THE IMPACT OF WORKING CAPITAL MANAGEMENT ON FINANCIAL PERFORMANCE: EVIDENCE FROM SOKOINE UNIVERSITY OF AGRICULTURE

ABSTRACT

This study aims to investigate the effects of working capital management (WCM) components on financial performance of Sokoine University of Agriculture (SUA), focusing on how variations in the Average Collection Period (ACP), Average Payment Period (APP), Inventory Conversion Period (ICP), and Cash Conversion Cycle (CCC) influence financial performance measured in Gross Operating Profit (GOP). The study adopted a longitudinal research design utilizing a time series data from SUA's annual financial statements covering the fiscal years 2013/14 to 2022/23. A multiple linear regression analysis was conducted to assess the effects of the WCM components on GOP, providing a comprehensive understanding of their financial implications. From the analysis, it was revealed that lnACP and lnCCC are negatively associated with GOP, indicating that delays in receivables collection and extended cash conversion cycles diminish financial performance. Conversely, lnAPP is positively related to GOP, suggesting that longer payment periods for liabilities can enhance financial performance. A longer lnICP also negatively impacts GOP, underscoring the need for effective inventory management. Moreover, this study offers fresh insights into the financial management practices at SUA, highlighting the significant effect of WCM on institutional profitability. By providing evidence of how different components of WCM affect financial outcomes, it delivers practical recommendations for improving financial performance through strategic management of working capital. The research contributes valuable knowledge to both academic and practical discussions on financial management in educational institutions.

Keywords: *Working Capital Management; Financial Performance; Receivables; Payables; Inventory; Sokoine University of Agriculture*

1. Introduction

Working capital management (WCM) is a vital financial management component that involves strategically administrating a firm's short-term assets and liabilities to maintain liquidity while maximizing profitability (Arnaldi *et al*., 2021). The focus of WCM has evolved from merely handling cash transactions including broader measures that capture a company's liquidity. Effective WCM ensures optimal resource allocation, prevents liquidity crises, and supports long-term operational efficiency (Deloof, 2003; Arnaldi *et al*., 2021). Essentially, WCM aims to match the short-term inflows and outflows, ensuring that inflows (such as accounts receivable) consistently exceed outflows (such as accounts payable). The study noted that failure to maintain this balance can lead to insolvency. Thus, this necessitates a careful approach to managing working capital components to sustain financial stability.

Several empirical studies (Tauringana & Afrifa, 2013; Sensini, 2020; Sensini & Vazquez, 2021; Kumar et al., 2024) have investigated the relationship between working capital and firm performance. These studies have produced mixed results that reflect the complexity of WCM's

impact on profitability and liquidity. On one hand, excessive investment in working capital may require additional financial resources, and therefore, leading to increased costs that can deteriorate the company's economic position (Chang, 2018; Aktas *et al*., 2015; Chalmers *et al*., 2020). Consequently, an overinvestment in working capital can reduce profitability. On the other hand, several studies (Baños-Caballero *et al*., 2020; Aktas *et al*., 2015; Tsuruta, 2018; Sensini & Vazquez, 2021) have indicated that strategic investments in working capital can have a positive impact on financial performance by increasing sales and profits, particularly up to an optimal level. Beyond this optimal level, however, the benefits diminish, and further investment can negatively affect firm performance.

Moreover, the management of working capital involves the development of policies that guide how a company/institution invests in current assets—referred to as the working capital investment policy—and how it finances these assets using short-term liabilities, known as the working capital financing policy. These policies, whether aggressive or conservative, play a crucial role in determining a company's financial stability, growth, and risk management (Sefideh & Asgari, 2016). An aggressive WCM policy, characterized by a low level of current assets, might yield higher returns but at the cost of increased financial risk. Conversely, a conservative approach, involving higher levels of current assets, may lower risk but also limit returns (Sefideh & Asgari, 2016). Consequently, companies/institutions need to carefully balance these policies to align with their strategic objectives and risk appetite.

Furthermore, effective WCM is essential for maintaining a company's liquidity, and financial performance. However, inappropriate management can result in either idle current assets or a shortage of inventory, both of which can negatively impact a company's financial performance (Björkman & Hillergren, 2014). In financial terms, WCM pertains to maintaining adequate cash flows to meet short-term liabilities as they become due and includes strategic procedures for managing liquid assets (Björkman & Hillergren, 2014). A company/institution that excels in WCM tends to perform well across various financial performance indicators, underscoring the importance of managing short-term assets and liabilities to ensure sound financial health (Arnaldi *et al*., 2021). Thus, a robust WCM strategy enables companies/institutions to mitigate risks and enhance overall performance by understanding the drivers and implications of working capital decisions.

In this study, we have investigated the effect of WCM on financial performance with reference to Sokoine University of Agriculture (SUA), a higher learning institution based in Morogoro region of Tanzania, which was established in 1984. SUA is mandated to offer quality knowledge and skills in agriculture and allied sciences, including research and consulting, by maintaining valuable relevance to its primary stakeholder, the government of the United Republic of Tanzania (URT). We have noted that for public institutions like SUA, effective management of working capital is crucial for financial sustainability and operational efficiency. In this perspective, therefore, this study contributes to the existing literature by providing empirical evidence on how proactive WCM practices can positively influence financial performance in such contexts.

The research focuses on the dynamics of key working capital components—average collection period (ACP), average payment period (APP), inventory conversion period (ICP) and cash conversion cycle (CCC)—and their impact on SUA's financial performance, specifically Gross Operating Profit (GOP). By examining these dynamics, the study seeks to offer valuable insights

into strategic WCM for public institutions, thereby contributing to enhanced financial performance, operational efficiency, and long-term sustainability. The findings have significant practical implications, providing useful guidance for the management of SUA and similar institutions in optimizing working capital to achieve better financial outcomes.

2. Theoretical framework

The study was grounded in the Trade-Off Theory to investigate the impact of WCM on financial performance, particularly in the context of a public institution like SUA. This theory, along with complementary theories such as the Pecking Order Theory and Resource-Based View (RBV) Theory, provides a comprehensive framework for understanding the dynamics of WCM and its implications on financial performance.

2.1 Trade-Off Theory

The Trade-Off Theory is particularly relevant to this study as it suggests that institutions (SUA in this case) aim to balance the costs and benefits associated with holding working capital. The theory postulates that there is an optimal level of working capital where the marginal benefits (such as enhanced liquidity, smoother operations, and potential for increased sales) are balanced against the marginal costs (such as the opportunity cost of holding liquid assets and the risk of overinvestment in inventories or receivables). In the context of SUA, the theory was used to explain how the SUA balances and maintains sufficient working capital to cover its short-term obligations (ensuring liquidity and smooth operations) against the costs associated with holding excessive working capital, which could lead to inefficiencies and lower profitability. The study, therefore, examines how SUA manages its working capital to achieve this optimal balance.

2.2 Pecking Order Theory

The Pecking Order Theory proposed by Myers (1984) states that firms most likely prefer to finance new investments, first with internally raised funds i.e., retained earnings. Thus, in this study, the theory complements the Trade-Off Theory by explaining the order in which firms prefer to finance their operations, including working capital needs. According to this theory, firms prioritize internal financing (such as retained earnings and working capital) over external financing (like debt or equity). This theoretical perspective is particularly pertinent to SUA, which, as a publicly funded institution, often operates under budgetary constraints and faces limited access to external capital markets. Hence, effective WCM becomes crucial to finance daily operations and maintain financial stability without incurring additional debt. Therefore, this theory enabled the researchers to understand the constraints and preferences SUA faces in managing its finances and why the institution emphasizes efficient WCM as a means of internal financing.

2.3 Resource-Based View (RBV) Theory

The Resource-Based View (RBV) Theory was initially proposed by Penrose in 2009 as a model for effectively managing firms' resources, including its working capital, as key to achieving competitive advantage (Penrose, 2009). For a public institution like SUA, effective WCM can be seen as a strategic resource that contributes to its operational efficiency and financial sustainability. By optimizing its working capital, SUA can enhance its financial performance, support its core activities, and align with its strategic objectives of providing quality education and research. Moreover, the RBV theory underlines the importance of internal capabilities and

resources (such as efficient working capital management practices) in achieving better performance and maintaining a competitive edge. This theory supports the idea that well-managed working capital can serve as a valuable resource for SUA, contributing to its long-term sustainability.

3. Material and methods

3.1 Study design and data collection

This study adopted a quantitative research approach. In addition, the study used a time series data covering from the fiscal year 2013/14 to 2022/23. This time-based range facilitates an examination of the relationship between WCM practices and financial performance over a substantial period, capturing variations and trends in SUA's operational efficiency and financial performance. Data for this study were collected through a comprehensive desk review of annual financial statements. This approach ensures researchers use reliable, and audited financial data which is crucial for accurate empirical analysis. The financial statements provided detailed insights into key working capital components—namely, Accounts Receivable Period (ACP), Accounts Payable Period (APP), Inventory Conversion Period (ICP), and Cash Conversion Cycle (CCC)—alongside the university's financial performance metrics.

Furthermore, the use of time series data allows for the examination of dynamic relationships over time, providing insights into how changes in working capital components impact GOP across different fiscal periods. This longitudinal perspective is essential for understanding the temporal effects of WCM on financial performance and for identifying trends and patterns that may not be apparent in cross-sectional studies. Thus, the desk review methodology, combined with the time series analysis, enhances the robustness of the study by ensuring that the data are accurate and reflective of the university's financial practices. This methodological rigor supports the reliability and validity of the findings, offering valuable insights into the strategic management of working capital in a public institution context.

3.2 Data analysis

In this study, a multiple linear regression model was used to ascertain the effect of the WCM components on GOP. This model is well-suited for examining the relationship between a dependent variable (financial performance) and multiple independent variables (WCM components) over time. The regression model is specified as:

$$Y_i = \beta_0 + \beta_i x_i + \epsilon_i \quad (1)$$

Where:

Y_i represents the dependent variable which is financial performance, measured by GOP

β_0 is the constant term, which indicates the value of Y_i when all independent variables are zero.

β_i are parameters (coefficients) to be estimated (where $i = 1,2,3,4$) representing the marginal effect of each independent variable on the dependent variable.

x_i are independent (explanatory) variables (where $i = 1,2,3,4$), which are the WCM components.

ϵ_i is the error term that captures all other factors influencing Y_i that are not included in the model.

Given the four (4) explanatory variables in this study, Equation (1) can be expanded to:

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \epsilon_i \quad (2)$$

Where:

x_1 = Average Collection Period (ACP)

x_2 = Average Payment Period (APP)

x_3 = Inventory Conversion Period (ICP)

x_4 = Cash Conversion Cycle (CCC)

For clarity and to align the model with the specific variables and time series data in this study, Equation (2) is further specified as:

$$\mathrm{GOP_t} = \beta_0 + \beta_1 \mathrm{lnACP}_t + \beta_2 \mathrm{lnAPP}_t + \beta_3 ln\mathrm{ICP}_t + \beta_4 ln\mathrm{CCC}_t + \epsilon_t \quad (3)$$

Where:

GOP_t is the Gross Operating Profit in year *t*,

ACP_t is the Average Collection Period in year *t*,

APP_t is the Accounts Payable Period in year *t*,

ICP_t is the Inventory Conversion Period in year *t*,

CCC_t is the Cash Conversion Cycle in year *t*,

ϵ_t is the error term for year *t*,

β_0 is the constant or intercept.

$\beta_1, \beta_2, \beta_3,$ and β_4 are parameters to be estimated or the coefficients for the respective WCM components.

The regression analysis aims to determine the extent to which variations in lnACP, lnAPP, lnICP, and lnCCC influence GOP. The analysis provides insight into the effectiveness of WCM practices in enhancing SUA's financial performance.

4. Results and discussion

The analysis of working capital dynamics and their impact on financial performance at Sokoine University of Agriculture (SUA) offers a nuanced understanding of how effective working

capital management (WCM) influences financial performance. The results of the multiple linear regression analysis demonstrate that different components of WCM—namely, the Average Collection Period (ACP), Average Payment Period (APP), Inventory Conversion Period (ICP), and Cash Conversion Cycle (CCC)—have varying effects on Gross Operating Profit (GOP).

The regression model was utilized to ascertain the extent to which these WCM components (lnACP, lnAPP, lnICP, and lnCCC) explain the variation in GOP, serving as the dependent variable. Table 1 presents the model summary, which provides an overview of the regression results.

Table 1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.976[a]	0.953	0.908	1.64522

Source: Field Study, 2024

The coefficient of determination (R-squared) is a statistical metric that measures the proportion of the variance in the dependent variable (GOP) that can be explained by the independent variables (lnACP, lnAPP, lnICP, lnCCC). As shown in Table 1, the model summary demonstrates a very high R-value of 0.976, indicating a strong positive correlation between the WCM components and financial performance (GOP) at SUA. The R Square value of 0.953 suggests that approximately 95.3% of the variability in GOP is accounted for by the WCM components included in the model, highlighting the significant role that WCM plays in determining the financial outcomes of SUA. Furthermore, the Adjusted R Square value of 0.908 indicates that the model retains high explanatory power even after adjusting for the number of predictors. This adjustment accounts for potential over-fitting, ensuring the model's robustness and reliability in explaining the relationship between WCM and GOP.

To further assess the overall significance of the regression model, an Analysis of Variance (ANOVA) was conducted. The ANOVA results, presented in Table 2, provide essential information about the variability within the regression model, which is critical for testing the significance of the predictors' collective effect on the dependent variable.

Table 2 ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	91.254	4	22.814	8.424	0.016[b]
	Residual	4.732	5	0.946		
	Total	95.986	9			

a. Dependent Variable: Financial performance (GOP)

b. Predictors: (Constant), lnACP, lnAPP, lnICP, lnCCC.

The ANOVA table reveals an F-statistic of 8.424, with a significance level (p-value) of 0.016, which is statistically significant at the 5% level of significance. This result indicates that the overall regression model is statistically significant, and the predictors (lnACP, lnAPP, lnICP, lnCCC) collectively have a meaningful and significant effect on the dependent variable (GOP). The significance of the model suggests that changes in these WCM components can substantially impact the financial performance of SUA, validating the hypothesis that effective management of working capital is crucial for improving financial performance.

Furthermore, the study findings highlight the importance of efficient WCM practices at SUA. A shorter lnACP and lnCCC, coupled with an optimized lnICP and strategically managed APP, can enhance GOP by ensuring adequate liquidity and reducing financial costs. The regression results are summarized in Table 3.

Table 3 Multiple Linear Regression Results

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	32.458	14.603**		2.222	0.039
lnACP	- 54.113	18.329**	- 0.753	- 2.952	0.018
lnAPP	67.659	21.274**	0.671	3.180	0.014
lnICP	- 12.458	5.132**	- 0.342	- 2.428	0.045
lnCCC	- 92.337	32.217**	- 0.498	- 2.866	0.020
Number of Observation = 10					
Note: ** Significance at 5%					
$F = 8.424$ at $P < 0.05$					
R square = 0.953, Adjusted R square = 0.908					
Dependent Variable: Financial performance (GOP)					

Source: Extraction from SPSS version 25

Average Collection Period (lnACP): ACP reflects the efficiency with which a firm collects payments from its customers. Delayed payments can lead to bad debts, which negatively impact a firm's financial performance (Pandey, 2008). In the context of this study, as shown in Table 3, the coefficient for lnACP is -54.113 with a standard error of 18.329 and a standardized Beta of -0.753. This coefficient is statistically significant at the 5% level ($p = 0.018$). The negative coefficient indicates that an increase in ACP is associated with a decrease in GOP; specifically, a 1% increase in lnACP results in a 54.113% decrease in GOP, holding other factors constant. The substantial negative Beta value (-0.753) highlights that ACP has a strong adverse effect on GOP, emphasizing the need to shorten the collection period to enhance profitability. These findings are consistent with previous studies (Omucheyi, 2019; Muhammad, 2011; Ndonye, 2021; Muya & Gathogo, 2016) that have shown that there is a significant negative relationship between lnACP and gross operating income as a measure of profitability. Thus, this negative result demonstrated that SUA can increase its profitability by decreasing credit terms given to its customers (students in this case).

Average Payment Period (lnAPP): In the context of this study, the coefficient for lnAPP is 67.659, with a t-value of 3.180 and a p-value of 0.014. Also, it was found to be positive and statistically significant at a 5% level of significance. This positive coefficient suggests that a longer APP allows the university more time to meet its obligations to creditors, and has a favorable impact on GOP. The standardized Beta value of 0.671 further indicates a strong positive relationship between lnAPP and financial performance, implying that extending the payment period can enhance the financial performance of SUA. Thus, by optimizing the period for settling payables, SUA can improve its liquidity position and utilize the available funds more effectively for other operational needs, thereby enhancing profitability. The positive relationship between APP and GOP found in this study aligns with previous empirical evidence (Majeed et al., 2013; Salawu & Alao, 2014; Ndum & Ezejiofor, 2021) that also reports a significant positive association between APP and profitability. In addition, for SUA, an extended payment period reduces the immediate cash outflow requirements, allowing the institution to allocate resources to more productive areas or investment opportunities that contribute to higher returns. However, it is important to note that while extending the APP provides a buffer to maintain cash flows, excessive delays could strain relationships with suppliers or lead to potential penalties or missed early payment discounts. Therefore, effective management of APP at SUA involves a careful balance that ensures liquidity while maintaining good relations with suppliers, ultimately contributing to sustainable financial performance.

Inventory Conversion Period (lnICP): ICP measures the average number of days it takes for a company to convert its inventory into sales. Within the context of this study, lnICP was found to be statistically significant at the 5% level of significance ($p = 0.045$), with a coefficient of -12.458. This negative coefficient suggests an inverse relationship between ICP and GOP. In practical terms, a 1% increase in lnICP (indicating a longer time to convert inventory to sales) leads to a 12.458% reduction in GOP, assuming other factors remain constant. This finding implies that extended inventory conversion periods negatively impact the university's profitability, as prolonged periods tie up capital in unsold inventory, reducing liquidity and financial performance. These results are consistent with the findings of several related studies (Kipkemoi et al., 2018; Samosir, 2018; Rizky & Mayasari, 2018), which have demonstrated that a longer ICP negatively affects GOP by reducing profitability.

Cash Conversion Cycle (lnCCC): According to the theory of Cash Conversion Cycle developed by Gitman (1974) CCC is determined by adding stock period to the accounts receivable period less accounts payable period. Its main focus is on the length of time from the procurement of inventories and other supplies to the time cash flow is realized from sale of processed goods and it gives the number of days that financing is required for the operational activities. In the context of this study, the variable lnCCC was found to be statistically significant at the 5% level of significance ($p = 0.020$), with a coefficient of -92.337. This negative coefficient indicates that a longer CCC—accounting for the combined effects of ACP, ICP, and APP—has a detrimental impact on GOP. The standardized Beta of -0.498 signifies a substantial negative influence, emphasizing the importance of reducing the cash conversion cycle to enhance profitability. The statistically significant negative relationship at the 5% level underscores the critical role of efficient working capital management (WCM) practices in maintaining financial stability. These findings are consistent with prior studies (Rizky & Mayasari, 2018; Zakari & Saidu, 2016; Samosir, 2018; Iqbal *et al*., 2020; Kouaib & Bu Haya, 2024; Karim et al., 2023), which also reported a negative relationship between the CCC and the financial performance of firms. In this regard, the study finding reinforces the idea that for SUA, minimizing the time between outlaying cash and collecting cash inflows is crucial for improving liquidity and profitability. Effective management of CCC helps reduce the need for external financing, lowers the cost of capital, and ultimately supports better financial performance.

5. Conclusion

This study provides a comprehensive analysis of the impact of WCM dynamics on financial performance of SUA, focusing on key components such as Average Collection Period (ACP), Average Payment Period (APP), Inventory Conversion Period (ICP), and Cash Conversion Cycle (CCC). The findings reveal that effective WCM is crucial for enhancing financial performance, as evidenced by the significant relationships between these components and Gross Operating Profit (GOP). Specifically, shorter ACP, ICP, and CCC are associated with improved profitability, while a strategically extended APP positively influences GOP. In addition, the analysis reveals that ACP has a strong negative impact on GOP, indicating that reducing the time taken to collect receivables improves liquidity and profitability. A prolonged ACP can lead to cash flow issues and bad debts, which adversely affect financial performance. Conversely, the APP shows a positive and significant relationship with GOP, suggesting that extending the payment period allows SUA more time to manage its cash outflows effectively. This flexibility helps in maintaining liquidity and supports enhanced financial performance. The negative coefficient of the ICP demonstrates that a longer ICP reduces profitability. Efficient inventory management, where inventory is converted into sales swiftly, is vital for maintaining higher profitability. Moreover, the CCC is found to have a significant negative effect on GOP, emphasizing the importance of minimizing the overall CCC. A shorter CCC ensures that the university's cash is not tied up in operational activities for too long, thereby reducing financial costs and improving profitability. These findings are consistent with various studies that suggest effective WCM practices—characterized by shorter ACP, ICP, CCC, and optimized APP—are crucial for enhancing financial performance.

6. Policy implications

The findings from this study on WCM and financial performance at SUA have several important policy implications that can help enhance financial management practices and improve overall institutional performance.

i) ***Improving Receivables Management:*** The negative relationship between the Average Collection Period and Gross Operating Profit. The study suggests that SUA should implement stricter credit policies to ensure timely collection of receivables. Policies that minimize delays in payments by students and other debtors can help reduce the risk of bad debts and enhance cash flow, thus supporting better financial stability and financial performance. Strategies such as setting shorter credit terms, providing discounts for early payments, and employing more efficient collection practices should be considered.

ii) ***Optimizing Payment Policies:*** The positive effect of the Average Payment Period on financial performance indicates that extending the period for settling accounts payable can be beneficial. SUA should adopt policies that maximize the APP without damaging relationships with suppliers. Negotiating better payment terms with suppliers and utilizing trade credit to its advantage can help the university manage its cash outflows more effectively, ensuring that funds are available for more critical operational needs.

iii) ***Enhancing Inventory Management:*** The findings of the study demonstrate that a longer ICP negatively impacts financial performance. SUA should implement policies that focus on optimizing inventory levels to reduce holding costs and avoid overstocking or stockouts. This can be achieved by employing modern inventory management techniques, such as Just-In-Time (JIT) inventory, which reduces inventory holding times and associated costs. Also, by streamlining the procurement and inventory management processes would also help in maintaining optimal inventory levels.

iv) ***Reducing the Cash Conversion Cycle:*** The significant negative relationship between the Cash Conversion Cycle and financial performance underscores the need for SUA to develop policies aimed at minimizing the CCC. A shorter CCC means that the university's funds are tied up for a shorter period in the operational cycle, reducing the need for external financing and lowering financial costs. Policies should focus on balancing receivables, inventory, and payables in a way that ensures smooth and continuous cash flow.

v) ***Strengthening Financial Management Training and Capacity Building:*** The results indicate the importance of efficient WCM practices in enhancing financial performance. Therefore, SUA should invest in training and capacity building for its financial management team to improve their skills in WCM. This includes training on cash flow forecasting, credit management, supplier negotiations, and inventory control. Equipping financial managers with the necessary tools and knowledge will enable more informed decision-making and foster a culture of financial prudence.

Disclaimer (Artificial intelligence)

Option 1:

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

REFERENCES

Aktas, N., Croci, E., & Petmezas, D. (2015). Is working capital management value-enhancing? Evidence from firm performance and investments. *Journal of Corporate Finance*, 30, 98-113.

Aransiola, J. A. (2021). *Impact of Working Capital on the Performance of Small and Medium Enterprises in Kwara State, Nigeria* (Doctoral dissertation, Kwara State University (Nigeria).

Arnaldi, A., Novak, B., Roscigno, R. & Zhang, W. (2021). Working Capital Management and Profitability: Empirical Evidence. *International Journal of Business Management and Economic Research (IJBMER)*, 12(2): 1911-1917.

Baños-Caballero, S., García-Teruel, P.J. & Martínez-Solano, P. (2020). Net operating working capital and firm value: A cross country analysis. BRQ Business Research Quarterly 23, 234-251.

Björkman, H. & Hillergren, M. (2014). The Effects of Working Capital Management on Firm Profitability: A study examining the impacts of different company characteristics. *Umeå School of Business and Economics*, Umeå University.

Chalmers, D.K., Della, P.M. & Sensini, L. (2020). Export intensity and leverage: an empirical analysis of Spanish SMEs. *International Journal of Economic and Financial Issues*, 10(5): 382-386.

Chang, C. (2018). Cash conversion cycle and corporate performance: Global evidence. *International Review of Economics and Finance*, 56, 568-581.

Deloof, M. (2003). Does working capital management affect the profitability of Belgian firms? *Journal of Business Finance & Accounting*, 30 (3-4): 573-588.

Gitman, L. J. (1974). Estimating corporate liquidity requirements: a simplified approach. *Financial Review*, 9(1): 79-88.

Iqbal, J., Manzoor, A., Akhtar, Q., & Amin, S. (2020). The Effect of Cash Conversion Cycle on Profitability of the firm: A Study of Oil & Gas and Engineering Sector of Pakistan. *Journal of Accounting and Finance in Emerging Economies*, *6*(1), 263-272.

Karim, R., Al Mamun, M. A., & Kamruzzaman, A. S. M. (2023). Cash conversion cycle and financial performance: evidence from manufacturing firms of Bangladesh. Asian Journal of Economics and Banking, (ahead-of-print).

Kipkemoi, P., Kiru, K., & Koima, J. K. (2018). Effect of inventory and cash conversion cycles on financial performance of listed commercial and service firms in Nairobi securities

exchange Kenya. *Scholars Journal of Economics, Business and Management (SJEBM)*, 1(1), 1-10.

Kouaib, A., & Bu Haya, M. I. (2024). Firm Performance of Saudi Manufacturers: Does the Management of Cash Conversion Cycle Components Matter?. *Journal of Risk and Financial Management*, 17(1), 16.

Kumar, S. S., Sawarni, K. S., & Roy, S. (2024). Influence of working capital efficiency on firm's composite financial performance: evidence from India. International Journal of Productivity and Performance Management.

Majeed, S., Makki, M., Saleem, S., & Aziz, T. (2013). The relationship of cash conversion cycle and profitability of firms: An empirical investigation of Pakistani firms. *Journal of Emerging Issues in Economics, Finance and Banking*, 1(1): 35-51.

Muhammad, A. (2011). Working Capital Management and Corporate Profitability: Evidence from Iran. *World Applied Sciences Journal* 12(7): 1093-1099.

Muya, T. W., & Gathogo, G. (2016). Effect of working capital management on the profitability of manufacturing firms in NAKURU town, KENYA. *International Journal of Economics, Commerce and Management*, *4*(4): 1082-1105.

Myers, S.C. (1984). The Capital Structure Puzzle. *The Journal of Finance*, 39(3): 574-592.

Ndonye, P. K. (2021). *Effect Of Working Capital Management On The Profitability Of Listed Manufacturing Firms In Kenya* (Doctoral dissertation, Kca University).

Ndum, N.B. & Ezejiofor, R.A. (2021). Average Payment Period and investing Cash Flow of Quoted Consumer Goods Manufacturing Firms in Nigeria. GIS Business, 16(2): 172-183.

Omucheyi, R. K. (2019). Effect of working capital management on the financial performance of manufacturing firms listed at Nairobi securities exchange in Kenya (Doctoral dissertation, Kca University).

Pandey, I. M. (2008). Financial Management. New Delhi: Viker publishing House.

Penrose, E.T. (2009). *The theory of the growth of the firm*. Oxford University Press.

Rizky, A., & Mayasari, M. (2018). The impact of cash conversion cycle on firm profitability of retail companies. *Journal of applied accounting and taxation*, *3*(1), 73-78.

Salawu, R. O., & Alao, J. A. (2014). Working capital management and the performance of selected quoted manufacturing companies in Nigeria (2000-2009). *Research Journal of Finance and Accounting*, 5(14): 80-92.

Samosir, F. C. (2018). Effect of cash conversion cycle, firm size, and firm age to profitability. *Journal of applied accounting and taxation*, *3*(1), 50-57.

Sefideh, S.R. & Asgari, M.R. (2016). The impact of working capital policy on risk management in the companies listed in the Tehran Stock Exchange. *Problems and Perspectives in Management*, 14(3-si), 364-371. https://doi:10.21511/ppm.14(3-si).2016.09

Sensini, L. & Vazquez, M. (2021). Effects of Working Capital Management on SME Profitability: Evidence from an emergent economy. *International Journal of Business and Management*, 16(4): 85-95.

Sensini, L. (2020). Factors driving capital structure of Italian SMEs. *International Business Management*, 14(7): 217- 225.

Tauringana, V. & Afrifa, A.G. (2013). The relative importance of working capital management and its components to SMEs' profitability. *Journal of Small Business and Enterprise Development*, 20(3): 453-469.

Tsuruta, D. (2018). Do Working Capital Strategies Matter? Evidence from Small Business Data in Japan. *Asia-Pacific Journal of Financial Studies*, 47, 824-857.

Zakari, M., & Saidu, S. (2016). The impact of cash conversion cycle on firm profitability: Evidence from Nigerian listed telecommunication companies. *Journal of Finance and Accounting*, *4*(6), 342-350.