigeria. From the analysis carried out in this study, the researcher summarizes his findings as follows:

Effective management of credit sales has a positive relationship with the operating profit of the companies in the Food and Beverage Sector. This implies that for companies to maximize their profit, they should grant credit to trustworthy customers with an appropriate credit control mechanism. It was also discovered that credit sales increase turnover and profitability in the domains of effective implementation of optimum credit policy in the firms.

It is now obvious that firms having optimum credit policy help in eliminating bad debts losses and other associated costs of credit.

There is significant relationship between liquidity position and debtors turnover of the companies in the Food and Beverage Sector in Nigeria. This implies that a favourable debtors turnover would result to favourable liquidity position. The high debtors turnover has a positive effect on the firm's ability to satisfy obligations to its own creditors. That is, tight debtors collection policy and procedure would minimize the problem of cash flow and liquidity. Due to the effective credit policy in these firms, their financial ratios indicate adequate working capital and liquid assets. The positive correlation between liquidity and debtors turnover signifies that as the debtors turnover rises, the liquidity position also rises.

There is need for companies to maintain adequate liquid assets and eliminate bad debt losses and other associated costs of credit.

The study also revealed that the objective of any firm's credit policy is to maximize profit of the firm and at the same time minimize costs associated with credit sales.

V. Conclusion

Based on the research findings of the study, the researcher draws the following conclusions.

The companies in the Food and Beverage Sector succeeds in their credit policy administration because they strike a correct balance (trade-off) between the total of opportunity costs/lost contribution and credit administration costs and bad debts losses at minimum which improves the overall profitability, efficiency and survival of the firms.

The companies in the Food and Beverage Sector maintain a desirable level of liquidity due to their optimum credit standards, terms, collection period and procedures; and they are regularly revisited and adjusted.

The Food and Beverage Industries maximized their operating profit due to effective management of credit sales. The operating profit of any firm is a function of sales or turnover.

Among the reasons for granting credit to customer are competition, market tool to expired sales, relationship with dealers, buyer's status, and requirements. Etc.

There is no particular recommended credit policy for organizations (Schilling, 1996); credit policy should therefore be established considering factors as the nature of the firm's business, its share of the market, its immediate external environment and level of competition.

VI. Recommendation

From the findings of this research, the following recommendations are made: Management of organizations should ensure the development of adequate and efficient credit policy for their organizations. In order to achieve desired results. Organizations should consider their mission, the native of their businesses, and their business environment before setting up a credit policy and the credit policy should not be disregarded after it is created.

Companies should intensify efforts to engage the services of factoring agents. This will reduce the incidence of bad debts losses and other associated costs of credit.

Companies should increases the rate of credit sales to trustworthy customers only despite the fact that credit sales is a marketing tool to maintain or expired sales.

Firms should monitor, review and adjust credit policy from time to time considering the nature of their business and mission.

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