CASH MANAGEMENT AND PERFORMANCE OF JEZCO OIL LIMITED, AWKA, ANAMBRA STATE

Bankole Isaac, Akinroluyo (PhD), Olayinka Hammed O, Ngozi, Comfort Okeke (PhD), Idigo, Peter Ifeanyi (PhD)
Department of Business Administration, Nnamdi Azikiwe University, Awka,
bi.akinroluyo@unizik.edu.ng, ho.olayinka@unizik.edu.ng
,ngc.okeke@unizk.edu.ng, pi.idigo@unizik.edu.ng

Abstract
Cash management is essential to the survival, growth and performance of any manufacturing industry. This study thus examined cash management and the performance of Jezco Oil Ltd, Awka, Anambra State. The specific objectives are; to determine the level of relationship that exists between treasury bill and production cost; to examine the degree of relationship that exists between saving bond and production volume; to evaluate the extent of relationship that exists between certificate of deposit and operation efficiency. Survey research design was adopted for this study, the population of the study comprises 70 employees both the management, junior and senior staff in various departments in Jezco Oil Ltd Awka. A sample size of 59 were selected randomly for this study. Data was collected with use of primary source which was obtained from respondents through a structured questionnaires formulated by the researcher. Data was analyzed with Pearson product moment correlation through simple linear regression with SPSS version 23. The findings of the study show that treasury bill has significant effect on production cost with a (R-square of 0.950, at p-value < .001), there is a significant effect of saving bound on production volume (R-square of 0.958, at p-value < .001), certificate of deposit has a significant effect on operation efficiency (R-square of 0.939, at p-value < .001). The study conclude that cash management has a significant effect on manufacturing industry performance. The study recommends that Companies should prioritize effective cash management strategies: Given the significant impact of cash management factors on production costs, it is crucial for manufacturing companies to implement effective strategies to manage their cash flow.
Keywords: cash, performance, cash management, manufacturing industry, Anambra State.

Introduction

Cash management is essential to the survival and growth of any manufacturing industry. Managing an industry financial operation requires knowledge of economy and ways to maximize revenue without cash management, the manufacturing industry will be unable to function because there are no cash management techniques. The manufacturing industries faced increased global completions that change it to become increasingly more competitive. In response to this, many manufactures are focusing on efficiency through cost reduction to say competitive and profitable. Cash management is a concept that is receiving serious attention all over the world especially with the current financial situations and the state of the

world economy. The concern of business owners and managers and managers all over the world is to devise a strategy of managing their day to day operations in order to meet their obligations as they fall due and increase profitability and shareholder's wealth. Cash management strategies refer to the processes involved in skillfully minimizing the operating cash balance requirements of the firm (Umo, 2021) Cash management is essential to every business that designs to meet up with its financial obligations. No business operation is isolative of cash management. Olowe, (2020), the term cash is the most vital liquid asset required for the day to day operations of businesses. It is seen as the most basic liquid input required for keeping the business in its day to day activities and it doubles as the ultimate output expected to be realized by selling the services or products manufactured by the firm (Pandey, 2021). Cash is the basic input required to keep the business running on continuous basis and it is also ultimate output expected to be realized by selling the services or products manufactured by firm. The essence of cash management is to ensure positive cash flow for smooth business operation. Efficient cash management involved the determination of the optimal cash to hold by considering trade-off between the opportunity cost of holding too little. Therefore, there is the need for careful planning and monitoring of cash flows overtime as to determine the optimal cash to hold. The cash conversion cycle is a very powerful tool for examining how well an industrial goods company working capital is being managed. In order to run the industrial goods companies for longer periods, management accountants make decisions to manage working capital by creating a balance between the available current assets and current liabilities (Umo, 2021).

Organizational performance depends on leaders' mastery to create a cooperative working climate and on their ability to lead a team. Effective results require emotional engagement and empathy from participants in terms of activities performed within a team in order to provide solutions to issues that need to be resolved as professionally as possible. Organizational performance refers to the degree to which the organization, with some informational, financial, and human resources, positions itself effectively on the business market. Individual performance can influence the performance of the entire organization in the short, medium or long term in a positive or negative direction.

According to Stella, Usen (2023) due to seasonality and uncertainty, managers of industrial goods companies focus on core business issues and undermine some potentially serious and costly issues associated with poor cash management strategies/skills and poor understanding of the cash flow cycle. However, if managers of industrial goods companies focus on cash management strategies/skills, this will lead to a sustainable development in business organizations. But these days' proper attention is not given to the timing of cash inflows and outflows operations. In accordance with the above this study intends to investigate the impact cash

management on performance of manufacturing industry in jezco oil Ltd Awka, however the specific objectives of the study were; to determine the level of relationship that exists between treasury bill and production cost; to examine the degree of relationship that exists between saving bond and production volume; to evaluate the extent of relationship that exists between certificate of deposit and operation efficiency.

Conceptual Review

Cash Management

Cash management is the process of managing and optimizing the cash flow of a business. This includes forecasting cash flows, analyzing cash flow statements, and making decisions about how to best use cash resources. Cash management is defined as the act of identifying, monitoring and controlling cash inflows and outflows in other to maximize the availability of funds for operational and investment needs while minimizing the cost of such funds, he further stated that cash management is an important aspect of financial management and is critical to the financial health of a business. Cash management can be defined as the process of planning, monitoring, and controlling the flow of cash in and out of an organization (Uche, Udeagha, Okolo, & Ogbajie, 2021). Cash management involve the control of cash inflow and outflow, with the goals of ensuring that a business has sufficient cash to meet its short-term obligation and archive its long-term goals. He defines cash manager as someone who is responsible for planning, implementing and monitoring the cash management activities of a business. According to Ikechukwu *et al* (2022), Cash management is the process of planning and controlling the inflow and outflow of cash in an organization with the main aim of ensuring that there is always enough cash to me*et al*l obligations as at when due. It's important to note that their definition focuses specifically on the financial aspect of cash management. Cash management can be broken down into two main parts: cash forecasting and cash conversion. Cash forecasting is the process of predicting future cash inflows and outflows based on historical data and future plans. Cash conversion is the process of converting non-cash assets (like inventory) into cash that can be used to meet the organization's needs. Cash management also involves making decisions about short-term investments, which are investments that can be converted to cash quickly if needed. Cash forecasting is important because it allows the organization to plan for the future and make sure that it has enough cash on hand to meet its needs. It involves analyzing historical cash flow data, as well as current and future plans, to make an educated guess about how much cash will be coming in and going out in the future. This forecast can then be used to make decisions about how to best use the cash that the organization has.

Manufacturing industry

The manufacturing sector of any economy worldwide is reputed to be the engine of growth and a catalyst for sustainable transformation and national development. This is because of its enormous potentials as a tool for creating wealth, generating employment, contributing to the country's Gross Domestic Product (GDP) as well as alleviating poverty among the citizenry. The experiences of the developed countries of the world and the emerging economies of China, India, North Korea, Malaysia and Singapore show that there is a positive correlation between the aforementioned indicators of the performance of the manufacturing sector and national growth and development. Thus, for many up- coming countries like Nigeria, the development of the manufacturing sector is an imperative for meaningful and sustainable national growth. Organizational performance depends on leaders' mastery to create a cooperative working climate and on their ability to lead a team. Effective results require emotional engagement and empathy from participants in terms of activities performed within a team in order to provide solutions to issues that need to be resolved as professionally as possible. Organizational performance refers to the degree to which the organization, with some informational, financial, and human resources, positions itself effectively on the business market. Individual performance can influence the performance of the entire organization in the short, medium or long term in a positive or negative direction.

Theoretical Reviews

Trade-off Theory

This study was anchored on trade-off theory of capital structure of cash management by stewart C. Myers and Nicholas S. Majluf (1984). According to Myers and Majluf (1984) the trade-off theory of capital structure posits that firms balance the benefits of debt (lower cost of capital and potential tax advantages) with the costs of debt (increased risk and potential bankruptcy). It suggests that firms choose a capital structure that optimizes their cost of capital while minimizing their risk of default. The theory suggests that firms should balance their debt and equity in a way that maximizes their value and minimizes their cost of capital. The trade-off theory also considers the impact of agency costs, which arise when the interests of management and shareholders are not aligned. For example, managers may prefer debt financing because it increases the risk of bankruptcy, which can protect their jobs and salaries. Shareholders, on the other hand, may prefer equity financing because it aligns management's incentives with the firm's long-term success. The theory has the following assumptions:

1. Markets are efficient and information is available to all parties, allowing for an accurate assessment of risk and return.
2. There is a clear relationship between a firm's level of debt and its cost of capital, with higher levels of debt leading to a higher cost of capital.

3. Firms have a clear goal of maximizing shareholder value, and they make decisions based on this goal.
4. Taxes affect the cost of capital, with debt financing being preferred over equity financing due to the tax deductibility of interest payments.
5. Bankruptcy has real costs for firms, including the loss of assets, damage to reputation, and disruption of operations.
6. There is a trade-off between risk and return, with higher-risk investments offering higher potential returns.

Empirical Reviews

Wokeh & Nmehielle, (2023). Determine the effect of cash management on financial performance of listed agricultural firms in Nigeria. The study employed an ex-post facto research design. The study population was five (5) listed agricultural firms on the Nigerian Exchange Group (NGX). A sample size of five (5) agricultural firms was used using a census sampling technique covering ten financial years (2012 to 2021). The data used in this study were secondary sourced from annual reports and statement of accounts of the selected firms between 2012 and 2021. The method of data analysis is descriptive statistic, unit root test, diagnostics test and panel ordinary least square (OLS) with the help of E-view v12. The findings showed that there is a significant effect of cash and cash equivalent on return on assets, there is no significant effect of cash turnover on return on assets, there is no significant effect of cash and cash equivalent on return on equity and there is no significant effect of cash turnover on return on equity of listed agricultural firms in Nigeria. It was suggested amongst others that given that cash and cash equivalent were found to enhance return on assets as a measure of financial performance of agricultural firms, the study conclude that from the forgoing analysis, it is evident that cash management has insignificant effect on financial performance as indicated in the empirical results. This study therefore recommends for continuous embracement of these cash and cash equivalent by agricultural firms in Nigeria.

Ukoh (2023). Examined the relationship between cash holdings and quoted conglomerate R&D in Nigeria from 2002 to 2019. The study used an ex-post facto research design. The data was taken from the sampled conglomerates' annual reports and accounts. E-Views 9.0 statistical software was used to examine the data using ordinary regression analysis. The cash ratio was used to assess cash holdings. The findings revealed that, at a 5% level of significance, there is a significant negative relationship between cash ratio and research and development of conglomerates listed on the Nigeria Stock Exchange. The study concludes that there is a negative and significant linear relationship between cash holdings and firm size; a negative and significant relationship between cash holdings and research and development; and a negative and significant relationship between leverage and cash holdings at 5% significant leverage. It was recommended that since there is a significant and

negative relationship between research and development and cash holdings, conglomerates should manage their investment in research and development in order to generate more cash and grow the business.

Adesina & Adewumi (2022). Investigates how liquidity management affects the profitability of Nigeria's listed deposit money banks (DMBs). The study employed a sample of five deliberately chosen listed DMBs in Nigeria. Data for the panel was acquired from secondary sources, notably the DMBs' 2017–2021 audited and published annual reports. The findings show that liquidity management, measured as the ratio of liquid assets to total assets, has a positive but insignificant impact on return on capital employed. There is a positive but insignificant effect of Liquid asset to total deposit on capital employed and deposit from other bank to total assets has positive but insignificant effect on return on capital employed and total loan to total assets has positive but insignificant effect on return on capital employed. The study concludes that there is a need for effective and efficient liquidity management in the banking industry in such a way that will enhance their profitability. The study recommend that It is essential that liquid assets are managed in such a manner that idle funds, which do not bring profit, are avoided.

Boluwatife, (2022). Investigated the effects of cash flow on corporate performance of the consumer goods sector in Nigeria for the period 2011 to 2020. The study employed an ex-post facto research design. The population of the study consists of all the listed firms in the consumer goods sector which have a total of thirty-four companies and the non-probability sampling technique of purposive sampling was adopted for this study. The data for the study was collected from the audited financial statement of the eleven selected companies from the Nigerian Stock Exchange. The data were analyzed using multiple regression. The result from the data analysis revealed a positive and significant relationship between operating cash flow and return on assets of the listed consumer goods sector in Nigeria while investing cash flow and financing cash flow revealed a negative and insignificant relationship. Based on the findings, the study concludes that negative net cash flows generated from investing activities are associated with weak corporate performance and are capable of decreasing consumer goods sector performance. Hence the study recommended that the consumer goods sector should adopt what is called backward integration and firms in the consumer goods sector should give due relevance and attention to operating cash flow to improve their corporate financial performance.

Ali, Njoku, Ugoani, Nwaorgu & Ukeje. (2020) Examined the effects and implications of cash management of DMBs in Nigeria. The variables studied were Cash to total asset, operating cash to total asset, investing cash to total asset, Financing cash to total asset, Bank size, Bank age, peroxide for cash management and Return on Asset used to represent financial performance. Data used for this study were from secondary sources and were generated from the annual reports and

accounts of the selected DMBs for the period 2014–2018. The results show that while operating cash to total asset of bank, investing cash to total asset and bank size have no significant effect on financial performance of DMBs, financing cash to total asset and bank age have a significant and positive effect on financial performance of deposit money bank (DMBs). However, cash to total asset has a significant negative effect on financial performance of banks. The study concludes that cash positions, which can lead to liquidity risk has to be managed because it has tendency to compound other risks. It further highlighted that adequate attention should be paid on the use and reserves of cash among banks in Nigeria. This study recommends that banks should adopt optimum cash management model for efficiency and effectiveness. Stringent regulatory policies in this regard must be reviewed in such a way that they can be relaxed, to encourage effective liquidity management measures.

Ogiriki, Atagboro & Ogoun (2020). Examined the relationship between cash flow and performance of companies in the Consumer Goods sector of Nigeria. The study involved a survey of sixteen (16) Consumer Goods companies listed on the Nigerian Stock Exchange, and the relevant data were subjected to statistical analysis using multiple regression techniques. The results of the investigation exposed that operating and investing cash flow has a significant positive relationship with the performance of companies in the Consumer Goods Sector of Nigeria. It was also verified that financing cash flow has a significant negative correlation with the performance of companies in the Consumer Goods sector of Nigeria. The researcher concluded that negative net cash flows generated from investment and financing activities associated with fragile business control are capable of reducing the consumer goods sector performance. The researcher recommended that regulatory authorities such as IFRSB, FRCN, CBN, NSE, SEC, NDIC, etc. should encourage external auditors of these listed Consumer Goods Corporations to utilize cash flow ratios in assessing the performance of a corporation before forming a self-regulating judgment on the financial statement, which will give in-depth information on the company to enable investors to make rational investment decisions.

Ofoegbn & Okoro, (2020). Examined the effect of cash flow on the performance of listed Deposit Money Banks (DMBs) in Nigeria. With the aid of multi-stage sampling technique which uses both pure random and eliminating method, twelve (12) banks were sampled for investigation over ten years beginning from 2006 to 2015 from a total population of fifteen (15) Deposit Money Banks (DMBs) listed on the Nigerian Stock Exchange. This corresponds to 120 observations from a total of 150. Published financial statements of the selected banking firms under study were the source of data. From the objectives of the study, a total of three hypotheses were formulated and tested at 5% level of significance. Data gathered were subjected to statistical analysis through the simple regression technique, and the E-Views

statistical software package was used to do the analysis. The findings showed that cash flows from operating, investing and financing activities, have no statistically significant effect on the returns on investment, returns on equity and earnings per share of Deposit Money Banks (DMBs) studied. The study concludes that the failure of existing accounting theories to primarily focus on banks coupled with the omission of credit creation in the conceptual frameworks of relevant accounting standard is responsible for the prevalence of little academic works with a real focus on accounting for banks. The study yielded several recommendations, including an urgent and compelling need for the regulatory authorities to rethink the accounting regime for banks. The new regime should specifically take banks' credit, creating function into consideration mostly because this uniqueness in banking operations entails that cash flow from the operating activities functions differently and hence requires being differently accounted for too.

Odo & Ohazuluike (2021). Investigated the effect of cash flow on financial performance of food and beverage firms in Nigeria. Specifically, the study examined; to examine the effect of cash from operating activities on profit for the year of food and beverage firms in Nigeria; to determine the extent to which cash from financing activities affect profit for the year of food and beverage firms in Nigeria and to examine how cash from investment activities affect profit for the year of food and beverage firms in Nigeria. Ex – post facto research design was adopted. The study used secondary sources of data and used listed food and beverage companies. While the analytical techniques used for the study were random panel regression model and descriptive statistics. It was revealed out that cash from operating activities significantly affect profit for the year of food and beverage firms in Nigeria. Cash from financing activities has significant effect on profit for the year of food and beverage firms in Nigeria and cash from investment activities significantly affect profit for the year of food and beverage firms in Nigeria.it is therefore concluded that these cash flows been cash from operating activities, financing activities and investing activities all have significant effect on profit for the year of food and beverage firms in Nigeria. The study recommended that food and beverage firms in Nigeria should payout dividends as at when due and timely too as it was found out that dividend paid has significant effect on net profit margin.

Dibie, (2022) examined the impact of cash management on financial performance of quoted manufacturing firms in Nigeria. The cash management variables examined in the study include cash conversion cycle (CCC), Creditors payment period (CPP), and Cash flow margin (CFM). The Arellano and Bond dynamic panel data estimation was employed in the analysis to address the potential effects of indigeneity in the relationship. The findings reveal that Cash conversion cycle has a positive and significant impact on financial performance, Creditors' payment Period (CPP) has a positive impact on the firm financial performance, which is significant

at 5%. Furthermore, cash flow margin (CFM) positively impacts financial performance, which is also significant at 5%. The following policy recommendations are provided in light of the study's findings. Firstly, firms should not depend so much on debt, especially in the light of macroeconomic instability and rate volatility but instead should look at how to develop strategies to lower their cash conversion cycles. Secondly, firms should seek long-term financing arrangements with longer payback periods, enabling them to properly utilize these funds with convenient investment timelines. Thirdly, firms should maintain a high cash flow margin by designing effective sales and marketing systems on the one hand and on the other hand to put in place a mechanism to minimize credit sales where possible and ensure timely payment arrangements where credit sales are involved.

Methodology

The study adopted survey research design because it aims at collecting data directly from respondent The population of the study comprises 70 employees both the management, junior and senior staff in various departments in Jezco Oil Ltd Awka. The study adopts Taro Yamane formula to determine the sample size, the formula was adopted because it intended to control error limits.
Formula:

n = N/ (1 = N(e)2)
where n = sample size
N = population size
e = margin of error
let margin of error = 5%
n = 70/ (1+ 70(0.05)2)
n = 59

This study used simple random sampling technique as it involves selecting a random sample from the population without any bias or preference this ensures that each members has an equal chance of being selected, data for the study was collected primarily from respondents through a structured questionnaire. The validity of the instrument was done through a proper evaluation by some experts, the reliability of the instrument was obtained through Cronbach Alpha analysis. To analyze the relationship between cash management and manufacturing industry performance the study employed Pearson product moment correlation with simple linear regression through SPSS version 23. simple linear regression with SPSS version 23 was used. The dependent variables (production cost, production volume and operation efficiency) was regressed on various independent variables (treasury bills, savings bond and certificate of deposit).

Model Specification

Y=a+bx1+e -------(1)
Where Y = Production Cost
a = Constant
b = Slope
x1 = Treasury Bills
e = error term.

Y=a+bx2+e --------(2)
Where Y = Production Volume
a = Constant
b = Slope
x2 = Saving Bonds
e = error term.

Y=a+bx3+e ---------(3)
where Y = Operation Efficiency
a = Constant
b = Slope
x3 = Certificate of Deposit
e = error term.

Data Analysis

Regression 1

Objective 1: To examine the effect of treasury bill on production cost.

Table 4.1.1 Correlations

		Production Cost	**Treasury Bills**
Pearson Correlation	Production Cost	1.000	.975
	Treasury Bills	.975	1.000
Sig. (1-tailed)	Production Cost	.	.000
	Treasury Bills	.000	.
N	Production Cost	59	59
	Treasury Bills	59	59

Table 4.1.1 shows the correlation coefficients between two variables, Production Cost and Treasury Bills. The Pearson Correlation coefficients indicate a strong positive correlation between Production Cost and Treasury Bills, with a value of 0.975. This suggests that as Production Cost increases, there is a tendency for

Treasury Bills to also increase at 1-tailed significance level, where both values are very close to 0, indicating a highly significant correlation between the variables.

Table 4.1.2 **Model Summary[b]**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.975[a]	.950	.949	1.06112	.950	1076.369	1	57	.000	.388

a. Predictors: (Constant), Treasury Bills

b. Dependent Variable: Production Cost

Table 4.1.2 Presents the Model Summary for a regression analysis. The "R" value of 0.975 represents the correlation coefficient between the predicted values and the actual values of the dependent variable. It indicates a strong positive correlation. The "R Square" value of 0.950 represents the coefficient of determination, which suggests that 95% of the variability in the dependent variable is explained by the independent variable(s) included in the model.

Test of Hypothesis 1

Ho_1: Treasury bill has no significant impact on production cost.

Table 4.1.3 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1211.955	1	1211.955	1076.369	.000[b]
	Residual	64.180	57	1.126		
	Total	1276.136	58			

a. Dependent Variable: Production Cost

b. Predictors: (Constant), Treasury Bills

Table 4.1.3 presents the results of an analysis of variance (ANOVA) for a regression model. The dependent variable in the analysis is "Production Cost," and the predictor variable being examined is "Treasury Bills." In this case, the regression model explains a significant amount of the variability in the dependent variable, as indicated by the high F-value of 1076.369. The significance level (represented by "Sig.") is reported as .000b, suggesting a p-value less than .001. This indicates that there is strong evidence to reject the null hypothesis that treasury bill has no significant impact on production cost.

Therefore, treasury bill has significant impact on production cost.

Regression 2

Objective 2: To determine the effect of saving bound on production volume.

Table 4.2.1 **Correlations**

		Production Volume	Savings Bond
Pearson Correlation	Production Volume	1.000	.979
	Savings Bond	.979	1.000
Sig. (1-tailed)	Production Volume	.	.000
	Savings Bond	.000	.
N	Production Volume	59	59
	Savings Bond	59	59

Table 4.2.1 presents the correlation coefficients between two variables: "Production Volume" and "Savings Bond". The Pearson correlation coefficient measures the strength and direction of the linear relationship between two variables, ranging from -1 to +1. In this case, the correlation between "Production Volume" and "Savings Bond" is very strong, with a coefficient of .979. This indicates a positive correlation, meaning that as one variable increases, the other variable tends to also increase.

Table 4.2.2 **Model Summary[b]**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.979[a]	.958	.957	.76338	.958	1299.868	1	57	.000	.689

a. Predictors: (Constant), Savings Bond

b. Dependent Variable: Production Volume

Table 4.2.2 presents the model summary statistics for a regression model with "Production Volume" as the dependent variable and "Savings Bond" as the predictor variable. R value of .979 indicates that Savings Bond" and "Production Volume have strong positive correlation.

Test of Hypothesis 2

Ho_2: There is no significant effect between saving bound and production volume.

Table 4.2.3 **ANOVA[a]**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	757.495	1	757.495	1299.868	.000[b]
	Residual	33.217	57	.583		
	Total	790.712	58			

a. Dependent Variable: Production Volume

b. Predictors: (Constant), Savings Bond

Table 4.2.3 presents the results of an analysis of variance (ANOVA) for a regression model. The dependent variable in the analysis is "Production Volume," and the predictor variable being examined is "Savings Bond." The regression model explains a significant amount of the variability in the dependent variable, as indicated by the large F-value of 1299.868. The significance level (represented by "Sig.") is reported as .000b, suggesting a p-value less than .001. Since f-value of 1299.868 is greater than P-value of .000 This provides strong evidence to reject the null hypothesis that there is no significant effect between saving bound and production volume.

Regression 3

Objective 3: To ascertain the effect of certificate of deposit on operation efficiency.

Table 4.3.1 Correlations

		Operation Efficiency	Certificate of Deposit
Pearson Correlation	Operation Efficiency	1.000	.969
	Certificate of Deposit	.969	1.000
Sig. (1-tailed)	Operation Efficiency	.	.000
	Certificate of Deposit	.000	.
N	Operation Efficiency	59	59
	Certificate of Deposit	59	59

Table 4.3.1 shows the correlations between two variables: Operation Efficiency and Certificate of Deposit. The Pearson correlation coefficient measures the strength and direction of the linear relationship between the two variables. In this case, the correlation coefficient between Operation Efficiency and itself is 1.000, which indicates a perfect positive correlation. The correlation between Operation Efficiency and Certificate of Deposit is .969, indicating a strong positive correlation. The significance value (Sig.) indicates the probability of observing the correlation

coefficient given that there is no relationship between the variables. In this table, the significance values for both correlations are very low (close to 0), suggesting that the observed correlations are statistically significant.

Table 4.3.2 Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.969[a]	.939	.937	1.36086	.939	870.769	1	57	.000	.476

a. Predictors: (Constant), Certificate of Deposit

b. Dependent Variable: Operation Efficiency

This table presents the summary of a linear regression model. In this case, the model exhibits a high correlation between the predictor variable, Certificate of Deposit, and the dependent variable, Operation Efficiency. The correlation coefficient (R) is .969, indicating a strong positive relationship between the two variables.

Test of Hypothesis 3

Ho_1: Certificate of deposit has no significant impact on operation efficiency.

Table 4.3.3 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1612.609	1	1612.609	870.769	.000[b]
	Residual	105.560	57	1.852		
	Total	1718.169	58			

a. Dependent Variable: Operation Efficiency

b. Predictors: (Constant), Certificate of Deposit

Table 4.3.3 presents the results of an analysis of variance (ANOVA) for the regression model. In this case, the ANOVA table includes three main components: Regression, Residual, and Total. The Regression row shows the sum of squares (SS) for the model, which represents the amount of variability in the dependent variable (Operation Efficiency) explained by the predictor variable (Certificate of Deposit). The SS value for the regression is 1612.609. The degrees of freedom (df) for the regression model is 1, indicating that Certificate of Deposit included in the model.

Discussion of finding

The findings from the results indicate strong positive correlations between certain variables. In Table 4.1, there is a strong positive correlation (0.975) between Production Cost and Treasury Bills, meaning that as Production Cost increases, there

is a tendency for Treasury Bills to also increase. Table 4.2.1 shows a strong positive correlation (0.979) between Production Volume and Savings Bond. The correlations are statistically significant with p-values less than .001. Both variables have 59 observations. In Table 4.3.1, there is a strong positive correlation (0.969) between Operation Efficiency and Certificate of Deposit. The correlations are statistically significant, with p-values less than .001. Both variables have 59 observations.

Summary of Findings

1. Treasury bill have significant impact on production cost.
2. There is significant effect between saving bond and production volume.
3. Certificate of deposit have significant impact on operation efficiency.

Conclusion

Based on the various findings on this study, it can be concluded that there is a strong positive correlation between cash management factors, such as Production Cost, Treasury Bills, Savings Bond, and the performance of the manufacturing industry in Jezco Oil Ltd Awka. The study found that as Production Cost increases, there is a tendency for Treasury Bills to also increase, suggesting a relationship between cash management and financial performance. Similarly, a strong positive correlation was observed between Production Volume and Savings Bond, indicating that as one variable increases, the other variable tends to increase as well.

Recommendations

Based on the findings of this study, the following recommendations can be made:

1. Companies should prioritize effective cash management strategies: Given the significant impact of cash management factors on production costs, it is crucial for manufacturing companies to implement effective strategies to manage their cash flow. This may involve closely monitoring and analyzing treasury bills, savings bonds, and certificates of deposit to optimize financial performance.
2. Companies should prioritize savings and investment in order to increase production volume: The study found a significant effect between saving bound and production volume. Therefore, it is recommended that manufacturing companies focus on increasing their savings and investments in order to improve their production volume. This can be achieved by allocating a portion of their cash reserves towards business expansion and technological advancements that can lead to increased productivity.
3. Companies should consider diversifying their investment portfolio: The study revealed that certificates of deposit have a significant impact on operational efficiency. To further enhance operational efficiency, manufacturing companies should explore diversifying their investment portfolio beyond treasury bills and savings bonds.

Declaration of Competing Interest:

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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APPENDIX

PERSONAL DATA

Please tick in boxes for items 1, 2, 3 and 4 as they apply to you

1. Sex: Male ☐ Female ☐

2. Age: 18-21 ☐ 22-30 ☐ 31 Years and the above

3. Working Years' experience: 1-4 Years ☐ 5-8 Years ☐

9 Years ☐ and the above ☐

4. To which of the educational status below do you fall into for now?

a. No Formal Education ☐

b. Primary Education ☐

c. Secondary Education ☐

d. Tertiary Education ☐

e. Post-Graduate Education ☐

Questionnaire

	Research question 1: How does treasury bills affect production cost?					
	Questions	Strongly Agree	Agree	Disagree	Strongly disagree	Neutral
	Treasury bills.					
1	We acquire treasury bills as a means of managing cash.					
2	Treasury bills serve as a hedge against fluctuations in production cost.					
3	The rate of treasury bills has a direct impact on production costs.					
4	Increase in treasury bills rate leads to increase in our production cost.					
	Production cost.					
1	We have experienced an increase or decrease in production cost due to changes in treasury bills rate.					
2	60% of our production cost are related to the treasury bills.					
3	They are certain type of production cost that more sensitive to changes in treasury bill rate.					
4	Increase in our production cost have led to increase in demand for treasury bills in our company.					
	Research question 2: To what extent does savings bond affect production volume?					
	Savings bond.					
1	We use saving bond as a source of financing for production.					
2	Savings bond is an important factor in determining production volume in our company.					
3	Savings bond is a primary source of financing for our company's production.					

Production volume.						
1	We have observed changes in production volume as a result of changes in savings bond rate.					
2	Our production volume has increased due to the use of saving bond.					
3	We always meet up with market demand.					
Research question 3: How does certificate of deposit affect operation efficiency?						
Certificate of deposit.						
1	We have acquired certificate of deposit as a means of managing cash.					
2	The use of CDs has led to reduction in waste or rework in our company.					
3	The use of CDs has led to increase in the quality of our company's product.					
4	The use of CDs has led to the increase in of our company's market share.					
Operation efficiency.						
1	The use of CDs has led to a significant increase in our operational efficiency.					
2	They are specific areas that are most impacted by the use CDs.					
3	The impact of CDs over time is sustainable over time.					
4	We have experience unexpected outcome as a result of CDs to improve our operational efficiency.					