



Strategic Role of Efficiency to Cash Management: Evidence from Cash Flow Statement of Selected Manufacturing Companies in Nigeria

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Research Article

Abstract

Purpose: The study aims to examine the strategic role of efficiency to cash management, more specifically as it relates to cash generated from operations of manufacturing companies in Nigeria.

Method: Annual cash flow statements of selected manufacturing companies in Nigeria for ten years (2009 -2018) were used to conduct the Pooled Test, Random Test, Fixed Effect, and Hausman Test.

Results: The results showed that efficiency has a significant effect on the cash management of manufacturing companies in Nigeria generally coupled with that of the proxies employed (CULC, LTDC, INTC, and EARQ) to measure cash management.

Implications: In view of the empirical evidence, the study proffered that cash generated from the operation is very crucial and the most reliable means of generating funds for operation because it is internal; unlike funds generated from investing and financing activities.

Keywords: Efficiency, Cash management, Cash flow, Operation, Nigeria

1. Introduction

Efficiency is crucial to the performance of an organization. Efficiency is measured as a function of the input to outcome/performance. It implies how competently the resources of an organization are being used to generate quantum of output. The output in relation to the resources committed dictates how efficient an organization is. Banton (2019) in his study postulated that economic efficiency is the optimization of resources to best serve each person in that economic state. Therefore, to achieve higher efficiency, businesses need to reduce the level of waste while still achieving the targeted output level.

There are three resources at the disposal of the management of an organization namely, men, materials, and money (MMM). Amongst these three resources cash (a subset of money) is very crucial because cash is required to maintain the other two resources. Given the importance of cash, the international accounting regulatory body has mandated that the cash flow statement must be presented as an integral part of the financial reporting of the organizations.

Many studies investigated the efficiency of business organizations using the different parameters as proxy for efficiency. Brigham and Davies (2009) made use of the cash conversion cycle model focusing on the time lag between the cash payments and cash receipts from sales proceeds. Edgar, Kenneth, and Drake (2018) used the same idea about the cash conversion cycle and working capital management. However, there was variation in the calculation of indicators. For the measurement of the inventory conversion cycle, the number of days of inventory, calculated by using ending inventory divided by the average daily cost of goods sold, instead of using sales was proposed. The idea behind this alternative formula is the match between the cost of goods sold and inventory on accounting concepts. They explained the meaning of the formula as the number of days inventory is stored inside the warehouse, which is the same idea of the number of days to convert the raw material to finish goods and sell those goods. Another difference is the payables deferral period. In the same vein; Edgar et al (2018) proposed the number of days of payables. The number of days of payables is calculated by using account payable divided by average day's purchase. The purchase indicator is calculated by the sum of the cost of goods sold and ending inventory, minus beginning inventory. The key difference here is that the accruals or other operating payables were not included in the formula like Eugene et al (2009). They explained that accruals only accounted for a very small amount outstanding at the year-end period, and will soon be paid after the period end. Fixed asset as representing business long-term investment also represents technical production ability. For this reason, Siminica, Circiumaru and Simion (2012) studied 40 Romanian listed companies on Bucharest stock exchange during Romanian economic upturn in the period of 2007 – 2008 and economic downturn in 2009 – 2010 and stated the negative relationship between fixed asset ratio and return on asset. Tiberti, Stefani, and Lombardi (2016) studied 11 thousand firms in Italy and argue that in terms of efficiency, the tangible asset ratio is negatively correlated to business efficiency.

The paper provides new evidence on the link between efficiency and cash flow. Our tests offer several methodological contributions that substantially improve estimates of efficiency and, as it turns out, dramatically strengthen the apparent effect of cash flow on efficiency. Specifically, the study introduced other variables that are different from the existing one in the literature. First, the study measured efficiency based on the operation index as opposed to return on assets adopted by Tung (2017) as a proxy of efficiency. Second, Edgar, Parkinson & Drake (2018) made use of cash conversion cycles like Brigham and Daves (2009) but with little variation as a measure of how cash management affects efficiency. However, this study employed cash generated from operation to measure how efficiency is affected by cash generated from operations.

Cash flow is an index of the money that is actually received by or paid out by a firm for a certain period (Albrecht, 2003). This index is not inclusive of non-cash accounting charges such as depreciation. What the cash flow statement appears to recognize instead, is the exact flow of cash to and from the company. Cash flow should not merely be viewed as a financial activity rather it results from a company's operations. The sales activities of a company generate cash. In return, this cash is mainly used for running the various operations of an organization. All the stakeholders in a given company have a role to play, both in the use as well as the conservation of cash. As such, this should not be the sole responsibility of the management of an organization to plan and monitor for the uses and sources of cash. When everyone within an organization assumes the role of minimizing expenses, maximizing income, and optimizing the anticipated company results, then such a company stands a better chance to thrive and survive (Ferris et al, 2002). The most important thing, which is of great relevance to this research study, is that an organization should be in a position to enjoy a continuous positive flow of cash.

It is expected of an organization that it should utilize the resources at its disposal in such a way to maximize the wealth of the shareholders. Gone are the days when organizations were comfortable in raising funds from the owners' sources for either expansion or to finance working capital. Therefore, less attention was devoted to the fund generated from operation. However, the state of the economy has made it mandatory for the directors of organizations to look inward as procuring loans becomes very difficult coupled with "killer" interest. Against this backdrop, the present study aims to determine the strategic significance of efficiency to the cash management in the context of Nigerian firms. Specifically, it pays attention to the following objectives:

- To determine the impact of the operation on current liabilities coverage
- To observe the effect of the operation on long term debt coverage
- To establish the effect of the operation on interest coverage
- To examine the impact of the operation in terms of earning quality

2. Literature review

2.1. Efficiency theories

In general, efficiency is defined as the level of performance, to achieve the highest amount of output with the least amount of input. In economics, economic efficiency is known as the level of goods in the market with the lowest cost and labor, while the greatest output is achieved. In the work of Banton (2019) economic efficiency is the optimization of resources to provide a service for each person in that economic state in the best possible way. To accomplish higher efficiency, businesses have to reduce wastage of resources while still achieving the projected output level. In the finance literature, efficiency is measured using activity ratios. This ratio is derived from information in the income statements as the output, and in the statement of financial position as the input. These ratios are the reflection of the efficient management of working capital and non-current assets. The frequently used ratio to measure efficiency is the asset turnover ratio, which is calculated by using sales, divided by average total assets. A low level of asset turnover indicates the inefficiency or relative capital intensity of the business. The

ratio also reflects strategic decisions by management, whether to use a more labor-intensive approach to its business or a more capital-intensive approach. Turnover is the total level of core income, while the asset is all resources on hand. However, some researchers prefer using other measures for overall efficiency. Tung (2017) used return on assets to measure efficiency. Return on assets reflects the level of net income generated per unit of assets, which means it reflects the level of last remaining income after deducting expenses and adding non-core income. However, since the return on asset is grouped as a profitability ratio, the researchers preferred using other indicators of efficiency for this research.

2.2. Stewardship theory

Stewardship theory is a theory that manager left on their own, will act as responsible stewards of the assets they control. Stewardship theorists assume that given a choice between self-serving behavior and pro-organizational behavior, a steward will place a higher value on cooperation than defection. Stewards are assumed to be collectivists, pro-organizational, and trustworthy (David, Schoorman, and Donaldson, 1997). Stewardship Theory has two tenets: one the conceptualization that agents act in the interests of the principal as “good stewards” (Davis et al. 1997, Donaldson, 1990, Van Slyke, 2007); and the other, that certain factors cause stewardship behavior (Van Slyke, 2007).

2.3. Operating cash flow

Within the context of financial accounting, cash flow from operating activities is used in reference to the flow of cash made available by the core operations of a business entity. Net cash flow from operating activities represents the net increase or decrease in cash and cash equivalent resulting from operations shown in the income statement in arriving at operating profit. In view of the fact that it adjusts for receivable, depreciation and liabilities, operating cash flow is seen as a more accurate measure of how much a company has generated, in comparison with the conventional profitability measures like net income (Fabozzi& Markowitz, 2006). For example, a business entity characterized by many fixed assets within its books of account, such as machinery and equipment, are more likely to reduce net income as a result of depreciation. Nevertheless seeing that depreciation is not an item that involves movement of cash, therefore, the business entity’s operating cash flow would provide a more accurate picture of the company’s current cash holdings than the artificially low net income (Fabozzi& Markowitz, 2006). Cash generated as a result of operating activities is a reflection of the transactional effect of cash that helps to determine an entity’s net income, or cash received from customers, following a service provision or sale of a product as postulated in a study conducted by Berry et al, 2005. Payment of cash to suppliers, employees, and taxes on income are also incorporated when computing operating cash flow. On the other hand, cash flows as a result of investing activities entail loan processing and collection, in addition to equity investment, debt dispensing, plant, property, and equipment investment (Berry et al, 2005). As such, an inventory purchased by, for instance, a jeweler shall normally appear as an operating use of cash on a cash flow statement. Nevertheless, a showcase payment that displays a jewelry inventory often gets

reported as an investing activity. Cash flows emanating from financing activities entail principal amounts that could either have been borrowed or are being repaid to a certain lender. This is in addition to the issuance of cash received and the payment of cash towards equity repurchases. It is only the debt that results from actual borrowing transactions that will usually get reported as financing cash flow (Berry et al, 2005). For this reason, vendor financing by, for example, a jeweler to reschedule inventory purchases payment would normally be categorized as an operating source of cash.

According to Bragg, 2003, a useful method to examine a statement of cash flow structure is to classify the amounts of cash payable for investment purposes which should take into account plant, property, equipment, as well as cash received following the sale of an investment. Any form of income that may be obtained from such investments, for instance, cash revenue minus cash invested in plant and property, shall be incorporated in the computation of the operating cash flow. Even though investment sales usually yield losses and gains, nevertheless such losses and gains do not get reported on a statement of cash flow operating section. Instead, sales proceeds which include investment before recovery minus sales loss or plus the gain, usually get reported in the statement of cash flow's investing section. Just like net income is usually taken as a source of earning to shareholders, operating cash flow also gets measured from the viewpoint of a shareholder (Bragg, 2002). What this boils down to is that net income is only determined following a deduction of interest expenses but prior to the payments of dividends. In the same way, operating cash flow shall be determined following the payment of interests, prior to the dividend. The latter is of course considered to be a financial activity.

Business cash, as a result of the operating activities within a cash flow statement, indicates the amount of cash in contrast with accrued operating profit that has been generated by the operations of a business entity. Normally, net income happens to be the most significant cash source, as a result of business operations. There are two main classes of adjustments that can be made to the net income of a company, and these are in turn applicable at a time when the cash flow of a business is being assessed. On one hand, those non-cash expenses that had previously been deducted while computing net income would be added back. These include depreciation and amortization. On the other hand, profit on the sale of tangible fixed assets is treated as a deduction from net income whilst loss is treated as an addition. Other adjustments are effected as a result of changes in current liabilities and current assets.

2.4. Investment cash flow

Cash flow from investment activities is amongst the three cash flow elements that bears a direct correlation with a given business entity. These are cash flows received by a business organization out of general investments, or following an acquisition. In the study conducted by Epstein et al (2007), he warned of the need to be mindful that investment cash flows can also be used in reference to those cash flows that have hitherto been expended or received. For instance, an item of capital expenditure may be regarded as a cash flow that has been expended through the purchase of a given tangible asset, such as property or building. In addition, an investment cash flow could also be used in reference to that flow of cash that has been used for purposes of

purchasing a given form of investment, or even cash that has been acquired as a benefit, following an investment sale. It could be that an investment may have been sold, in which case the firm acquires the sales proceeds in the form of revenue. In concluding this part he sounded a note of warning that this should not be confused with loss or profit which represents the deficit between the purchase price of an investment and its selling price. Bodie et al (2004) opined that investment cash flows should be regarded as vital elements of an organization's statement of cash flow, considering that this component may be a deciding factor in terms of the financial future of a given organization. On the other hand, investment cash flows, following an acquisition may tend to differ slightly as it encompasses both the solid assets of that investment which has been acquired, along with the existing cash flow of the acquisition investment balance sheet. Bodie et al (2004) further added that an investment cash flow could also encompass liabilities. An ideal acquisition situation is one in which positive cash flows are reflected, as these go a long way into augmenting the financial position of a given company. Conversely, the act of acquiring a company already plagued with negative cash flow is often seen as an act of bad bargain. Consequently, it is important that a manager pays close attention to the statement of the financial position of a business organization before its acquisition. More importantly, an investment cash flow is a means to assess the strengths and weaknesses of a company. The act of getting more detached from a company's activities may be seen as the start of a proportionate diminishing of the connection between the execution of a supply chain to a company and the financial considerations of such a business entity. Due to the connection between execution and outcome, coupled with a realization that investments in the future are, to a lesser extent, reliant on a company's bottom line results, further depicts how vital it may be to tie strategic decision of a company to its performance (Epstein et al, 2007). In this regard, the investing activities of a cash flow statement may be seen as a window of opportunity to the ensuing long-term element of the management supply chain to a company. Furthermore, it also pays close attention to the effect that the long-term investments of a company's cash may have in the short-term. This may be evident as a collection of strategic moves and operating performance and in effect establishing an ideal outlook towards a business entity. In the process of exploring the issue of investing activities of cash flow, it is very critical that such an assessment should be carried out from the perspective of how a company in question has developed over time.

2.5. Financing cash flow

This is a term that is used to account for cash accruing from equity, debt issue, and payment of dividends, debt repayments, and repurchase of shares. This implies that dividends, loans, and debt are often accounted for in the form of cash from financing activities. A rise in the capital, changes in cash emanating from financing are termed as "cash in" while payments of dividends are termed "cash-out" (Bragg, 2002). Therefore, such action of a company issuing its bond to members of the public increases its cash in. On the other hand, interest payment to bondholders results in cash out of such an organization.

2.6. Sustainable cash flows

The term sustainable cash flow refers to the recurring cash. Usually, this form of cash flow is derived from the profitable operations of a company. It is possible to generate positive operating cash flow on occasions where a business entity does not record any profits (Feldman, 2005). The generation of sustainable cash flow, however, demands that profitable operations should be in place. A case in point here is the Eastern Airlines, Inc., that underwent an extended demise during the latter part of the 1980s. Prior to its liquidation, the airline had witnessed a losing streak period for a couple of years. Nevertheless, the company was still in business and occasionally recorded positive operating cash flow, despite its loss recording. The operating cash that a company generates emanates from massive non-cash expenses which include equipment depreciation, working capital accounts, and liquidation. In addition, the company can utilize its capability to persuade various groups of its employees to acknowledge equity claims in place of payment of their services. Ultimately, there may arise the need to end operations, at a time when the company could no longer generate meaningful revenue and by extension, profits. This could lead the company to rule out any prospects towards the attainment of its objectives. It is worthy of note here that operating cash flow that has been augmented by profitable operations may prove to be unsustainable in the long-term (Feldman, 2005). For instance, operating cash generated from an inventory wholesale liquidation or a massive reduction with regard to accounts receivable may not be sustainable. Alternatively, an increment on time taken to pay off debts owed to vendors will help in enhancing operating cash flow. Nonetheless, such a cash flow increase is not generated from a source that is recurring, hence, in the long-run; vendors will shy away due to a rise in the risk in such payment terms. In spite of potential problems, among the three classes of statements of cash flows, operating cash flow, without doubt, reveals the core operations of an entity (Carton & Hofer, 2006). As a result, operating cash flow fits to be the starting point for sustainable cash flow identification.

The cash flow statement is of great importance to shareholders, suppliers, creditors, and other stakeholders to a business entity (Knechel et al, 2007). The main reason is that a cash flow statement shows whether activities of investing have either been financed externally (for example, borrowing) or internally (for example, working capital management, or generate profits). Additionally, a cash flow statement assists in the evaluation of the ability of a company to generate in future positive cash flows. This is in addition to helping to expand or maintain the capacity of operations, with regard to investing in fixed assets. There are also the issues of fulfilling such future obligations as liabilities repayment, as well as dividends payment (Knechel et al, 2007).

A modest way of approaching the performance of a business is that such a business should be capable of generating revenue, along with profits. In the event that a business realizes real profits, chances are that such business shall also experience an operating cash flow (Ferris et al, 2002). In case this profit is one of creative accounting, then such a business will be lacking in terms of operating cash flow. It is important to note that the comparison here has a lot to do with the operating cash flow of a business since this form of cash flow bears reconciliation with a company's profit. This is the linkage point between the cash flow and the profit or loss that a

business makes. Other than the preparation of the statement of cash flows that are fraudulent in nature, cash flow may only be manipulated through an arrangement of the time to make payments and receipts.

2.7. Empirical Studies

Per GAAP (Generally Accepted Accounting Principles) requirements, the alteration in the amount of cash between two accounting periods may be divided into three major classes: cash used or provided by operating, investing and financing activities. These three classes signify three very different uses and sources of cash.

Cash in any business, whatever its nature; is essentially required for the survival and determination of business efficiency Kisang and Shawn, (2004); DeFranco and Schmidgall, (1998)Alayemi, Owolabi and Skefun (2015). There are different studies carried out by different researchers on cash flow as being critical for business in the context of various types of industries [Casey and Bartczak,(1985; Bohannon and Edwards, 1993; Galier and Ivento, 1993; Epstein and Pava, 1994; Sylvestre and Urbancic, 1994 and Beck,1994). They all noted that cash is a crucial resource of the organization that dedifferentiates between successful operations and unsuccessful. Cash may come from three major sources: Operating cash flow, investing cash flow, and financing cash flow.

Based on the literature and keeping the objectives of the study in mind, we consider the following hypotheses in null form:

H1: That operation has no significant impact on current liability coverage.

H2: That operation has no significant effect on long term liability coverage.

H3: That operation has no significant effect on interest coverage.

H4: That operation has no significant effect on earning quality.

3. Methodology

Ten manufacturing companies whose financial statements are available in the net were selected for the study. The data for the study were collected from the financial statements [income statement, Statement of financial position, cash flow statement, and Notes to the Account for a period of ten years (2009-2018)] of the selected companies.

Table 1: Measurement of variables

Variables	Meaning	Formula	Sources
OPID	Operation index	$OPID = \frac{\text{Cash-generated from operation}}{\text{Earnings before interest and tax}}$	Maxwell, (2010)
CULC	Current liabilities coverage	$CULC = \frac{\text{CFO} - \text{Cash Dividend paid}}{\text{Current Liabilities}}$	Frank, (2004)
LTDC	Long term debt coverage	$LTDC = \frac{\text{CFO} - \text{Cash dividend paid}}{\text{Long term Debt}}$	Frank, (2004)
INTC	Interest coverage	$INTC = \frac{\text{CFO} + \text{Cash payment for interest} \& \text{Income Tax}}{\text{Cash payment for interest}}$	Frank, (2004)
EARQ	Earnings quality	$EARQ = \frac{\text{CFO} + \text{Cash payment for interest} \& \text{Income Tax}}{\text{Net income} + \text{interest payment} + \text{Inc. Tax Exp.}}$	Frank, (2004)

CFO = Cash generated from operation.

Model formulation

The researchers run the following regression model. The input data is panel data.

$$Y_{it} = \alpha + \beta X_{it} + \mu_{it}$$

In which:

Y: Dependent variable

X: Independent variable

α : Intercept

β : Coefficient

μ_{it} : error terms.

In our study:

Dependent variable:

OPID = Operation Index

Independent variable:

CULC = Current liabilities coverage.

LTDC = Long term liabilities coverage.

INTC = Interest coverage

EARQ – Earning quality

$$OPID_{it} = \beta_0 + \beta_1 CULC_{it} + \beta_2 LTDC_{it} + \beta_3 INTC_{it} + \beta_4 EARQ_{it} + \mu_{it}$$

4. Results and Discussion

4.1 Descriptive statistics

The descriptive statistics representing the summary of all the variables are presented in Table 2.

Table 2: Descriptive Statistics

	OPID	CULC	LTDC	INTC	EARQ
Mean	0.74	1.41	0.44	1.94	29.35
Median	0.43	1.44	0.42	0.75	18.13
Maximum	1.82	1.82	1.00	11.11	94.18
Minimum	0.20	.87	0.23	3.27	30.26
Std. Dev.	0.63	0.32	0.23	3.27	30.26
Observations	10	10	10	10	10

Table 2 reports the mean, median, maximum, minimum, standard deviation, and the number of observations for each of the variables. The mean and the median in the table were computed to find the central tendency of each of the variables for the ten (10) firms in the sample. The standard deviation indicates the sample's dispersion level of the variables. The descriptive statistics showed that the mean value for the operation index for ten years (2009-2018) is 74%; this value is not near the median of 43%, and the deviation is 63%. Obviously, the range is very wide and the fluctuation is large. This result is reasonable as the time frame is long and covered different phases of the economy. The wide range of operation index can also be explained by differences between companies. The samples included very large, market-dominant firms and very smaller firms. Therefore, a large fluctuation is reasonable. The current liability coverage

has a mean value of 1.41times and median to be 1.43 times while the standard deviation from the mean is 0.32times. The long term debt coverage has a mean of 0.44 times and a median of 0.42 times and standard deviation from the mean of 0.23 times. The dispersion from the mean is a bit wide. This showed that the management is not efficient in the way and manner the capital structure of the organization is being managed. The interest coverage variable has a mean of 1.94 times and a median of 0.75 times while the standard deviation from the mean is 3.27 times. The wide dispersion from the mean is as a result of the state of the economy during the period covered in the study. The implication of this is that cash generated from the operation is not that enough to cover interest payment conveniently. The earning quality variable which showed the quality of the organization earnings has a mean of 29.35% and a median of 18.13% with a standard deviation from the mean to be 30.26%. The reason for the wide dispersion from the mean is as a result of government economic policy as it affects the running of business organization for the period (2009-2018) under consideration.

4.2 Regression Analysis

Three types of models were used to determine the appropriate one to adopt for the regression analysis. The three models are the fixed effect model, random effect model, and the pooled model.

Table 3: Pooled Effect

Variable	Coefficient	Std.Error	t-statistic	Prob
CULC	1.21	0.16	7.60	0.00
LTDC	-2.11	0.63	-3.33	0.00
INTC	0.05	0.04	1.19	0.24
EARQ	-0.00	0.00	-1.99	0.05

Dependent variable: OPID

Total pool (balanced) observations: 50

R-squared 0.53

Adjusted R-squared 0.49

Durbin-Watson stat 1.56

The pooled effect was run to determine its appropriateness as far as the study is concerned. From the pooled model, ignoring the time effect and the cross-sectional effect, the pooled model explains 53% of the variation of operation index (OPID). However, because the data fluctuated very strongly, it is inappropriate to use the pooled model. Hence Random effect was considered.

The researchers added random effect to both cross-section and time-series to determine improvement over the pooled effect. The R-square of the two ways random effect model is 76% greater than the R-squared of the pooled model. Almost every coefficient of the two ways the random effect model is statistically significant.

Table 4: Random Effect

Variable	Coefficient	Std. Error	t-Statistic	Prob
C	-4.16	0.66	-6.33	0.00
CULC	3.45	0.37	9.25	0.00
LTDC	-0.65	0.53	-1.23	0.22
INTC	-0.12	0.04	-3.07	0.00
EARQ	0.02	0.00	4.98	0.00
Effect Specification				
	S.D.	Rho		
Cross-section random			0.00	0.00
Idiosyncratic random			0.32	1.00
Weighted Statistics				
R-squared	0.76		F-statistic	35.61
Adjusted R-squared	0.74		Durbin-Watson	1.77
Prob(F-statistics)	0.00		S.E. of regression	0.31

Dependent Variable: OPID

Total pool (balanced) observations: 50

Table 5: Fixed Effect

Dependent Variable: OPID

Total pool (balanced) observations: 50

Variable	Coefficient	t-Statistic	Prob	
C	-4.16	0.66	-6.33	0.00
CULC	3.45	0.37	9.25	0.00
LTDC	-0.65	0.53	-1.23	0.22
INTC	-0.12	0.04	-3.07	0.00
EARQ	0.02	0.00	4.98	0.00
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.71	S.E. of regression	0.33	
Adjusted R- squared 0.69 Prob(F-statistic) 16.22				
F-statistics	16.22	Durbin-Watson stat	1.77	

The researchers considered the use of the fixed-effect model to determine if it explains the variables better. In this case, the R-square is 71% which is lower than the R-square in Random Effect.

Hausman test was run to compare the fixed and random effects. From Table 6, the p-values were not even available, which means that the null hypothesis cannot be rejected. This means that there is no significant difference between the fixed effect model and the random effect

model. Therefore, the random effect model is appropriate. The result of the random effect is as follows:

$$\text{OPID} = -4.15 + 3.45(\text{CULC}) - 0.65(\text{LTDC}) - 0.12(\text{INTC}) + 0.02(\text{EARQ}), R^2 = 0.76, \text{SER} = 0.31$$

Table 6: Hausman Test

	Chi-Sq	Statistic	Chi-Sq. d.f	Prob
Test Summary				
Cross-section random	0.00		4	1.00
*Cross-section test variance is invalid. Hausman statistic set to zero				
*WARNING: estimated cross-section random effects variance is zero				
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
CULC	3.45	3.45	-0.00	NA
LTDC	-0.65	-0.65	-0.00	NA
INTC	-0.12	-0.12	-0.00	NA
EARQ	0.02	0.02	-0.00	NA

Table 7: Result of Regression based on Random Effect

OPID		p-value
Intercept	-4.16	0.66
CULC	3.45	0.00
LTDC	-0.65	0.22
INTC	-0.12	0.00
EARQ	0.02	0.00
SER	0.31	
R ²	0.76	

From the regression model, if all the regressors (independent variables) are zero; mathematically OPID is -4.16. It means that no matter how efficient an organization is, the operation would result in a loss in the absence of cash to run the company. This is reasonable and appealed to common sense.

The R² measured the proportion of the variation in the dependent variable (OPID) accounted for by the independent variables (CULC, LTDC, INTC, and EARQ) included in the model. As shown above, R² is 0.76; meaning that 76 % of the variation was explained while 24% was not explained. The model as shown by the F-value of 35.61236 and Prob (F-Statistic) of 0.00 was an indication that the model is significant and that there is no autocorrelation. This assertion of the absence of autocorrelation was further confirmed by Durbin-Watson with a value of 1.77 which is approximately 2.

The effect of CULC, INTC, and EARQ on OPID is statistically significant because the p-value is less than 0.05 while the effect of LTDC on OPID is not statistically significant because the p-

value is greater than 0.05. The null hypotheses are that all the coefficients are equal to zero. That is, $H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4$. Therefore, hypotheses 1, 3, and 4 were rejected while hypothesis 2 was accepted.

5. Conclusion and Recommendations

Efficiency is the use of resources to ensure that optimum output is achieved from the inputs used. It relates to the combination of what the organization often refers to as 4 Ms (men, materials, machines, and money). The study focuses on the strategic role of efficiency to cash management. Cash flow is divided into three segments, namely, (1) cash generated from operating activities, (2) cash flow from financing activities, and (3) cash flow from investing activities. Efficiency has to do with how the business organization conducts its activities in relation to the operations that bring in cash into the organization. Cash generated from the operation is very critical to the survival of the organization because cash is needed to pay for the interest of both short term and long terms loans together with the repayment of the principal. The study revealed that current liability coverage and long-term liability coverage are statistically significant and have an effect on the efficiency of an organization. If these two are not efficiently managed, the firm will face financial distress which can eventually lead to the liquidation of the firm. The earning quality has a great effect on efficiency. It means that earning quality determines how efficient the management is in running the affairs of the organization. It is therefore very crucial for a business organization to monitor cash generated from operation because it is the only reliable source of funds to the business organization.

In conclusion, cash generated from the operation is very important for the survival of any business organization as it is a reliable source of funds for an organization. Due to this, the efficiency of an organization can be measured in terms of how cash is being managed, especially the aspect that has to do with the cash generated from operation.

Based on the empirical evidence from the study, the following measures are recommended for policy consideration:

- i. The companies should watch as a matter of importance the level of working capital which has to do with the proportion of current assets to current liability.
- ii. The cash flow generated from operation should be monitored *vis-a-vis* the exposure of the company to long term debt.
- iii. The interest coverage is very crucial and should be monitored in relation to the company's exposure to long term debt so as to prevent it from serious risk.
- iv. The earning quality of the company should be maintained to allow an adequate flow of funds from operation.

6. Limitation and Direction for Future studies

The study concentrated on the efficiency of the business organization *vis-à-vis* cash flow statement with cash generated from operation only. It did not consider labor intensity and efficiency. Further studies should be conducted along with this limitation.

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