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The Impact of Cash Conversion Cycle on Firm Profitability: Evidence from Nigerian Listed Telecommunication Companies

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Abstract: The objective of this study is to empirically find the effect of cash conversion cycle on corporate profitability of the ICT firms listed on the floor of the Nigerian Stock Exchange. Data are collected from all the listed firms from 2010 to 2014. The data are analyzed using multiple linear regression analysis and the robustness check shows that the data are normal. The findings indicate significant positive relationship between cash conversion cycle and corporate profitability.

Keywords: Cash Conversion Cycle, Inventory, Receivables, Payables, Profitability

1. Introduction

Effective working capital management is vital for the business survival and their ultimate growth. Scholar in accounting and finance devout their times in finding the effectiveness of the management of inventories, account payables, Account receivables and cash in order to link the effectiveness of their management in relation to policy of achieving the firms growth and development. Cash management appears to be crucial especially in this time when the country is facing serious financing problems, hence financing is likely to be challenges for many business enterprises. Almost all the decisions on the part of the finance managers pertaining to this valuable resource have much bearing upon the performance, risk and the market value of the firms. The financial management decisions of companies are basically concerned with three major areas: capital structure, capital budgeting, and working capital management. Among these major areas, the working capital management (WCM) is an area of great significance for every company as it virtually affects its overall profitability and liquidity (Appuhami, 2008).

Companies in the Nigerian information and telecommunication sector play a vital role in proving a lot of job opportunities for the teeming unemployed youth in the country. Today, the sector provides a lot of direct and indirect employment opportunities and as a result, improved income opportunities to people. The services of the sector are of paramount importance in moving virtually entire economic activities in the country. In terms of growth, Nigerian information and telecommunication sector is ranked as the fastest and most robust sector in Africa and among the ten fastest in the world according to US ambassador to Nigeria (Thisday, 2011). According to Nigeria economic fact sheet 2011, the ICT sector contributes to the GDP more than manufacturing sector of the economy (cited in (Schwab, K., & Sala-i-Martin, X. 2011). For instance, ICT sector contributes 25% which is higher when compare to 20% for finance and insurance, 15% from transport and 10% for real estate and business service. Owing to the importance of the sector, it is of paramount importance to study all variables that may enhance the profitability and general performance of the sector.

A firm's performance mainly depends on the way the firm is able to manage its resources at all times. The importance of working capital management is being underestimated by many which results in failure to optimise the potentials of many businesses. A firm must managed effectively and efficiently its working capital because the inability to manage the working capital well may result in not only reduction in

profitability but may also lead to severe result like financial crisis for the firm. However, it's a matter of greater concern and importance that firms manage their working capital in a way that will lead to ultimate prosperity of the firms.

In order to manage working capital efficiently, a firm has to be aware of how long it takes them, on average, to convert their goods and services into cash. This length of time is formally known as the Cash Conversion Cycle. In order to measure how well a firm manages its working capital, a financial performance metric called cash to cash cycle (abbreviated as CCC) which was developed by Richards and Laughlin (1980). This metric which basically indicates length of the period between paying suppliers and being paid by customers, has three determinants: days payable outstanding, days of inventory and days of receivable outstanding. The concept of cash conversion cycle is a basic financial concept. It is a composite metric that has been described as "the average days required to turn a dollar invested in raw material into a dollar collected from a customer" (Stewart, 1995).

In another way, Cash conversion cycle is "the length of time a company's cash is tied up in working capital before that money is finally returned when customers pay for the products sold or services rendered" (Churchill and Mullins, 2001). Cash conversion cycle is a unique financial performance metric that indicates how a firm is managing their capital across the supply chain.

The process for calculating cash-to-cash requires adding days of inventory plus days of accounts receivable and subtracting therefrom, the number of days of accounts payable. Therefore, Cash to Cash bridges material activities with suppliers, production operations, distribution functions, and outbound sales activities. The cash-to-cash metric is important for both accounting and supply chain management perspectives. It can be used for accounting purposes in the determination of firm liquidity and organizational valuation. A shorter Cash to cash cycle, implying that fewer days cash are tied up in working capital and not offset by "free" financing in sjthe form of deferred payments, results in more liquidity for the firm (Soenen 1993). This study attempts to uncover the effect of this metric together with its variables on profitability in the listed information and telecommunication firms in Nigeria.

The major objective of this paper is to provide empirical study about the impact of cash conversion cycles and corporate profitability. The reminder of this paper is divided into sections which includes section two that discuss the literature review, section three about data and methodology and finally section four and five discuss methodology and data analysis respectively.

2. Literature Review

2.1. Cash Management

Cash management is the main area of working capital management. Other parts of it are inventory management, credit management and management of short-term liabilities.

According to Lee (2001), cash management involves the administration of liquid assets and liabilities, and the raising of funds to finance a business. Cash-flow control is therefore crucial to ensuring that a business remains liquid and able to meet payment obligations. This is carried out through the effective management of cash receipts and payments, cash balances and cash transfers between the different parts of a business.

The cash management problem is closely related to the concept of liquidity problem as discussed in the corporate finance literature (Cooley and Roden 1991, Brealey and Myers 1998, Scherr 1989, Maness and Zietlow 1998, and Ross, Westerfield, and Jordan 1999). In fact, depending upon the definition one chooses for cash management, the liquidity planning problem can be viewed more or less as general. As will later be shown there exist several differing definitions of cash and treasury management in the financial management literature.

Teigen (2001) defined cash management as a part of treasury management, which is defined as a part of the main responsibilities of the central finance management team. The specific tasks of a typical treasury function are cash management, risk management, hedging and insurance management, accounts receivable management, accounts payable management as well as bank relations

This definition is consistent with the Srinivasan and Kim (1986) classification of cash management areas (but risk management is not included). According to them the responsibilities of cash management can be divided into cash balance management, cash gathering, cash mobilization and concentration, cash disbursement and banking system design decision processes. In their specification of the notion "cash balance management" includes management of cash position, short-term borrowing, short-term investing and cash forecasting. In this context, the management of the firm's cash position could include managing accounts receivable, improving cash flow, transferring funds, and controlling cash disbursements.

Teigen's (2001) "cash management" concept in turn includes the development and compliance with cash and investment policy and processes, and the control and care of the cash assets and liabilities of the organization, i.e. the selection of Banks and bank accounts, Investment vehicles, Investment brokers, Methods of borrowing and Cash management information systems

It is noteworthy that in these classifications "cash management" (Teigen 2001) and "cash balance management" (Srinivasan and Kim, 1986) are closely-related concepts. In both specifications, the cash management concept includes so-called financial transactions as a part of the cash management process.

In a nutshell, the study tries to emphasize that cash management is part of working capital management as well as liquidity management, needed to finance and maintain an entity covering the administration of liquid assets and liabilities, and that it embodied the management of CASH

CONVERSION CYCLE components (inventory Receivables and Payables) needed to maintain an optimum liquidity position.

2.2. The Operating Cycle Concept

According to Akinsulire (2011), Pandey (2008), the operating cycle is the length of time it takes to acquire inventory of raw materials, convert them to finished products, sell them and collect cash firm sales.

Pandey (2008) posited that operating cycle is the amount of time it takes for a company to turn cash used to purchase inventory into cash once again. This number is calculated by adding the age of inventory (the number of days that inventory is held prior to sale) with the collection period (the number of days required to collect receivables). A company with a short operating cycle is able to quickly recover its investment, while a company with a long operating cycle will have less cash available to meet any short term needs, which can results in increased borrowing and interest expenses.

The flow concept of liquidity can be developed extending the static balance sheet analysis of potential liquidation value coverage to include income statement measures of a firms operating activity. In particular, incorporating accounts receivable and inventory turnover measures into an operating cycle concept provide more appropriate view of liquidity management than does reliance on the current and acid-test ratio indicators of solvency. These additional liquidity measures explicitly recognize that the life expectancy of some working capital components depend upon the extent to which three basic activities-productions, distribution (sales) and collection are instantaneous and unsynchronized (Weston and Brighan, 1979).

2.3. Corporate Profitability

Both liquidity and profitability are the core concern of the company's management. Also, profitability is expected to have significant impact on company's cash conversion cycle. Cash conversion cycle might have both positive and negative effect on the company profitability, for instance, while a company with long cash conversion cycle might have higher sales because of long credit term given to trade credit customers, high cost of investment in working capital might decrease profitability as well (Deloof, 2003).

Hyun-Han and Soenen (1998) provide the evidence that there are significant negative relationship between working capital management measured by net trade cycle and profitability which point out that market share lead to the bargaining power with suppliers and customers to shorter the net trade cycle and higher profitability. So also, Lazaridis and Tryfonidis (2006) find the negative relationship between cash conversion cycle and profitability measured by gross operating profit. The researchers explain this negative result as shorter cash conversion cycle will generate more profit for a company.

Jose, Lancaster, and Stevens (1996) provide the evidence that companies with high profitability tend to have shorter cash conversion cycle than low profitability companies. In their study, they classified companies into eight groups according to their profitability and average cash conversion cycle of each group. Eljelly (2004) also reports significant negative relationship between the liquidity level and profitability in companies with long cash conversion.

In contrary, Jeng-Ren, Li, and Han-Wen (2006) find the significant positive relation between the net liquid balance as a measure of working capital management and firm performance measured by return on assets. They find that high profit companies tend to have more working capital balance as a result from using conservative policy. In addition, the result with another measurement, working capital requirement, pointed out the positive relationship which suggests that companies have inefficient working capital management which leads to high account receivable and inventory balance.

Return on Assets (ROA) is a widely used financial tool to determine the level and intensity of returns that a firm has generated by employing its total assets. Firms are usually considered well off when they generate returns that can attract further investors and lenders, and in trouble if they need to raise the finance required for growth or capital needs, or if their ROA does not convince financiers (Ali, 2011).

2.4. Empirical Studies on Cash Conversion Cycle and Profitability

The issue of cash conversion cycle was initially presented as a result of Hager study in 1976. Kamath (1989) tested empirically the hypothesis of conflicting signals between current and quick ratio analysis and cash conversion cycle analysis. He as well studied whether the net trade cycle is an excellent estimation of the cash conversion cycle in addition to the relationships between the three above liquidity measures and determinants of firm's profitability. Considering US big firms in six trade industries he found that both current and quick ratios are inversely related with the cash conversion cycle; current and quick ratios are positively correlated to the profitability; the net trade cycle gave similar result as the cash conversion cycle and; both cycles were discovered to be inversely related with the profitability determinants. He Conclude that every measure is capable of offering helpful information and ambiguous clues concerning the firm's liquidity position; he recommended the use of all the three procedures and attained good insight and efficiency of working capital management.

Mary, John and Laurie (2010) examined the effect of inventory on firms' profitability before and after two catastrophic supply chain disruptions of the September 11, 2001 terrorist attacks and Hurricane Katrina, with the objective of determining whether there is evidence that inventory has been used as a means of developing supply chain resiliency and the stability of any such relationship. Using separate three-year periods surrounding the disruptions, they applied univarate analysis to examine the macro-level effects on firms' profitability, selected growth measures, and inventory levels across manufacturers, wholesalers, and retailers. Utilizing

regression models found the effect of inventory on firms' profitability and shows a significant decline for manufacturing in the post - September 11 period with no significant change in the post Katrina period.

Similarly Raheman, Afza, Qayyum and Bodla (2010), in their study on working capital management and corporate performance of Pakistani manufacturing sector, and using regression analytical tools, found significant negative relationship between profitability and each of inventory turnover and the cash conversion cycle. However, insignificant negative and positive relationships subsist between profitability and each of average collection and payment periods respectively.

Rezazadeh and Heidarian (2010) in their study investigated the effect of working capital management on the profitability of Iranian companies. For this purpose, samples of Iranian listed companies in Tehran Stock Exchange during the period 1997 to 2007 were studied and from these companies 1356 companies were collected and analyzed as data. The results show that management can create value for company by reducing the amount of inventory and the number of days in collection period. In addition, by making short the cash conversion cycle also can improve the profitability of the companies.

Rimo and Panbunyuen (2010) investigate the effect of company characteristics on the working capital management in Swedish listed companies by employing quantitative method. The sampled 40 companies in the large capital investment segment listed on NASDAQ OMX Stockholm Exchange with 2007 and 2008 financial data using regression analysis, their results indicate that there is a significant positive association between profitability and the cash conversion cycle. Considering the component of the cash conversion cycle, the regression result point out a significant positive relation between number of days inventory and profitability which is opposed to the studies of (Deloof, 2003; Raheman and Nasr, 2007; Samiloglu and Demirgunes, 2008; Lazaridis and Tryfonidis, 2006).

Wongthatsanekorn (2010) Study of Cash-to-Cash Cycle Management on Profitability of Private Hospital in Thailand by Regular and Panel Data Regression results show that only the independent variable payable deferral period (AP) is negatively related to Asset Turnover (AT) under the control variables. The rest of the independent variables statically reveal no relationship with AT. On the other hand, the results from panel data regression show that both receivable conversion period (AR), and AP are negatively related with AT. They suggest that the listed firms in SET can increase corporate profitability by decreasing AR and AP.

In Nigeria, Abdulrasheed, Khadijat, Sulu and Olanrewaju (2011) assessed inventory management in selected small businesses in Kwara State, Nigeria. Using a regression model to explain the effect of inventory value on performance proxy by profit over a period of ten years, the study revealed that a Naira change in stock would cause almost a Naira (92 Kobo) change in profitability of selected businesses. This result indicated a strong positive relationship between inventory and profitability of small businesses in Kwara State of Nigeria. They thus concluded that small businesses are likely to generate higher profit if an effective inventory management is put in place.

Ali (2011) explores the association between working capital management and the profitability of textile firms in Pakistan. Using balanced panel dataset covering 160 textile firms for the period 2000–2005 by means of estimate an ordinary least squares model and a fixed effect model. Return on assets is found to be significantly and negatively related to average days receivable, positively related to average days in inventory, and significantly and negatively related to average days payable. Also, return on assets has a significant positive correlation with the cash conversion cycle, which would suggest that a longer cash conversion cycle is more profitable in the textiles business.

Alipour (2011) in Iran studies the relationship between working capital management within time territory of 2001-2006 and sample 1063 out of 2628 companies using multiple regression and Pearson's correlation found a negative significant relation between number of days accounts receivable and profitability, a negative significant relation between Inventory turnover in days and profitability, a direct significant relation between number of day's accounts payables and profitability and there is a negative significant relation between cash conversion cycle and profitability.

Attari and Raza (2012) look into the association of the cash conversion cycle with the size and profitability of the firms in the four specific manufacturing sectors listed at Karachi Stock Exchange, 31 sample firms out of the total firms in the related sectors i.e. 143 covering the period of 2006-2010. The data analysis was conducted by using One-Way ANOVA and Pearson correlation techniques and found a negative correlation between CCC and profitability in terms of return on total assets

Charitou, Elfani, and Lois (2012) empirically investigate the effect of working capital management on firm's financial performance in an emerging market. They used data set of firms listed in the Cyprus Stock Exchange for the period 1998-2007. Using multivariate regression analysis their results indicate that the cash conversion cycle and all its major components; namely, days in inventory, day's sales outstanding and creditors' payment period are associated with the firm's profitability. The results of this study should be of great importance to managers and major stakeholders, such as investors, creditors, and financial analysts, especially after the recent global financial crisis and the latest collapses of giant organizations worldwide.

Karadagli (2012) focuses on the effects of working capital management as measured by cash conversion cycle and net trade cycle on the firm performance for a sample of Turkish listed companies and searches for potential differences between the profitability effects of working capital management for the SMEs and for the bigger companies with an accompanying aim to examine whether net trade cycle can efficiently substitute for cash conversion cycle as a measure of working capital management employing the data for the

period of 2002-2010 by using pooled panel Regression analysis and founds that an increase in both the cash conversion cycle and the net trade cycle improves firm performance in terms of both the operating income and the stock market return for SMEs whereas for bigger companies a decrease in cash conversion cycle and net trade cycle is associated with enhanced profitability.

Napompech (2012) examined the effects of working capital management on profitability using regression analysis based on a panel sample of 255 companies listed on the Stock Exchange of Thailand from 2007 through 2009. The results revealed a negative relationship between the gross operating profits and inventory conversion period and the receivables collection period. Therefore, suggesting managers can increase the profitability of their firms by shortening the cash conversion cycle, inventory conversion period, and receivables collection period. However, they cannot increase profitability by lengthening the payables deferral period.

Majeed, Makki, Saleem, and Aziz (2013) examine the impact of Cash conversion cycle on the performance of Pakistani manufacturing firms. The study used the sample of 32 companies selected randomly from three manufacturing sectors i.e. chemical, automobiles and construction and material for the period of five years ranging from 2006 to 2010. The correlation and regression analyses were used and the study found that the average collection period of accounts receivables, inventory conversion period and Cash conversion cycle (CCC) have negative relationship with firm's performance. Regarding the average days of accounts payable, previous studies reported negative correlation of this variable and the profitability of the firm.

Panigrahi (2013) attempt to study in depth the inventory management practices of Indian cement companies and its impact on working capital efficiency for a sample of five top Indian cement companies over a period of ten years from 2001-2010. This study employs Regression analysis and found that there is a significant negative linear relationship between inventory conversion period and profitability.

Pouraghajan, Rekabdarkolaei, and Shafie (2013) investigate the effects of working capital management and capital structure on profitability and return on assets in Iran by sampling listed automotive companies in the Tehran Stock Exchange covering 2006 to 2010 using regression analysis showed that inventory turnover and cash conversion cycle have significant and negative effect on the returns on assets.

Shah and Chaudhry (2013) attempt to investigate the relationship between Cash Conversion Cycle and Profitability in Pakistani textile sector using data from 20 listed firms in Karachi stock exchange for the period of 2001-2011 using the techniques of correlation coefficient and regression analysis have found a significant relationship between net operating profitability and the average collection period, average payment period and cash conversion cycle.

Takon (2013) investigate the impact of Cash Conversion Cycle on Return on Assets (ROA) of selected Nigerian 46 quoted firms for the period, 2000-2009. Multiple regression technique was used in analyzing the models for testing the hypothesis. The results showed that cash conversion cycle had a significant negative relationship with profitability (ROA). Based on the findings, the study recommends that firms try to always reduce the number of days in cash conversion cycle in order to increase profitability as to create value for shareholders.

Warnes (2013) examined the impact of working capital management on the profitability over the period of five years from 2007-2011 by utilizing the data of cement manufacturing firms listed at Karachi stock exchange (KSE). Multiple regression models are applied and the findings of the study validated a negative relationship between determinants of working capital management and profitability of cement manufacturing firms. Number of days inventory (DINV) significantly and positively impacted on Return on Asset (ROA). Cash conversion cycle (CCC) also has positive and significant impact on Return on Asset (ROA) that means reduction in cash conversion cycle (CCC) will lead to increase the profit of the firms. Return on Asset (ROA) regression model shows that Account payable in days (DAP) has significant and negative impact on Return on Asset (ROA) of the firms. Results suggest that by reducing the period of cash conversion cycle at a certain level, profitability of cement manufacturing firms can be increased.

Concisely, the findings of these studies reviewed reveal diverse outcome where most of the studies used multiple regressions analysis and the frequent proxy for profitability is ROA, while for CASH CONVERSION CYCLE components are: Inventory Days; Account Receivables Days; and Account Payable Days.

3. Methodology

This study will be conducted based on historical panel data analysis, covering the period from 2010 to 2014**.** The data will arer analysed with a view to establishing relationship between the study variables. This will make the ex post factor research design suitable for the study. The relationship between corporate profitability and the three variables that determine the net operating cycle, namely inventory conversion period, debtors' conversion period and payables deferral period as well as the Cash to Cash cycle will be examined. Estimation of how these components affect companies' profits will be done.

The population of the study consists of eight ICT firms listed on the Nigerian Stock Exchange. The annual reports and accounts of publicly quoted companies are easily obtainable either from their web sites, Security and Exchange Commission or from financial reports at the Nigerian Stocks Exchange. The annual reports are the primary sources of data for this study.

In conducting this study, documentary evidences from secondary sources will be used. The Annual Reports and Accounts of the companies under study, as well as the Nigerian Stock Exchange Fact Books will be used in constructing the data required for this study.

Annual time series data of the companies regarding profitability, current assets and liabilities for the period covering 2010 to 2014 will be utilised. Annual time series data will be used because they normally prove very useful in establishing trends and long term relationships between variables.

The multiple regression analysis (using the SPSS version 16) is the statistical tool that will be used for the data analysis of this research work. This technique of data analysis will assist in examining the impact of cash conversion cycle on financial performance of listed ICT firms in Nigeria. Each null hypothesis, designed to assess the significance of the relationship between each independent variable and profitability will be tested using the regression statistics.

Variables of the study

The independent variables have been computed as follows:

Inventory Turnover Period= Average inventory X 365
Cost of Sales

Average Collection Period= Average debtors X 365
Sales

Average Payment Period= Average creditors X 365
Cost of sales

CASH CONVERSION CYCLE = (Inventory turnover+ Average collection)-Average payment

4. Analysis and Discussion

4.1. Descriptive Statistics

The descriptive statistics are illustrated on the table 1 blow where the model variables are explained in terms of their mean, minimum and maximum values.

Table 1. *Descriptive Statistics.*

Variables	Mean	Min.	Max.	Std Deviation	N.Observations
ROA	0.1286	-0.3497	2.1505	0.3760	45
DIO	1.574	0.1176	9.5504	2.1686	45
DPO	0.0018	0.0001	0.0082	0.0023	45
DRO	0.00146	0.0000	0.0191	0.0028	45
CCC	1.573	0.1173	9.5504	2.1689	45
SIZE	612224	355202	5033667	1011	45

Source: SPSS output analyzed from financial reports of the firms.

The descriptive statistic table above shows that, the proxy for firm's profitability, which is the return on assets (ROA) is 12% with standard deviation of 3.77%. The maximum ROA is 215% while the minimum ROA is -34.9%. That shows the firms performed averagely for the period under study.

On the average, firms in the ICT sector in Nigeria take two (2) days to convert their inventory to sales. That is to say, the 1.57 mean value of the days of inventory outstanding (DIO) indicates that the firms take approximately two days to change inventory to sales or receivable. The fastest firm that changes the inventory to sale took just less than one day (3hours i.e. 0.1173*24hour). The slowest firm however took a maximum of ten (10) days to change the inventory to sales. That means while the fastest firm took only few hours to convert stocks to sales, the slowest took less than ten days. This is a healthy statistics for the industry.

The average debtors collection period which is denoted by (DRO) and average creditors payment period (DPO) are both less than one (1) day. That shows that the average transaction for the industry is on cash basis. The mean value for creditors' payment period is 0.002 while the debtors' collection period is 0.001. The figures are equally healthy for the industry because it enhanced the liquidity of the firms.

The average cash conversion cycle is 1.57 days or approximately two (2) days. This means that it took, on the average, only two days to convert stocks into cash. By implication, the average inventory conversion period and the cash conversion cycle are the same. This is because of the fact the average transactions are made on cash basis. The longest cash conversion cycle is 2hours (0.117*24hours). This is an evidence of good cash to cash management.

4.2. Correlation Result

This research employed the use of Pearson's correlation on the data to examine the existence or otherwise of the relationship between and among the study variables. Table2 below is the correlation matrix table.

Table 2. *Correlation Matrix.*

	ROA	DIO	DPO	DRO	SIZE
ROA	1				
DIO	0.430	1			
DPO	-0.207	-0.116	1		
DRO	-0.055	-0.044	0.095	1	
SIZE	-0.262	-0.010	0.628	0.180	1

SOURCE; SPSS output computed from firms financial statements.

From the table 2 above, it can be seen that the profitability of the firms is negatively related with the average payment period and the average debtors' collection period. The negative relationship indicates that if average debtors collectors period is reduced, the action improves the firms' profitability. Likewise if the average creditor's payment period is lessened, the profitability improves but that is not significant hence we cannot rely on the said relationship. The strong associativity of inventory conversion period DIO and the cash conversion period CCC was as result of large DIOs and relatively low DPO and DRO. It however does not connote multi-collinearity.

4.3. Interpretation of the Regression Results

While discussing regression result, it is important to establish the validity of the ordinary least square regression model. The first assumption of the OLS is that the error term of the dependent variable must have the mean value of zero (0). To test the normality assumption, the research used both P-P Plot and histogram of the residuals. It is explained by the figure 1 below.

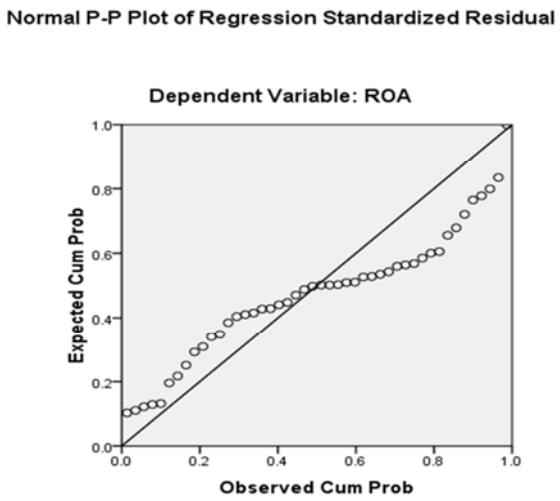

Figure 1. *P-P Plot.*

It could be seen from the figure 1 above that the P-P plot shows a good agreement with the ideal line which indicates that the residuals are normally distributed. In addition, below is the histogram of the residuals.

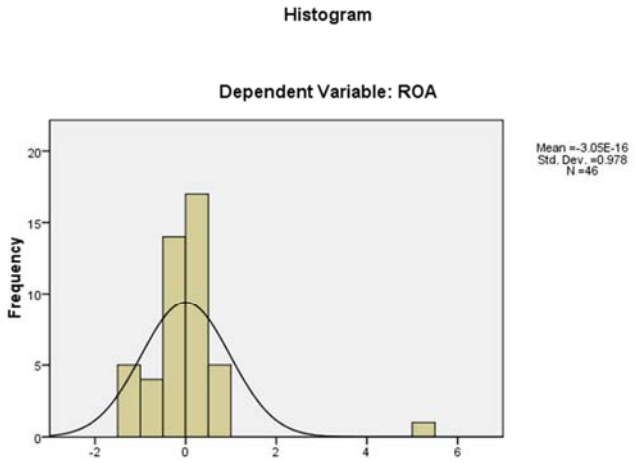

Figure 2. *Histogram of the Residuals.*

The histogram above shows that the data is normally distributed. The graph shows that the standardized residual looks fairly symmetrical for the return on assets (ROA).

Durbin-Watson (D-W) test was carried out to test the serial correlation of the explanatory variables. Serial correlation or autocorrelation examine the independence of the error terms of the independence variables. The D-W statistics of 1.845, shows that there is no auto-correlation among the explanatory variables. Auto-correlation exists only if the D-W falls below 1.5 and above 2.5.

The model has f-test significance of approximately 2% (i.e. 0.016) which means that the model is fit and significant at 95% confidence level. The R2 value of 0.26 measures the strength of relationship between the dependent and explanatory variables. It means that 26% proportion of variation in the ROA is explained by the independent variables. The adjusted R2 for the model is 0.186 which means that 18.6% variances in ROA are explained by the independent variables. This confirms that cash conversion cycle is a good in influencing firm performance of the firms in ICT sector in the Nigeria.

Furthermore, the coefficient of the independent variable explains the extent to which one unit increase in the respective independent variable leads to the changes in the return on assets. That means, decrease in one day for conversion of inventory to sales can lead to increase in return on assets by 0.73.

5. Conclusion

Cash conversion cycle is a segment of cash management and is considered an important factor in enhancing companies' performance by many researchers. This is because it usually indicates how efficient a firm was in payment of their bills and collection of their receivables. Previous researches predicted negative relationship between cash conversion cycle and profitability. This research however predicted positive relationship between cash conversion cycle and profitability.

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