RESEARCH ARTICLE

Specific Factors Influencing Trade Credit of Foods and Beverage Manufacturing Firms in Nigeria

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ABSTRACT

The study examined the specific factors influencing the trade credit of foods and beverages manufacturing firms in Nigeria from 2011 to 2020. The specific objectives are, to investigate the effect of firm sales, debt financing, retained earnings, and profit on accounts payable of foods and beverages manufacturing firms in Nigeria. A sample of 7 firms was drawn from a population of 34 manufacturing firms listed on the Nigeria Stock Exchange during the period. Secondary data were collected from the annual reports and financial statements of the firms while multiple regression analysis was used to analyze the data. The overall result suggests that the entire model is significant in explaining the account payable of the foods and beverage manufacturing firms in Nigeria. Specific results indicate that firm sales, retained earnings, and profit for the year positively and significantly determined accounts payable of foods and beverage manufacturing firms in Nigeria. Also, debt financing negatively, but insignificantly determined the accounts payable of the firms. Given these results, the study recommended that foods and beverage manufacturing firms in Nigeria should improve their sales by producing high-quality products. It was also recommended that the firms in the country should reduce the number of debts in their capital structure to access more trade credit which is cheaper and more convenient to obtain. It was further recommended that firms should implement a retention policy that will increase retained earnings. Such a retention policy will assist the firms to access trade credit from inventory suppliers. It was finally recommended that the firms should improve their profitability through an increase in revenue generation and cost reduction. Profitable firms are favorably considered by suppliers for trade credit as indicated in the findings of the study.

Keywords: Trade Credit; Foods and Beverage Manufacturing Firms; Nigeria

Introduction

Finance is the life wire of every organization, without which for-profit firms will find it difficult to achieve their main corporate objective of profit maximization and wealth creation for their investors. Firms. therefore, seek funding from various sources to fund their plants and machinery, inventories, and other short-term financial needs (Xiuli, 2011). However, information asymmetries, agency costs, and high flotation costs resulting from an undeveloped financial system led to limitations in accessing bank loans and equity funding. This compels firms to seek alternative sources of funding. One of the alternative sources of funding that resolves the problem of information asymmetry together with the costs of funding is trade credit (Ahmed, Xiaofeng & Khalid, 2014). One of the most viable alternative sources of finance for firms in an undeveloped financial system is trade credit which also constitutes a substantial component of firms' assets and liabilities as well as a reliable source of funds for small and medium-scale firms in developed economies (Olusola & Olusola, 2012).

Dary & Harvey (2020) described trade credit as a relationship between a supplier and a buyer When the supplier sells goods or services to a buyer and no immediate cash payment is received. To the supplier, the trade credit is account accounts receivable and to the buyer, it is an account payable. Different studies identify different determinants of trade credit. For example, Demirguc-Kunt & Maksimovic (2001) stated that the use of trade credit is influenced by the development of a country's legal and financial system. Therefore, in a country with an imperfect financial system, firms can suffer financial access limitations easily; therefore, the source of funds needed is shifted to suppliers who are non-financial institutions. Olusola & Olusola (2012) stated that depreciation provision, sales value, institutional loan, tangibility, and current assets are the determinants of trade credit in non-financial firms in Nigeria. Kim (2016) identifies, firm size, high leverage, and higher profits as the determinants of trade credit in Korean firms. This study examined, firm

sales, debt financing, retained earnings, and profit for the year as possible determinants of trade credit in manufacturing firms in Nigeria.

Hart (2020) defined firm sales as the amount realized by a firm from the sale of goods or services rendered in the ordinary course of its business. Sales or turnover are words that describe the amount of income that a firm receives from selling products from its normal business activities. Abosede (2021) defined debt financing as the extent to which a firm or investor is using the borrowed money to finance their business operations, be it long-term, short term or total debts.

Fernando (2021) defined retained earnings as the amount of net income left over for the business after it has paid out dividends to its shareholders. The decision to retain the earnings or distribute them among the shareholders is usually left to the company management. Umobong (2015) stated that profit for the year or profit after tax is the profit, after all, operating expenses and charges such as taxes, interest, depreciation, and amortization have been deducted from total revenue. Margaretha & Supartika (2016) stated that profitability is a core measure of the performance of a firm which constitutes an essential aspect of its financial reporting. Profit reveals the firm's ability and capacity to generate earnings at a rate of sales, level of assets, and stock of capital in a specific period. The independent variable of the study and proxy for trade credit is accounts payable. Coleman (2021) defines account payable as goods or services purchased on credit terms that need to be paid back in a short period at agreed terms and conditions.

Objectives of the Study

Finance is the life wire of every organization without which many firms will find it difficult to achieve their major objective of profit maximization and wealth creation for the shareholders of the firm. According to Packing Order Theory, firms prefer internal sources of funding to finance their growth and expedition. Where the internal source is not available, debt financing is the next option before equity funding which will be considered the last option. Some of the advantages of debt financing include, ownership is not diluted as current management retains full control of the firm, interest payments are tax-deductible, thus it taxes lower interest rate, and it improves business credit score among others.

However, due to the undeveloped financial system in Nigeria, financial institutions, particularly banks, give stringent conditions for granting loan facilities to firms. Firms are as a result of this forced to look for alternative sources of funding. One such alternative source of funding is trade credit. The importance of trade credit as an alternative source of funding prompted this study to examine the determinants of trade credit in listed manufacturing firms in Nigeria.

Objectives of the Study

The main objective of this study is to determine the specific factors influencing the trade credit of foods and beverages manufacturing firms in Nigeria. The specific objectives are to;

    I.   Investigate the effect of firm sales on accounts payable in foods and beverage manufacturing firms in Nigeria.
    II.   Ascertain the effect of debt financing on accounts payable in manufacturing firms in Nigeria.
    III.   Evaluate the effect of retained earnings on accounts payable in foods and beverage manufacturing firms in Nigeria.
    IV.   Assess the effect of profit on accounts payable in foods and beverage manufacturing firms in Nigeria.

Statement of the Hypotheses

The following hypotheses formulated in the null forms are in line with the specific objectives of the study;

    I.   Firms' sales do not significantly determine accounts payable in manufacturing firms in Nigeria.
    II.   Debt financing does not significantly determine accounts payable in manufacturing firms in Nigeria.
    III.   Retained earnings does not significantly determine account payable in manufacturing firms in Nigeria.
    IV.   Profit for the year does not significantly determine accounts payable in manufacturing firms in Nigeria.

Review of Related Literature
Conceptual Framework
Firm Sales

Brown (2010) describes sales or turnover as the amount of income or revenue realized by a firm from selling its products or services to clients from its normal business activities. Kennon (2017) states that sales revenue represents the amount of money a firm brought in during the period covered by the income statement which does not represent the profit of the business. The sales revenue is important because a business must bring in money to make a profit. If a firm has less revenue, all things being equal, it is going to make less profit. For start-up firms that have not made make a profit, revenue can sometimes serve as a gauge of potential profitability in the future. Hart (2020) says that firm sales could be gross sales or net sales. Gross sales encompass all receipts from the sale of goods or services by the firm and do not consider any subtractions for sales returns and allowances made to customers. Net sales, on the other hand, subtract sales returns and allowances made to customers from the gross sales revenue figure. Gross sales represent the actual number of sales that the firm realized during the period.

Ghozali, Handriani & Hersugondo (2018) state firms need to grow their sales to improve their financial performance. Sales growth represents an increase in sales from one year to the next. A firm's sales growth is influenced by both internal and external factors. Internal factors are those factors that come from within the firm that can affect the performance of the firm and can be controlled by the firm's management. They include management decisions to increase a firm's capital, the addition of labor, the determination of the proportion of retained earnings, mergers, acquisitions, the determination of debt for investment, managerial structure, and so on. The external factors, on the other hand, are those factors outside the firm that cannot be controlled by the firm's management such as; raw material prices, competitors' behavior, macroeconomic and political conditions, lending rates, business climate, and market structure. Positive external factors increase the firm's sales. Brown (2010) states that many firms make serious efforts to generate their sales revenue to increase their firm's performance. Many parameters can influence the magnitude of sales revenue, both from a financial and non-financial perspective. From the financial perspective, many things are believed to affect sales revenue, for example, financial expenses, market share, economic growth, price level, and others.

Debt Financing

Schwab (2017) says that debt financing occurs when a firm raises money for working capital or capital expenditures by borrowing from banks and individuals and/or institutional investors. Ravindra & Rao (2014) also state that debt financing is one of the ways firms choose to finance its assets and it represents the long-term debts, short-term debts and total debt debts in a firm's capital structure made up of the liability plus equity of the firm. Goswami & Shrikhande (2001) say that the majority of corporations looking for external financing options used debt financing rather than equity financing. Onoja & Ovayioza (2015) suggest that the selection of debt as a source of financing, it should be done in line with the cost benefits associated with the use of debts. Thus, costs, such as interest charges, bankruptcy costs, and agency costs should be weighed against the tax benefits of debt.

O'Brien & David (2010) identifies the advantages and disadvantages of debt financing on the growth of firms and for their strategic investments. The benefits or advantages of debt financing include the tax deductibility of interest and the reduction of free cash flow problems, while the costs of debt financing include potential bankruptcy costs and agency conflicts between stockholders and debt holders. Harwood & Cheruyoit (2015) also state that debt financing minimizes the time spent saving for investments and investors can realize potential earnings sooner to help offset the cost. It increases the flexibility of an investor's limited capital by allowing for its distribution over multiple investments and minimizing the immediate impact on operational cash flow. It provides an opportunity to finance potential investments while maintaining control of the firm. Nwaolisa & Chinjindu (2016) state that the major challenge with debt financing is the agreement that the firm has to pay back the debt as well as the interest charges and thus subjecting the firm to financial bankruptcy or distress This is especially as a proportion of the firm's cash flow must be dedicated to debt servicing.

Retained Earnings

Accounting Tool (2021) describes retained earnings are the profits that a firm has earned to date, less any dividends or other distributions paid to investors. A large retained earnings balance implies a financially healthy organization. A growing firm normally avoids dividend payments, so that it can use its retained earnings to fund additional growth of the business in such areas as working capital, capital expenditures, acquisitions, research and development, and marketing. It may also elect to use retained earnings to pay off debt, rather than to pay dividends. Another possibility is that retained earnings may be held in reserve in expectation of future losses, such as from the sale of a subsidiary or the expected outcome of a lawsuit.

Fernando (2021) states that retained earnings decrease when a firm either loses money or pays dividends, and increase when new profits are created. Profits give a lot of room to the business owner(s) or the firm management to use the surplus money earned. This profit is often paid out to shareholders, but it can also be reinvested back into the company for growth purposes. The money not paid to shareholders counts as retained earnings. Retained earnings can be invested to expand the existing business operations, like increasing the production capacity of the existing products or hiring more sales representatives. It can be invested to launch a new product/variant, like a refrigerator maker foraying into producing air conditioners, or a chocolate cookie manufacturer launching orange- or pineapple-flavored variants. It can be used for any possible merger, acquisition, or partnership that leads to improved business prospects. It can also be used for share buybacks or to repay any outstanding loan (debt) the business may owe.

Profit for the Year

Kenton (2020) describes profit for the year or profit after tax as the financial benefit realized when the revenue generated from a business activity exceeds the expenses, costs, and taxes involved in sustaining the activity in question. Firm managers will choose to either distribute the profit to shareholders as a dividend or reinvest it back into the business. Profit is calculated as total revenue earned by the business fewer total expenses. The three major types of profit are gross profit, operating profit, and net profit, all of which can be found on the income statement. Each profit type gives analysts more information about a firm's performance, especially when it's compared to other competitors and time periods. Gross profit looks at profitability after direct expenses, and operating profit looks at profitability after operating expenses. Net profit is the income left over after all expenses, including taxes and interest, have been paid.

Gitman & Zutter (2012) state that profit maximization is a very crucial objective for a firm to remain in business and to withstand competition from firms operating in a similar industry. It is a major pre-requisite for the long-term survival and success of a firm while it is a key pre-condition for the achievement of other financial goals of a business entity. Khan & Ali (2016) opine that profit is viewed as revenues earned by firms, against their operations and incurred expenses. In order to ascertain the profitability level of firms, profitability ratios are used, whereby it can clearly be examined where the firm stands in terms of profitability. Profitability maximization is the ultimate purpose of every firm, and each firm strives to achieve optimum profitability. Olaoye, Adekanbi & Oluwadare (2019) assert that profitability evaluates the effectiveness and efficiency with which equipment, plant, and current assets are transformed into profits. It reveals how working capital has been effectively managed. Profitability, which could be determined through Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NMP), and Profit after Tax (PAT), means a firm's ability to generate a satisfactory return on invested capital through which shareholders are happy and prospective investors are motivated to invest.

Trade Credit

Thankur & Vaigya (2021) defines trade credit as the credit which is extended to a buyer of the goods or services by the suppliers whereby the supplier allows the customer to take delivery of the goods or services on the account without upfront payment. The due money can be paid at a later date as agreed in the term of the sale between the parties involved. Thus, trade credit occurs any time a customer takes delivery of materials, equipment, or other valuables without paying cash on the spot. For many businesses, trade credit is an essential tool for financing growth. However, suppliers most likely are not going to offer trade credit to starters. Instead, the supplier will want the starter to make every order in cash or check on delivery or pay by credit card in advance until the supplier can establish that the customer can settle bills on time. Henricks (2020) also states that trade credit is an arrangement that allows a business to acquire goods or services from another business without making an immediate payment.

To the seller, it is an account receivable and to the buyer, it is an account payable. This ability to buy now and pay later is an important financing tool for businesses, especially those new and small businesses that cannot afford immediate bank loans. Trade credit is essentially a short-term loan without interest. When discounts for faster payment and penalties for late payments are taken into consideration, however, trade credit can still cost the buyer more than other kinds of financing. Fernando & Mulier (2012) state that trade credit is an important source of finance for firms, especially when firms find it difficult to obtain external funding from financial institutions. In general, the flows of trade credit have remained a stable source of finance for firms but tended to decline when bank credit was becoming easily accessible.

Account Payable

Kappel (2020) describes accounts payable as a liability due to a particular creditor when it orders goods or services without paying immediate cash. Account payable is a liability which must be recorded under the current liabilities in the statement of financial position of the firm. The phrases "accounts payable" and "trade payables" are used interchangeably in the business cycle, but they are not exactly the same thing. Trade payables constitute the money a firm owes its vendors for inventory-related goods, such as business supplies or materials that are part of the inventory of firm. Accounts payable on the other hand include all of the firm's short-term debts or business obligations whether they are related to the firm's inventory or not. Zipporah (2019) states that accounts payable are regarded as a source of free credit since either good have been supplied or services rendered but payment will be made at a later date. Where organizations have financial constraints to procure raw materials or pay business services, can utilize accounts payable as a source of external sources of finance to improve the production line. Okpe & Duru (2015) say that a firm's total accounts payable balance at a specific point in time will appear in the statement of financial position under the current liabilities section. Accounts payable are debts that must be paid off within a short period to avoid default. At the corporate level, accounts payable refers to short-term debt payments due to suppliers. If a firm's account payable increases over a prior period, it implies that the firm is buying more goods or services on credit terms, than it is paying cash. On the other hand, if a firm's accounts payable decrease, it indicates that the firm is paying its prior period debts at a faster rate than it is purchasing new items on credit terms. Thus, accounts payable management is critical in managing a business's cash flow.

Theoretical Framework

This study is anchored on the Transactions Costs Theory developed by Petersen & Rajan in 1997.

Transactions Costs Theory

This theory was developed by Petersen & Rajan in 1997. Petersen & Rajan (1997) argue that information acquisition is the main source of trade credit cost advantages. In fact, suppliers have a better capacity to get information about buyers than traditional lenders (Schwartz, 1974). The occurrence and the number of buyers' orders give suppliers information on the creditworthiness of their clients (Bellouma, 2011). For example, the buyer's denunciation of discounts for early payment alerts the supplier about the weak creditworthiness of the buyer and its potential financial difficulties. The second source of cost advantage arises from the threatening power of the seller compared with a financial institution. When the repayment chance is reduced, sellers can threaten buyers to cut off future supplies. This power becomes stronger when the buyers have limited alternative suppliers of the product needed or when they represent only a small part of the seller's turnover (Kandori, 1992).

Besides, in case of a buyer default, the seller can reclaim value by seizing goods that are supplied. Financial institutions can salvage value from existing assets as well. However, the supplier repossesses and sells goods at a low cost since he often trades in the same industry as the buyer and already uses the same channel. Accordingly, to this cost advantage, Mian & Smith (1992) note that the trade credit offered is as greater as the goods supplied provide better collaterals. Petersen & Rajan (1997) support that the more the buyer transforms goods, the lower the advantage of the seller compared to financial institutions will be. Finally, trade credit is a flexible operational tool. Indeed, when demand fluctuates, the company may adjust price or production. Nevertheless, as advanced by Emery (1984), this traditional adjustment is costly and can be replaced by a change in trade credit terms. More precisely, terms can be relaxed or tightened in proportion to the demand. According to the transaction cost theory, trade credit exists in order to reduce costs related to the exchange relationship between the buyer and the seller.

Empirical Review

Abuhommous and Almanaseer (2021) studied the impact of financial and trade credit on the firm market value of US-listed companies for the period between 2003–2017. In view of this, a research sample of 2100 US-listed firms were selected for the study. This study employs data from CRSP/Compost at files for the period from 2003 to 2017 and applies a panel data analysis. Findings suggest that a positive relationship exists between trade credit and the firm's market value, however, the results show a negative relationship when the impact of financial credit on the firm's market value was tested. The implication of this finding is that using trade credit as a source of financing may give a positive signal of the firm's creditworthiness and increase the firm's market value. Also, the results indicate that the benefits of using trade credit may outperform the cost of using it as a source of finance.

Bussoli and Conte (2020) investigated the effect of trade credit on firm profitability of firms listed in Italy during the period from 2008 to 2016. Moreover, the analysis aims to investigate whether trade credit offered at a higher level than the sector average can contribute to the profitability of firms. Finally, it aims to test whether the profitability connected to granting trade credit is higher for unconstrained and financially sound companies. The empirical analyses are conducted on a sample of Italian firms, over the period 2008-2016. Time series data were obtained from the selected firms and analyzed using panel data regression analysis. The results show the contribution of trade credit to the profitability of Italian companies. The empirical analysis also suggests that firms might improve their profitability by increasing investments in trade receivables to a greater extent than firms in their business sector. Finally, the greater use of payables to suppliers and the higher incidence of bank debt reduces the contribution of accounts receivable to the profitability of firms.

Duliniec and Świda (2021) studied factors influencing the use of trade credit in financing Polish listed firms. The study is based on the financial data of companies listed on the Warsaw Stock Exchange from 2002–2018 which are members of the WIG Index. The time series data extracted from the firms were analyzed using a fixed effect model of panel data regression analysis. The findings show that the following factors have the most pronounced influence on the use of trade credit: trade payables in the previous period, trade receivables, long-term debt, liquidity, and short-term debt. Both long-term and short-term debt financing and trade payables are substitutes for Polish-listed firms. Lower liquidity and higher trade receivables are related to higher use of trade credit.

Ying; Yang and Hassan (2019) examined trade credit financing and sustainable growth of firms in China during the period from 2003 to 2017. The sample comprised financial statement data of 20,089 Chinese A-share listed firms over the period 2003 to 2017. The study adopted regression analysis using the cross-section regression method and employing the two-stage instrumental-variable regression method in the endogeneity test. Results of the analysis indicate that trade credit has an overall positive and significant impact on the sustainable growth of Chinese firms, especially for firms with higher internal control ability. It was also found that trade credit financing contributes more to sustainable growth, and the same way with private enterprises, whose growth depends more on trade credit compared to state-owned firms. The study equally observed that the link between trade credit financing and the sustainable growth of a firm is stronger in areas with lower access to finance, suggesting that firms with higher dependence on trade credit financing exhibit higher rates of sustainable growth in areas with weaker financial institutions.

Farooq; Ahmed; Ashfaq and Tabash (2021) studied the impact of trade credit on a firm's financial performance and how this effect diversifies when enterprises acquire bank loans to finance the trade credit channel. The sample consists of 6,654 non-financial-sector firms from 12 Asian economies. Time series data were collected from the selected firms and analyzed using the fixed-effects model to estimate the regression. The finding provides consistent evidence that the firms that adjust their trade credit activities through bank financing perform better financially. Acquisition of bank loans to expand trade credit activities is a healthy financial activity because it provides financial setbacks in case of any fluctuation in trade credit. However, acquiring bank loans when firms have no operational need for such types of funds can disturb their financial health. The analysis provides novel evidence that efficient usage of bank loans in physical business activities can intensify the financial efficiency of corporate firms. The analysis also provides financial guidance to corporate managers that before entering into any trade credit terms, they should ensure the availability of bank loans because it provides a strong financial pace against any financial shock.

Kim (2016) explored the determination of trade credit in Korean firms from 1992 to 2011. A total of 763 non-financial firms listed on the Korean Stock Exchange during the period were sampled for the study. Panel data regression analysis and t-test were the major statistical tool of analysis adopted for the study. The total number of observations

resulting from the panel data analysis during the period was 14,660. The result of the analysis indicates that older firms with the larger size, lower growth, and higher profits tend to extend accounts receivable. Findings further reveal that firms with larger sizes and greater leverage, as well as young firms, appear to use accounts payable.

Abuhommous (2017) investigated the relationship between the investment in accounts receivable and firms' profitability in Indonesia during the period from 1999-2015. In addition, the study investigated the impact of trade credit motives (commercial, operational, and financial) on the relationship between accounts receivable and profitability. The dependent variable of this study is firms' profitability proxied with return on assets while the main independent variable of this study is an investment in accounts receivable. Other independent variables are firms' size, growth, debts gross domestic product. The sample consists of panel data set consisting of 144 firms, with 1,330 firm-year observations. Descriptive statistics, correlation analysis, and panel data regression analysis were used to analyze the data collected from the sampled firms. The results show that firms can increase their profitability by investing in accounts receivable; this effect is greater in firms with highly volatile demand. Findings also show that firms that invest higher than the average firms in the industry are more profitable.

Achode and Rotich (2016) targeted 16 manufacturing firms listed on the Nairobi Stock Exchange from e2009 to 2013 to investigate the effects of accounts payable on the financial performance of manufacturing firms listed in Kenya. A purposive sampling technique was used to select 15 firms out of the 16 for the study. Secondary data were obtained from the sampled firms while multiple regression analysis was used to analyze the data. Results suggest that a direct positive relationship exists between accounts payable and profitability (proxied with return on assets, gross profit margin, and net profit margin) and Liquidity (proxied with current ratio and quick ratio), supporting the Pecking Order hypothesis.

Methodology

The study will adopt an *ex-post facto* research design. This implies that the data used for the study were already in existence before the study was conducted. Thus, the data for the study were collected from the annual reports and financial statements of the selected listed manufacturing during the period of 2010 to 2019. This study was conducted in Southeast Nigeria. In particular, it was conducted on the manufacturing firms listed on the Nigeria Exchange Group. The population of this study is the 34 manufacturing firms listed on the Nigeria Exchange Group during the period of study. Seven manufacturing firms were sampled for the study using the purposive sampling method. Only manufacturing firms with debts in their capital structure were considered in the sample. Firm sales, debt financing, retained earnings and profit for the year are the independent variable while the account payable is the dependent variable and proxy for trade credit. Multiple regression analysis and t-statistics were used to analyze the data collected for the study. The multiple regression analysis and the T-statistics were used in testing the null hypothesis formulated for the study. Adjusted R-Square was also used to determine the extent by which the independent variables (firm sales, debt financing, retained earnings and profit for the year) explain the dependent variable (account payable).

Model Specification

The following model was developed in line with the specific objectives of the study:
$$ACCP = f(\beta_0 + \beta_1 FSLS + \beta_1 DETF + \beta_1 RTDE + \beta_1 PRFY + \varepsilon)$$
Where:
ACCP = Account Payable
FSLS = Firm Sales
DETF = Debt Financing
RTDE = Retained Earnings
PRFY = Profit for the Year
B = Beta
ε = error term

Data Presentation

The study examined the determinants of trade credit in manufacturing firms in Nigeria. In order to conduct the study secondary data were collected from the annual reports and financial statement of the selected manufacturing firms listed in Nigeria Stock Exchange during the period. The data are presented in tables 1.

Table 1: Raw Data from the Selected Firms

FIRMS	YEAR	SALES REVENUE N (000)	DEBT FINANCING N (000)	RETAINED EARNINGS N (000)	PROFIT FOR THE YEAR N (000)	ACCOUNT PAYABLE N (000)
1. UNILEVER	2010	46,827,860	730,809	6,265,368	4,180,620	3,655,744
	2011	54,724,749	38,500	7,697,650	5,491,076	4,823,550
	2012	55,547,798	4,527,275	7,896,863	5,597,613	5,430,776
	2013	60,004,119	6,380,500	7,410,556	4,806,907	6,702,522
	2014	55,754,309	16,776,746	5,541,442	2,412,343	5,083,218
	2015	59,221,748	12,553,270	6,065,887	1,192,366	6,280,820
	2016	69,777,061	20,915,551	9,752,577	3,071,885	8,173,171
	2017	90,771,306	674,298	16,223,062	7,450,085	8,135,087
	2018	92,899,969	4,176	23,104,230	10,522,140	13,138,613
	2019	60,486,835	705,720	6,843,037	(7,419,674)	10,396,263
2. GUINESS	2010	109,366,975	1,298,655	28,619,755	13,736,359	6,946,570
	2011	123,663,125	-	34,476,108	17,927,934	12,461,032
	2012	126,288,184	4,928,916	36,265,956	14,671,195	12,280,193
	2013	122,463,538	15,601,972	36,306,239	11,863,726	20,889,579
	2014	109,202,120	10,857,758	35,328,845	9,573,480	20,404,418
	2015	118,495,882	20,690,076	38,608,504	7,794,899	17,669,293
	2016	101,973,030	38,267,988	31,946,315	(2,015,886)	18,167,963
	2017	125,919,817	41,922,799	33,228,725	1,923,720	20,514,653
	2018	142,975,792	16,576,480	39,045,954	6,717,605	20,029,198
	2019	131,498,373	19,926,624	40,518,242	5,483,732	20,717,912
3. NBL	2010	185,862,785	95,308	34,732,984	20,382,118	21,444,712
	2011	211,071,804	47,108,180	69,860,887	38,050,756	44,708,508
	2012	252,674,213	45,000,000	84,946,036	38,042,714	44,619,713
	2013	268,613,518	9,000,000	103,959,751	43,080,349	47,821,328
	2014	266,372,475	24,900,380	102,733,836	42,520,253	51,162,452
	2015	293,905,792	22,214,988	102,953,109	38,056,123	25,733,559
	2016	313,743,147	17,870,611	96,319,782	28,416,965	39,597,344
	2017	365,798,057	8,470,930	99,633,677	33,048,559	38,898,324
	2018	350,226,472	42,597,375	88,124,843	19,437,009	44,660,027
	2019	323,007,470	55,719,531	89,294,198	16,105,912	35,386,524
4. NESTLE	2010	82,726,000	26,906,581	14,316,327	12,602,000	3,982,299
	2011	97,961,260	36,482,598	22,704,491	16,496,453	7,293,394
	2012	116,707,394	27,014,047	33,707,429	21,137,275	9,327,832
	2013	133,084,076	27,992,331	40,139,626	22,258,279	29,066,050
	2014	143,328,982	30,353,608	35,466,416	22,235,640	13,207,427
	2015	151,271,526	29,944,188	37,428,018	23,736,777	9,240,551
	2016	181,910,977	50,669,298	30,323,005	7,924,968	10,638,818
	2017	244,151,411	24,191,997	44,302,351	33,723,730	14,209,270
	2018	266,274,621	8,341,630	49,637,108	43,008,026	27,086,058
	2019	284,035,255	13,211,347	45,005,964	45,683,113	47,210,454
5. UAC	2010	52,313,682	27,593,881	13,482,386	5,450,802	5,373,620
	2011	63,588,189	33,893,887	30,023,236	10,202,167	6,623,553
	2012	69,632,321	30,265,344	32,102,641	7,102,951	5,167,653
	2013	78,714,437	26,195,634	38,012,545	9,902,858	5,924,080
	2014	85,654,346	28,295,145	40,048,438	10,944,795	5,751,243
	2015	73,145,987	25,648,192	39,670,420	5,184,671	5,948,741
	2016	82,572,262	29,796,434	41,500,304	6,293,695	4,897,420

	2017	89,178,082	25,109,447	46,807,786	1,324,387	6,884,745
	2018	40,473,640	24,172,361	37,796,850	(9,530,145)	6,843,729
	2019	79,202,140	6,446,520	29,997,824	(9,257,642)	5,003,051
6. VITA FOAM	**2010**	10,624,462	1,295,200	1,816,186	512,783	789,580
	2011	14,520,780	3,361,160	2,137,422	518,850	1,772,872
	2012	14,479,781	3,481,084	2,195,465	501,594	1,945,999
	2013	16,808,851	3,684,635	2,407,164	389,375	2,890,918
	2014	16,709,946	3,987,558	2,807,274	392,760	4,142,122
	2015	16,853,042	4,385,850	3,092,017	(71,981)	4,127,255
	2016	13,569,873	6,147,887	2,565,726	(32,032)	2,051,725
	2017	17,695,820	5,911,721	2,387,180	(127,690)	3,112,373
	2018	19,534,101	7,417,977	2,851,081	601,923	2,860,701
	2019	22,283,163	3,433,293	4,658,091	2,386,708	1,957,254
7. HONEYWELL	**2010**	33,528,011	4,401,663	3,083,518	1,175,922	808,160
	2011	34,057,624	3,666,951	4,703,593	2,492,397	1,753,673
	2012	38,052,227	16,078,411	6,588,874	2,693,975	4,421,252
	2013	45,709,382	21,589,118	8,125,943	2,843,520	975,676
	2014	55,084,305	37,083,250	10,178,108	3,352,564	814,490
	2015	49,057,511	26,176,568	9,888,694	1,120,267	775,338
	2016	50,883,780	26,993,100	5,935,459	(3,023,853)	1,847,807
	2017	53,227,891	30,789,522	41,907,525	4,304,955	1,240,177
	2018	71,476,319	35,084,934	45,964,524	4,426,978	979,769
	2019	74,409,113	33,726,562	46,240,829	68,368	1,487,841

Source: Author's Compilation 2021

Data Analysis

The data collected were analyzed using multiple regression analysis and the results presented in tables 2 and 3. Table 2 is the model summary while Table 3 presents the multiple regression analysis.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.901(a)	.857	.815	1075.17754

a Predictors (Constant): FSLS, DETF, RTDE and PRFY
Source: SPSS Output

The model summary in table 2, indicates that the adjusted coefficient of determination (R-Square) is 0.815. This result suggests that 82% of the variation in account payable of the selected manufacturing firms in Nigeria is explained by the independent variables (firm sales, debt financing, retained earnings and profit for the year) while the remaining 18% is explained by error margin and other variables not captured in the model. Based on this result, it can be stated that the independent variables of the firms adequately explained the variations in the account payable of manufacturing firms in Nigeria during the period.

Table 3: Regression Coefficients					
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	21.3267	101.5102	1.2056	3.2878	.1189
	FSLS	.7060	12.2010	.3071	2.5259	.0134
	DETF	-.2257	10.8561	-.1792	-1.7780	.3125
	RTDE	.4471	11.2087	.3594	2.8324	.0351
	PRFY	.6450	31.4521	.5023	2.9150	.0227

a. Dependent Variable: ACCP

Source: SPSS output

Test of Hypotheses

Multiple regression analysis was used to analyze the data collected from the firms and also to test the four null hypotheses formulated for the study. When the multiple coefficients of the variables are replaced in the regression model, the equation can be restated as: $ACCP = 0.7060FSLS - 0.2257DETF + 0.4471RTDE + 0.6450PRFY + \varepsilon$

Decision rule:

Level of significance (α) = 0.05. Reject the null hypothesis if the significant value in the correlation coefficient is less than the level of significance (0.05), otherwise accept the null hypothesis. In line with this decision rule, the results of the test of hypotheses are hereby presented below:

Test of Hypothesis One:

H_0: Firms sales does not significantly determine account payable in manufacturing firms in Nigeria.
H_1: Firms sales significantly determine account payable in manufacturing firms in Nigeria.

Table 2 indicates that the significant value of firm sales (FSLS) in the regression model is 0.0134, which is significant at 0.05 level of significance (0.0134<0.05). Therefore, we reject the null hypothesis and accept the alternative that firm sales significant determine account payable in manufacturing firms in Nigeria.

Test of Hypothesis Two:

H_0: Debt financing does not significantly determine account payable in manufacturing firms in Nigeria.
H_1: Debt financing significantly determine account payable in manufacturing firms in Nigeria.

It could also be observed from table 2 that the significant value of debt financing (DETF) in the regression model is 0.3125, which is not significant at 0.05 level of significance (0.3125>0.05). Therefore, we accept the null hypothesis that debt financing does not significant determine account payable in manufacturing firms in Nigeria.

Test of Hypothesis Three:

H_0: Retained earnings does not significantly determine account payable in manufacturing firms in Nigeria.
H_1: Retained earnings significantly determine account payable in manufacturing firms in Nigeria.
Table 2 equally shows that the significant value of retained earnings (RTDE) in the regression model is 0.0351, which is significant at 0.05 level of significance (0.0351<0.05). Thus, we reject the null hypothesis and accept the alternative that retained earnings significant determine account payable in manufacturing firms in Nigeria.

Test of Hypothesis Four:

H_0: Profit for the year does not significantly determine account payable in manufacturing firms in Nigeria.
H_1: Profit for the year significantly determine account payable in manufacturing firms in Nigeria.

Table 2 also disclose that the significant value of profit for the year (PRFY) in the regression model is 0.0351, which is significant at 0.05 level of significance (0.0227<0.05). Therefore, we reject the null hypothesis and accept the alternative that profit for the year significant determine account payable in manufacturing firms in Nigeria.

Discussion of Findings

Finding One: Test of hypothesis one indicates that the null hypothesis was rejected while the alternative was accepted. This suggest that firm sales significantly determine account payable in manufacturing firms in Nigeria. The regression table also shows that the coefficient of firm sales in the regression model is 0.7060. This implies that firm sales positively determine account payable in manufacturing firms in Nigeria. Based on these results it can be stated that firm sales positively and significantly determine account payable in manufacturing firms in Nigeria during the period. This result is consistent with the findings of Olusola & Olusola (2012) who concluded that trade credit use is

influenced by depreciation provision, firm sales, institutional loan, tangibility and current assets of non-financial firms. Nguyen (2011) who found the existence of a positive and significant relationship between firm sales growth and trade credit provision in Vietnam. No study reviewed appears to be inconsistent with this result.

Finding Two: Test of hypothesis two shows that the null hypothesis was accepted, thus suggesting that debt financing does not significantly determine account payable in manufacturing firms in Nigeria during the period. Table 3 equally indicates that the coefficient of debt financing in the regression model is -0.2257. This means that debt financing negatively determines account payable in manufacturing firms in Nigeria. In view of these results, it can be said that debt financing negatively and insignificantly determines account payable in manufacturing firms in Nigeria during the period. This result is consistent with Couppey-Soubeyran & H´ericourt (2011) who found that the difficulty of gaining access to bank credit positively influences the use of trade credit in Morocco. Okpe & Duru (2015) who found that debt ratio had positive but non-significant effect on profitability. This result is, however, inconsistent with the finding from Rahman, Roza, & Cepel (2018) who observe that firms having an overdraft facility from banks use more trade credit.

Finding Three: Test of hypothesis three disclose that the null hypothesis was rejected while the alternative was accepted, suggesting that retained earnings significantly determine account payable in manufacturing firms in Nigeria. Table 3 equally also shows that the coefficient of retained earnings in the regression model is 0.4471. This indicates that retained earnings positively determine account payable in manufacturing firms in Nigeria. In the light of these results, it can be stated that retained earnings positively and significantly determine account payable in manufacturing firms in Nigeria during the period. This result is consistent with the findings of Deari, & Bǎrbuţǎ-Mişu (2013) who observed that profitability, cash ratio and sales were statistically significant determinants of trade credit in Zagreb. No study reviewed appears to be inconsistent with this result.

Finding Four: Test of hypothesis four shows that the null hypothesis was rejected while the alternative was accepted, implying that profit for the year significantly determine account payable in manufacturing firms in Nigeria. Table 3 also shows that the coefficient of profit for the year in the regression model is 0.6450. This indicates that profit for the year positively determine account payable in manufacturing firms in Nigeria. Based on these results it can be said that profit for the year positively and significantly determine account payable in manufacturing firms in Nigeria during the period. This result is consistent with the findings of Deari (2015) who observed that in Macedonian, more profitable firms with high current assets and cash ratio have positive relationship with trade credit. Kapkiyai & Mugo (2015) found that trade credit positively affected liquidity, profit margin and return on assets of the SMEs in Kenya. Deari, & Bǎrbuţǎ-Mişu (2013) who observed that profitability, cash ratio and sales were statistically significant determinants of trade credit in Zagreb. Achode & Rotich (2016) who found that a direct positive relationship exists between accounts payable and profitability (proxied with return on assets, gross profit margin and net profit margin). The result is, however, inconsistent with the findings of: Hoang, Xiao & Akbar (2019) who found that trade credit receivable and trade credit payable are inverse related with the profitability of Small and Medium Scale Enterprises in Malaysia. Okpe & Duru (2015) who found that accounts payable ratio had negative significant effect with the profitability ratio.

Summary of Findings

Based on the data analysis, findings and discussions, we summarize the findings of the study as follows:

   I.   Firm sales positively and significantly determine account payable of manufacturing firms in Nigeria. The implication of this result is that suppliers will be disposed to grant more trade credit to customers will good sales.
   II. Debt financing negatively and insignificantly determine account payable of manufacturing firms in Nigeria. The implication of this finding is lack of access to debt financing increases firms' demand for trade credit.
   III. Retained earnings positively and significantly determine account payable of manufacturing firms in Nigeria. The implication of this result is that suppliers tend to grant more trade credit to firms with high retained earnings than to firms with low or negative retained earnings.
   IV. Profit for the year positively and significantly determine account payable of manufacturing firms in Nigeria. The implication of this result is that inventory suppliers are more disposed to grant trade credit to profitably firms than to firms that incur losses.

Conclusion

The study explored Assessment of the determinants of trade credit in manufacturing firms in Nigeria from 2010 to 2019. In order to conduct the study, 7 manufacturing firms listed on the Nigeria Stock Exchange during the period were sampled for the study. Firm sales, debt financing, retained earnings and profit for the year were used as the independent variables and possible determinants of trade credit while account payable was used as the dependent variable and proxy for trade credit. Secondary data were collected from the annual reports and financial statements of the selected manufacturing firms listed on Nigeria Stock Exchange during the period. Multiple regression analysis was used to analyze the data collected. Overall result from the analysis indicate that the independent variables were significant in explaining the variation in account payable of the listed manufacturing firms in Nigeria during the period. Specific results from the analysis suggests that, firm sales, retained earnings and profit for the year positively and significantly determine account payable of the manufacturing firms during the period. Also, debt financing negatively, but insignificantly determines account payable of the firms during the period.

Recommendation

Based on the findings, discussions and conclusion of this study, we recommend that:

I.   Manufacturing firms in Nigeria should improve its sales through high quality products and sale promotion so as to access trade credit funding from inventory suppliers.
II. Manufacturing firms in the country should also reduce the proportion of debts in their capital structure so as to access more trade credit which is cheaper and more convenient to obtain.
III. Manufacturing firm managers should implement retention policy that will increase retained earnings. Such retention policy will assist the access trade credit from inventory suppliers.
IV. The manufacturing firms should improve their profitability through increase in revenue generation and cost reduction. Profitable firms are usually favorably considered by suppliers for trade credit as indicated in the findings of the study.

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