



## CASH CONVERSION CYCLE AND VALUE OF LISTED AGRICULTURAL FIRMS IN NIGERIA

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### Abstract

Cash conversion cycle is a vital component of the firm that requires proper planning and management which involves decisions about different aspects of cash investment, maintenance of certain level of inventories and managing of account receivable and payable. The study examines the effect of cash conversion cycle on firm value of listed agricultural firms in Nigeria. Payable payment period, receivable collection period and inventory turnover were used to proxy cash conversion cycle; while firm value is proxied with Tobin's Q. The study concentrated on the period from 2010 to 2019. Secondary data was used in other to collect the secondary source of data from the individual financial reports of the listed agricultural sectors. The sample adopted four (4) listed agricultural firms out the five (5) in Nigeria due to the unavailability of data. The study employed regression model to estimate the relationship between cash conversion cycle and firm value. The result shows that payable period has a significant effect on the firm value. The study recommends that the management should seek to delay longer period of account payable. Therefore, the Agricultural companies in Nigeria should try and maintain an adequate period of settling their suppliers in order to avoid negative effect on the company's value. Also, a mechanism should be put in place that will enable debtors settle their accounts on time so as to have a balanced receivable collection period. Finally, the agricultural firms should also seek knowledge on the use of stock optimization techniques so as to be able to determine right quantities of stocks to hold.

**Keywords:** Cash conversion cycle, Payable period, Receivable period, Inventory days, Firm value, Listed Agricultural Firms.

### 1. Introduction

In a bid to diversify the Nigerian economy from an oil-based economy to an agric-based economy, the past and the present administration over the years have churned out policies to ensure that the agric-sector becomes a significant contributor to the Nigeria economy. These reforms by the past and present administration are expected



to enhance the profitability of the agricultural firms in order to boost the output and also encourage more investors into the agriculture sector. The agricultural sector produces products whose shelf life is short and in order for the firm to prevent losses; it has to sell all its products within a short time frame in order to prepare for the next planting season.

The working capital management of a firm is one of the delicate roles of the financial manager as it ensures the smooth running of the organisation. Cash conversion cycle is used as a comprehensive measure of working capital management, for the smooth running of the business enterprise. Firms should be able to determine the optimum working capital requirement and maintain the same throughout the operating cycle. Having either excess or under working capital affects the liquidity and profitability of an organization adversely. One of the most efficient ways of measuring working capital is through the cash conversion cycle (CCC). Eljelly (2004) posits that effective working capital management will eliminate the risk of inability to meet short term obligations on the one hand and avoid excessive investment on these assets on the other hand which would affect the firm's value in the long run.

Cash conversion cycle (CCC) is one of key aspects of corporate financial management, primarily focusing on decisions regarding the amount and structure of current assets and current liabilities. Cash conversion cycle is an utmost dynamic dimension of the time among cash payment for raw constituents and then receiving it as accounts receivables. Among the working capital components, the cash conversion cycle is the most dynamic (Lalah, 2018).

Previous studies of Appuhami (2008), Iqbal, Manzoor, Akhtar and Amin (2020) have instituted that cash conversion cycle is the vital component of the working capital management. Cash conversion cycle is well-thought-out to be all-inclusive measure of working capital management for the reason that it efficiently reflects the time lag amongst the spending of raw materials founded on procurement and the assemblages from the borrowers on behalf of the sales of finished goods (Padachi, 2006). When the cash conversion cycle has longer time span, the company make more investment in working capital. When cash conversion cycle has shorter span, it would upsurge the profitability as it entails the increased sales (Attari, 2012). Though, when the investment rate has increased in working capital more than the profits connected with more inventories, it would decline cash conversion cycle.

With all the reforms by the past and present administration in Nigeria to improve the agricultural sector and enhance its profitability and knowing the vital role cash conversion cycle plays in the performance of any firm, the investors' confidence is yet



to be regained with less market share price and also large importation of agricultural products which has caused high inflation rate of over 12%. The main objective is to examine the effect of cash conversion cycle on value of the five (5) listed agricultural firms in Nigeria. The firms are Ellah lakes, FTN cocoa processor; livestock feeds Nigeria, Okomu oil palm and Presco oil. Sequel the main objective of the study, the following hypotheses was tested:

**H<sub>01</sub>:** Receivable collection period has no significant effect on value of listed agricultural firms in Nigeria.

**H<sub>02</sub>:** Payable payment period has no significant effect on value of listed agricultural firms in Nigeria.

**H<sub>03</sub>:** Inventory turnover has no significant effect on value of listed agricultural firms in Nigeria.

## **2. Literature Review**

### **2.1 Conceptual Review**

This section comprises of conceptual definitions of the variables, related empirical studies and theoretical framework.

#### **2.1.1 Firm Value**

Firm's value can be measured by the earnings generated by the company in terms of profitability (Barron, 2002). Firm's performance is the measurement of what has been attained by the firm, which is an indicator of the good conditions for a period of time. The objectives of measuring firm value are to obtain very useful information about flow of funds, the uses of firm finances, their efficiency and effectiveness. Besides, the managers are able to make best decisions from the information on firm's value (Almajali, 2012).

Investors are more willing to buy shares in firms whose value are high due to enhanced reputation, and if the demand for its shares increases the shares prices increases hence an increase in the firm's value. Increased firm value maximizes the utility for shareholders through dividend and stakeholders' interest through corporate social responsibility (Bhutta & Hasan, 2013).

Firm value is very essential to management as it is an outcome which has been achieved by an individual or a group of individuals in an organization related to its authority and responsibility in achieving the goal legally, not against the law, and conforming to the morale and ethic of the firm. Company's performance is evaluated



in three dimensions. The first dimension is company's productivity, or processing inputs into outputs efficiently. The second is profitability dimension, or the level of which company's earnings are bigger than its costs. The third dimension is market premium, or the level of which company's market value is exceeding its book value (Wasiuzzaman, 2015).

### **2.1.2 Cash Conversion Cycle**

According to Rehn (2012), Cash Conversion Cycle refers to the length of time in days between a firm's payment for payables and collections for receivables. According to Raheman and Nasr (2007), they explained that cash conversion cycle is a competitive medium of working capital management, which will result to fewer funds tied down in the form of current assets, exposing the firm to greater risk of cash shortage and stock outs. However, this can be prevented by maintaining relative high investment in current assets and the firm will be able to meet its short term obligations as well as meeting all sales order, maintain smooth production to ensure profitability. Gitman (2009) presented the CCC model as a critical component in WCM. The CCC is the period of time which elapses between the point at which cash begins to be spent on the production of a product and the collection of cash from sale of finished goods (Padachi, 2006).

Besley and Brigham (2005) pointed out that Cash conversion cycle is the length of time from the payment for the purchase of raw materials to manufacture a product until the collection of accounts receivable associated with the sale of the product. Long cash conversion cycle causes a reduction in the profitability of a company as longer cycle leads to blockage of funds and therefore less profitability (Moss & Stine, 1993). The time between cash purchase of inventories and collection of accounts receivables measures the cash conversion cycle. CCC is more efficient since it's a measure of the day to day liquidity management.

Cash Conversion Cycle refers to the length of time in days between firm's payment for payables and collections for receivables. Where there is a policy within the organization to grant customers a more liberal period, profitability may increase but at the expense of liquidity (Rehn, 2012). Scholars are at consensus on the fact that shorter conversion period in days leads to better liquidity and profitability. According to Gitman (2009), Cash Conversion Cycle is mathematically measured as:  $CCC = \text{Average Account receivables} + \text{Average Inventories} - \text{Average Account Payable}$ .



### **2.1.3 Account Receivables Period**

Emekewue (1990) examined that accounts receivables are aggregates of all the debts owed to a firm at a particular point in time. It represents the amount the firm expects to receive from its debtors in payment of goods and services delivered or rendered by the firm. Therefore, it is the responsibility of the financial manager to make decisions regarding the policy that must be adopted in extending credit facilities to customers because of the problem of possible default. Garcia and Martinez (2007) also stated that account receivable is measured as account receivable/sales. This variable shows the average no of days that the firm takes to receive payment from its customer, the larger the value, the larger its investment in account receivable.

In the work of Atrill (2006), account receivable means money owed by customers, individuals or corporations, to another entity in exchange for goods or services that have been delivered or used, but not yet paid for. The Account Receivables Period (ARP) is an element of the working capital management. This period is the average lapse of time from a sale on credit up to when the settlement becomes usable moneys for the business (Gitman, 2006). Hence, it is the average of time an enterprise should wait after making a credit sale before obtaining the fund.

According to Pandey (2010), the cash payment for goods and services received by the buyer will be made by him in a future period. The customers from whom receivables or book debts have to be collected in future are called receivable collection period and it represents the firm's assets. Receivables management, also termed credit management, deals with the formulation of credit policy, concerning credit standard and credit period, the discount offered for early payment and the collection policy and procedures undertaken. It does so in such a way that taken together these policy variables determines an optimal level of investment in receivables where the return on that investment is maximum to the firm. However, this study defined account receivables as assets representing amounts owed to the firm as a result of the sale of goods or services in the ordinary course of business.

### **2.1.4 Account Payables Period**

Payable payment period consists of the suppliers whose payment for goods or services have been processed but not yet paid. According to Falope and Ajilore (2009) Accounts payables can be described as Short-term liabilities owed to suppliers for purchases made on credit. Vincent (2014), is of the view that account payables represents the average number of days it takes a company to pay its creditors/suppliers. Firms ordinarily prefer to delay payment for credit purchases



while Suppliers also play the game of inducing customers to pay for credit purchases within the shortest period of time by offering cash discounts. Functionally, payable payment period is represented by Average number of days of accounts payable (accounts payable) divided by cost of goods sold multiplied by 365 days.

Accounts payable has to do with the amount of money the firm must pay to suppliers. This is shown as a liability on the balance sheet (Deloof, 2003). This arrangement is beneficial to firms in the sense that, it allows the firm to gain a level of flexibility in its financial management process. The terms upon which the buyer (firm) and the seller (supplier) agreed on with regards to the payment of goods is known as “common payment terms”. An increase in payable days means that the firm is taking a longer period to settle its financial obligations. This offers two insinuations. It can infer that the firm is declining in its financial condition, or it could also be a strategy to have more funds in use. Subsequently, this study adopted the definition Vincent (2014) which says account payables represents the average number of days it takes a company to pay its creditors/suppliers.

### **2.1.5 Inventory Turnover**

According to Deloof and Jergers (1996), inventory can be defined as the list of stock, raw material, work in progress or finished good which is waiting to utilize in production or to be sold. The number of days' inventory is measured as  $(\text{inventory}/\text{cost of goods sold}) \times 360$ . This variable reflects the average no of days of stock held by the companies. Longer storage times show a greater investment in inventory for an important level of operation. Large inventory and generous trade credit policy may lead to higher sales and greater inventory decrease the risk of stock out.

Trade credit may increase sales because it allows customers to reach product quality before paying (Long, Mertiz & Ravid, 1993), because supplier may have significant cost advantages over financial institution in achieving credit to their customers. It can also be cheaper source of credit for customers (Petersen and Rajan, 1997). The source of granting trade credit and keeping inventories is that money is saved in working capital. Reducing stock produces large financial benefits by continuously increasing cash flow, decreasing operating cost level, lowering the asset base and decreasing capital spending.



## **2.2 Empirical Review**

### **2.2.1 Account Receivables and Firm Value**

Wang, Akbar and Akbar (2020) examined the impact of working capital management (WCM) and cash conversion cycle (CCC) on firm's financial performance across different stages of the corporate life cycle (CLC). They studied Pakistani non-financial listed firms nested in 12 diverse industries over a period of 2005–2014 and employ the hierarchical linear mixed (HLM) estimator, which can process multilevel data where observations are not completely independent. The empirical findings revealed that receivable days is negatively associated with firm performance. However, this association is not static across different stages of a firm's life cycle. The findings suggest that firms require customized WCM policies to attain sustainable financial performance at each stage of firm life cycle. Thus, managers should not overlook the significant role of CCC stages in their financial planning to ensure the sustainable functioning of the enterprise.

Doan (2020) using the Generalized Method of Moment (GMM) to analyzed the impacts of accounts receivable period on the profitability of fisheries enterprises in Vietnam. Not only that, the author also considered the role of the supply chain finance in this impact. The study data was collected from 20 fishery enterprises listed on Vietnam's stock market, for the period of 2010-2018. The study results showed that the profitability (ROA) of the enterprises is negatively affected by accounts receivable period (AR). The study results are a reliable basis to help managers at the fisheries enterprises to better understand the impact of accounts receivable period and especially the supply chain finance on the profitability of the enterprise.

Agegneu (2019) investigated the effect of accounts receivable period on profitability. The study examined the statistical significance between component of working capital management and firm's profitability. In the light of this objective the study adopted quantitative method of research approaches to test a series research hypothesis. Specifically, the study used survey of documentary analysis of companies' audited financial statements for the analysis. Purposive sampling design was employed based on the study. Consequently, the study selected a sample of 5 (five) Manufacturing and 13 (Thirteen) Merchandise companies for the period of seven years (2009-2015) with the total of 18 observations. Data was analyzed using Pearson's correlation and pooled panel data. Moreover, the study used gross operating profit as dependent profitability variable and accounts receivable days as independent variables. The results showed that there is statistical significance negative relationship between profitability and accounts receivable period. It means



that, companies managers can create profits or value for their companies and shareholders by handling correctly the cash conversion cycle and keeping each different component of working capital to a possible optimum level. However, the research design was not stated and the study also covers the period of seven years from 2009-2015 which is far from the time the paper was published, the researcher should have extended the work to cover 2017 or 2018.

Ondari and Muturi (2018) determined the effects of accounts receivable management strategies on the financial performance of mission healthcare facilities in Tanzania. The study employed a descriptive approach with a correlation research design. The study targeted 100 respondents consisting of accountants, patients, Medical Superintendents and assistant administrators in 29 Kisii County Level 4 and level 6 hospitals. The study used simple random sampling technique where by the target population was put into clusters or sub-groups from which the researcher obtained a sample size of 100 respondents. Primary data was obtained mainly through personally administered questionnaires. Closed questionnaires were used in this study. Secondary data that has been recorded in the organizations involved was obtained through document review. From the findings it was established that hospitals performance was determined by proper accounts receivable management. However, managing paying period of accounts receivable was quite challenging to various managers hence resulting in decrease hospitals performance. However, the study is not on accounts receivable period and performance of quoted agricultural firms in Nigeria.

## **2.2.2 Account Payables and Firm Value**

Kemunto and Oluoch (2019) examined the effect of accounts payables on non-financial firms listed at NSE, Kenya from 2013-2018. Further, the research reviewed the effect of variables including cash management, inventory management, accounts payables management, accounts receivable management and firm size on tax efficiency of non-financial firms listed at NSE, Kenya. To achieve the objectives of the study, a longitudinal research design was conducted on 42 non-financial firms listed at NSE from the period of 2013-2018. A census study was applied to collect the panel data for the 6 years. The study used financial statement Approach (FSA) that is secondary data from the financial statements. Descriptive statistics including maximum, minimum, means and standard deviations were used. Data analysis was done using the SSPS version 25 where multiple regression model, ANOVA and correlation coefficients were generated. The study concluded that there is a negative but significant effect of accounts payable on non-financial firms at NSE. Meanwhile, this study investigated on tax efficiency of non-financial firms in Kenya but the



current study examines the firm value of agricultural firms.

Lalah (2018) examined the effect of accounts payables on financial performance of manufacturing firms listed in the Nairobi Securities Exchange. Specifically, the study analyzed the effect of account payment period on financial performance of the said firms. This study used the explanatory research design and the population of the study included all the 10 manufacturing firms listed at the NSE by December 2016. Seven (7) manufacturing firms. The data collected was analyzed using descriptive statistic in which means and standard deviation were calculated and inference was to the rest of the population. The study used panel regression analysis to establish the relationship, between the independent and dependent variables. The study established that, manufacturing industry had experienced the highest ROA in 2015 compared to the lowest ROA in 2014. The study findings therefore rejected the null hypothesis of no relationship existing between accounts payables and financial performance of manufacturing companies listed on NSE in Kenya. However, the scope of this study did not include other variables not identified in this study as captured by the error term. To get a better perspective of the relationship between accounts payables, this study should have been conducted in a different industry/sector other than manufacturing sector.

In their study, Waema and Nasieku (2016) sought to establish the effect of accounts payables on the financial performance of listed manufacturing firms in Uganda. Specifically, the study sought to determine the effect of creditor management, debtor management, inventory management and cash management on the financial performance of listed manufacturing firms in Uganda. The study adopted a quantitative research design. The target population was the 10 listed manufacturing firms in Uganda as provided for by the Uganda Securities Exchange (USE) databases. The study was based on secondary data obtained from the audited financial reports of the individual listed manufacturing firms for a period of ten years from 2005 to 2014. Panel data model was adopted in data collection and analysis. The study findings were that there exist a positive relationship between creditor management and the financial performance of the firms. The study concluded that accounts payables significantly impacted on the financial performance of the listed manufacturing firms in Uganda over the 10-year period.

### **2.2.3 Inventory days and Firm Value**

Ishmael, Tauringana, Damoah and Sha'ven (2020) examined the existing empirical research findings generally suggesting that Inventory days affects the firms' financial performance. The research adopts contingency theory framework to investigate how



the relationship between Inventory and financial performance is affected by the firms' environment, resources and management capability. The sample consist of an unbalanced panel of 802 firms listed on the London Stock Exchange (LSE) from 2004 to 2014 on which a dynamic panel data analysis was performed using a series of interactive models to estimate the relationship. The findings suggest that the impact of Inventory days on financial performance changes to reflect number contingency variables such as environment. However, the study shows that contingency theory helps to provide an understanding on the conditions under which investment in working capital can be an effective tool in enhancing financial performance and the relevant contingencies.

Mohsin, Muhammad and Salman (2019) examined the effects of Working Capital management that is inventory management, receivable management and payable management, on the performance of the non-financial firms in Pakistan. Panel data of 280 nonfinancial firms enlisted in Pakistan Stock Exchange have been analyzed from 2000 to 2016. Firms' profitability was proxied by return on assets and return on equity; whereas for growth that is sales growth and asset growth were used as proxies for growth. Results suggest that Inventory days has a significant impact on firms' financial performance in terms of profitability, as well as growth. As far as component wise results are concerned, inventory management does influence the firms' growth and Payable management significantly, hence affecting the firms' profitability.

Kajola, Nwaobia and Adedeji (2017) in their paper examined the impact of inventory turnover in days on firms' financial performance of thirty manufacturing firms listed on the Nigerian Stock Exchange for a seven-year period. Secondary source of data gathering was utilized. Data were specifically sourced from the annual reports of the sample firms and publications of the Nigerian Stock Exchange. The study made use of 30 non-financial firms listed on the floor of the Nigerian Stock Exchange for the period 2004-2010. Panel data methodology was employed and pooled OLS was used to estimate the coefficients of the explanatory variables. Results reveal that inventory turnover is negatively and significantly related with firm's financial performance (ROA). Thus, efficient management of Inventory items would bring about increase in the profitability level of firms.

Emmanuel and Agyapong (2017) studied the relationship between inventory days and firm value in South African economic environment. The population of the study are all South African firms listed on the Johannesburg Stock Exchange (JSE) as at December 2012 which a total of 335 firms. The sample of 75 firms listed on the main board of the JSE was selected from the target population. The study used secondary financial data obtained from both the I-Net Bridge/McGregor BFA data base at the



University of Pretoria library and the Johannesburg Stock Exchange (JSE), covering from 2003 -2012. The balanced panel data of 750 firm-year observations related to 75 different firms for the 10-year period, 2003 to 2012. The findings of the study showed there exists a significant positive relationship between firm value and both inventory conversion period and receivables conversion period and the relationship between the cash conversion cycle and firm value is positive but insignificant. Based on the findings, it was concluded that credit policies may be relaxed to accommodate more customers, instead of offering early bird discount. Accounts receivable may be elongated in an effort to improve firm profitability and consequently firm value.

## **2.3 Theoretical Framework**

The theoretical framework for this study was modified from the following theories.

### **2.3.1 Cash Conversion Cycle Theory**

The cash conversion cycle (CCC) theory represents the components of working capital and the flow of cash within a company, which can be used to determine the amount of cash needed. Gitman (2009) developed cash conversion cycle as part of operating cycle which is calculated by adding inventory period to accounts receivables period and then subtracting accounts payables from it. Its focus is on the length of time between the acquisition of raw materials and other inputs and the inflows of cash from the sale of finished goods, and represents the number of days of operation for which financing is needed.

The CCC is a dynamic measure of ongoing liquidity management, since it combines both balance sheet and income statement data to create a measure with a time dimension (Jose & Lancaster, 1996). While the analysis of an individual firm's CCC is helpful, industry benchmarks are crucial for a company to evaluate its CCC performance and assess opportunities for improvements because the length of CCC may differ from industry to industry. Therefore, the correct way is to compare a specific firm to the industry benchmark in which it operates (Hutchinson, 2007). The cash conversion cycle is used as a comprehensive measure of working capital as it shows the time lag between expenditure for the purchase of raw materials and the collection of sales of finished goods (Padachi, 2006). Day-to-day management of a firm short-term assets and liabilities plays an important role in the success of the firm. Firms with growing long-term prospects and healthy bottom lines do not remain solvent without good liquidity management (Jose & Lancaster, 1996).

According to Arnold (2008) the shorter the CCC, the fewer are the resources needed



by the company. So the longer the cycle the higher will be the investment in the working capital. But also a longer cycle could increase sales, which could lead to higher profitability. But this longer cycle, will also lead to higher investment and could rise faster than the benefits of the higher profitability. Many authors like Shin and Soenen (1998) have argued that it is important for firms to shorten the CCC, as managers can create value for their shareholders by reducing the cycle to a reasonable minimum. They also argued that a longer cash conversion cycle might indicate that a company's sales are rising and that the company can compete by having lax credit policies or high inventories. But on the contrary, a higher CCC can actually hurt a company's profitability by increasing the time that cash is tied to non-interest bearing accounts such as accounts receivables. By shortening the CCC the company's cash flows will have a higher net present value because cash is received quicker. The number of days' accounts receivables; inventories and accounts payables are used as the operationalization of the management of trade credit and inventory (Sharma and Kumar, 2011).

In this study, cash conversion cycle theory was adopted in order to examine the cash conversion cycle and value of firm of listed agricultural firms in Nigeria.

### **3. Methodology**

Ex-post facto research design was used for this study. Ex-post facto research is the inquiry that deals with the collection and analysis of data to describe and interpret conditions and also to make discovery and explanation of past events. Ex-post facto research design is utilized because it helps to establish relationships between two or more variables. Also, it is appropriate for testing the hypotheses of the study and helps to proffer answers to the research questions concerning cash conversion cycle and firm value of listed agricultural companies which is the crucial concern of this study.

This research work is centered on the evaluation of cash conversion cycle and the firm value of listed agricultural firms in Nigeria. The study will concentrate on the period of 2010 to 2019. This is because, during this time, the agricultural sector witnessed a lot of reforms, and economic recession. The proxies to measure cash conversion cycle are; payable payment period, receivable collection period and inventory turnover. While firm value is proxied by Tobin's Q.

The panel data to be used in this study was collected from secondary sources from the individual financial reports of the listed agricultural sectors. The population of the study constitute all the five (5) listed agricultural firms in the Nigerian Stock Exchange as at December 2020 which are; Ellah lakes, FTN cocoa processor,



livestock feeds Nigeria, Okomu oil palm and Presco oil. With the aid of census sampling technique, the study adopted four (4) listed agricultural firms in Nigeria in which Presco oil was excluded due to an unbalanced data. This study employed multiple regression analysis to identify, explain and estimate the key relationship between cash conversion cycle and firm value.

The following multiple regression model will be used:

$$TOQ_{it} = 0 + 1PPP_{it} + 2RCP_{it} + 3INT_{it} + U_{it} \dots \dots \dots 3.1$$

Where;

TOQ= Firm value (Dependent Variable)

PPP= Payable Payment Period (Explanatory Variable)

RCP= Receivable Collection Period (Explanatory Variable)

INT= Inventory Turnover (Explanatory Variable)

U = Disturbance or Error Term

= Constant term

1 – 5 = Coefficient of the Independent Variables.

Variables are in their natural logarithm form.

The decision to test the hypothesis of the study is as follows:

If the p-value of the t-coefficient is less than 5% (0.05), the null hypothesis is rejected, otherwise accept.

**Table 1: Measurement of variables**

Variables	Description	Source
Tobin Q	Market Capitalisation + Total Liabilities - Cash flow divided by Total asset	Copel and Koller and Murnin, (2000)
Cash Conversion Cycle	Average Account receivables + Average Inventories - Average Account Payable	Dong and Su, 2010; Gill, Biger, and Mathur, 2010; Gitman, 2009).
Account Receivables	Ratio of trade debt to average sales per day. Average sales per day is computed by dividing the total sales on No. of working days (365).	Lazaridis and Dimitrios (2005) Kelly and McGowen (2010), Deloof (2003)
Account Payable	Ratio of trade payable to average cost of goods sold per day. Average cost of goods sold per day is computed by dividing the cost of goods sold on number of working days (365).	Falope and Ajilore (2009), Maness and Zietlow, (2005). Deloof (2003)
Inventory Days	Inventory Days is number of days the inventory is used.	Akbar, Ali and Saadi, (2008)

**Source: Researcher's Computation 2020**



#### 4. Data Analysis and Discussion of findings

**Table 2: Descriptive Statistics**

	TOBIN_Q	RECEIVABLES DAYS	PAYABLES DAYS	INVENTORY DAYS
Mean	1.316129	78.96375	176.4750	174.6347
Median	1.143850	25.52490	92.38025	143.0987
Maximum	2.787800	532.5519	888.9747	358.2027
Minimum	0.718600	0.032800	11.31320	61.37930
Std. Dev.	0.458860	116.8195	197.0865	86.80614
Skewness	1.116774	2.177393	1.750938	0.942800
Kurtosis	4.073152	7.666249	5.957603	2.699760
Jarque-Bera	9.722283	64.50188	33.26670	5.772248
Probability	0.007742	0.000000	0.000000	0.055792
Sum	50.01290	3000.622	6706.049	6636.118
Sum Sq. Dev.	7.790432	504931.7	1437195.	278806.3
Observations	38	38	38	38

**Source: Researchers' Computation (2020) using E-Views 10**

Table 1 presents the descriptive statistics for both the dependent and explanatory variables of the study. The number of observations for the study reflects a value of 38 indicating that the number of observation for the study is made up of a period of 9 years (2010-2019). The table also shows the mean of Tobin's Q, Receivable days, payable days, Inventory days are: 1.316129, 78.96375, 176.4750, and 174.6347 respectively. One important observation is that both the independent variables and the dependent variable have mean value higher than that of it standard deviation.

**Table 3: Correlation Matrix**

	TOBIN_Q	PAYABLE DAYS	RECEIVABLE DAYS	INVENTORY DAYS
Tobin_Q	1	0.1615682223609225	-0.3728249042182388	-0.05821217261786461
Payable Days	-0.1615682223609225	1	0.6807602019022296	0.6731442557792454
Receivable Days	-0.3728249042182388	0.6807602019022296	1	0.5236078954739485
Inventory Days	-0.05821217261786461	0.6731442557792454	0.5236078954739485	1

**Source: Researchers' Computation (2020) using E-Views 10**

From table 2 the correlation matrix result suggests that there is no multicollinearity among the independent variables of interest. The possible existence of multicollinearity is further tested through computing the variance inflation factor (VIF). According to Gujarati (2003), there is no consequence of multicollinearity if the mean VIF is less than 10.



**Table 4: Hausman Test**

Correlated Random Effects - Hausman Test  
Equation: Untitled  
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	6.095641	3	0.1070

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
RECEIVABLE DAYS	-0.000148	-0.001997	0.000002	0.1413
PAYABLE DAYS	0.000411	0.000190	0.000000	0.6384
INVENTORY DAYS	0.000517	0.000810	0.000000	0.4224

**Source: Researchers' Computation (2020) using E-Views 10**

In view of the fact that both fixed and random effect tests will be conducted, Hausman test was used to decide the best out of the result. The test will enable the researcher to choose the most appropriate between the fixed and random effect models. With the probability of 0.1070, the random effect was reject. Therefore, the fixed effect estimator was used to run the regression.

**Table 5: Model dependent Tobin Q**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.257295	0.075217	16.71564	0.0000
RECEIVABLE DAYS	-0.000562	0.000459	-1.225254	0.2297
PAYABLE DAYS	0.000684	0.000245	2.794899	0.0088
INVENTORY DAYS	-0.000100	0.000504	-0.199104	0.8435

  

R-squared	0.624941	Mean dependent var	1.877089
Adjusted R-squared	0.552349	S.D. dependent var	0.910341
S.E. of regression	0.400284	Sum squared resid	4.967048
F-statistic	8.608956	Durbin-Watson stat	1.527367
Prob(F-statistic)	0.000015		

**Source: Researchers' Computation (2020) using E-Views 10**

The Regression table reveals a significant relationship between Tobin Q and account payable period but account receivable period and inventory days were not significant. The estimate of this equation reveals a positive intercept which stands at 1.257295. This implies that when Tobin Q is zero, all the explanatory variables would stand at 1.257295.



The test of goodness of fit reveals that the estimated relation has a good fit. While both the  $R^2$  and adjusted  $R^2$ , which stand at 62% and 55% respectively, revealed that about 62% of total variations in Receivable days, Payable days and Inventory days is explained by variations in Tobin Q; the f-statistic, which reveals the joint significance of all estimated parameters in predicting the values of Receivable days, Payable days and Inventory days, is statistically significant with a value of 8.608956 and a p-value of 0.000015.

#### **4.1 Discussion of Findings**

Based on the findings of the research, the study is consistent with the research of Kemunto and Oluoch (2019) and Waema and Nasieku (2016) that the relationship between account payable day and firm value is significant, this implies that an average payables period that is well managed may result to an increase in profitability. This is because the average payables period is the number of days which the firm is able to delay payment on raw materials to its suppliers. The delay in payment is seen as an internal financing that helps the firms to save costs associated with external financing such as debt or equity financing. The result of no significant effect of account receivable period and inventory days shows consistency with the works of Ishmael, Tauringana, Damoah and Sha'ven (2020), Moshin, Muhammad and Salman (2019), Wang, Akbar and Akbar (2020) and Agegnew (2019).

#### **5. Conclusion and Recommendations**

This paper examines the effect of cash conversion cycle on firm value. In agreement with prior evidence from developed countries that show significant linkage between cash conversion cycle and firm value, the paper conclude that since payable days has significantly impacted Tobin's q, a unit increase in payable period will have an increase on firm value. Also, since receivable days and inventory days has no significant effect on Tobin's q, a unit increase in receivable days and inventory days will have no increase on firm value. However, this study revealed based on the model that there is a significant relationship cash conversion cycle and firm value of listed agricultural firms during the period under study.

Drawing from our research findings, recommendations are proffered as follows:

- i. Agricultural managers should devote adequate time in designing an effective cash conversion cycle. The management should seek to delay longer period of account payable which is another means of generating working capital. Therefore, the Agricultural companies in Nigeria should try and maintain an adequate period of settling their suppliers in order to avoid negative effect on the company's



performance.

ii. The study was not significant to account receivable period because debtors do not settle their accounts as at when due which may affect the firm value. A mechanism should be put in place that will enable debtors settle their accounts on time. It is therefore imperative for agricultural firms to be cautious when dealing with their clients even as they attempt to reduce their receivables collection period.

iii. The study will therefore recommend that agricultural companies may ensure that inventory is sufficient to meet customer demands at all times while at the same time avoiding holding unnecessary surplus stocks that may increase holding costs. The agricultural companies should seek knowledge on the use of stock optimization techniques so as to be able to determine right quantities of stock to hold.





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