

PROJECT ABSTRACT

Master of Business Administration
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Adventist University of Africa

School of Postgraduate Studies

Title: THE EFFECT OF WORKING CAPITAL MANAGEMENT ON THE
PROFITABILITY OF SELECTED MANUFACTURING FIRMS LISTED
ON THE GHANA STOCK EXCHANGE BETWEEN 2016 TO 2021

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Working capital management (WCM) is a crucial component of financial analysis in organizations. This study investigates how working capital management (measured by accounts receivable management, account payable management, inventory management and cash management) impacts the profitability of industrial enterprises listed in Ghana. Several studies have been conducted in this country regarding the effect of working capital on profitability, and the findings point to different conclusions. Therefore, it is necessary to conduct more studies to obtain a clearer understanding of this situation. This study utilized a quantitative causal research design, focusing on a balanced panel of 15 Ghanaian manufacturing firms

listed on the Ghanaian Stock Exchange from 2016 to 2021. The findings of the study show that accounts payable management, accounts receivable management, and inventory management have higher means than cash management. ROA has a negative mean of 0.35%. Further, the results show a significant and positive relationship between the following working capital management elements: accounts payable management, inventory management, and cash conversion cycle on one hand, and return on assets on the other hand. However, account receivable management and return on assets were not significantly correlated. Regression analysis showed that working capital management had a significant effect on ROA, with an r^2 of 36.5%. Further, the findings indicate that firms' years of existence do not seem to moderate the relationship between working capital management and profitability. The recommendations focused on boosting profitability through the effective management of working capital to reduce short-term borrowing.

Keywords: working capital management, account receivable management, account payable management, inventory management, cash management, Return on Assets, listed manufacturing firms, Ghana.

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A project

presented in partial fulfilment

of the requirements for the Degree

Master of Business Administration

by

Philip Owusu-Ansah

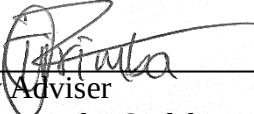
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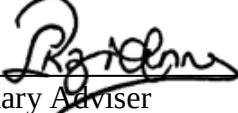
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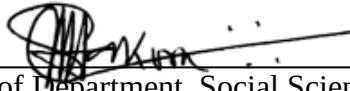
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DEDICATION

This work is dedicated

To my family

Your unwavering love, support, and encouragement have been guaranteed during the whole study period.

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LIST OF ABBREVIATIONS

ARM	Account Receivable Management
APM	Account Payable Management
IM	Inventory Management
CM	Cash Management
CCC	Cash Conversion Cycle
LC	Listed companies
YE	Year of Existence
ROA	Return on Assets
ROE	Return on Equity
WCM	Working capital management
WC	Working capital
GSE	Ghana Stock Exchange
CA	Current Assets
OM	Operating Margin

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CHAPTER 1

INTRODUCTION

Background to the Study

Working capital management (WCM) is an important aspect of organizational financial analysis. Its purpose is to guarantee that a company can continue operations and has adequate funds to pay down both maturing short-term debt and anticipated operational expenditures (Yenni et al., 2021). Working capital management is the management of inventory, accounts receivable, accounts payable, and cash equivalents. The administration of working capital is an essential and challenging responsibility in modern financial management because of the significant amount of working capital and special characteristics of a firm.

Working capital management refers to the management of current assets (CA) (usually converted into cash within an accounting year), current liabilities (generally discharged within a year), and the relationships between them. High current assets may have a negative influence on the firm's profitability, whilst a low amount of current assets may result in decreased liquidity and stock-outs, making smooth operations more difficult (Ekadjaja & Andi 2021). Traditionally, working capital has been defined as the difference between assets and current obligations. Consequently, working capital management seeks to manage and control current assets and liabilities to optimize profitability and maintain a sufficient level of liquidity in the firm.

The two aspects of corporate business life are liquidity and profitability (Jana 2018). To maintain a company, increased profits must be accompanied by increased liquidity. These two goals should not be sacrificed simply because they are more important. Without considering the profits, a business will fail. However, firms may face insolvency or bankruptcy if they fail to maintain their liquidity. Business managers should consider working capital management because they influence business profitability. The business can realize maximum profit while simultaneously ensuring the availability of sufficient working capital through the effective and efficient management of working capital.

According According to Kasahun (2020), improper management of financial resources, particularly working capital, can lead to financial destruction of a business. An effective working capital management plan significantly improves operating performance, allowing a company to satisfy short-term liquidity demands (Akbar et al., 2020). Firms aim to hold the most working capital to maintain an optimal level of working capital (Lofton, 2021). Another critical component is effective working capital management, which directly affects a company's financial performance and liquidity (Jana, 2018). According to Gill et al. (2019), the primary purpose of working capital management is to achieve a working capital management balance that maximizes efficiency. Increased sales may result from a favorable trade credit program and a vast inventory. Having a large inventory reduces the danger of being out of stock, and using trade credit can enhance sales by allowing a firm to acquire goods before incurring the expenditure of doing so (Rifai et al., 2021).

Account payables are another component of working capital. According to Rifai et al. (2021), postponing the payment of accounts payable to suppliers allows firms to obtain higher-quality items and can be a cheap and flexible source of

financing. However, postponing such payables may be expensive if a company obtains a discount for paying early. Similarly, uncollected accounts receivable can devastate a company's cash flow. The cash conversion cycle, which is the time gap between spending on raw materials and receiving income from completed goods sales, is a frequently used statistic for working-capital management. Lofton (2021) observed that the longer the time delays, the greater the working capital investment, and that a prolonged cash conversion cycle may boost profitability as sales grow.

However, business profitability may deteriorate as the cash conversion cycle progresses, if the costs of additional working capital investment surpass the advantages of expanded inventory holdings or greater trade credit to consumers. Lack of operating capital, mishandling, mismanagement, and underutilization of capacity have all been highlighted as major reasons for company failure. In general, working capital management is concerned not only with increasing financial performance in today's cash-strapped and unpredictable economy but also with satisfying a firm's day-to-day operating requirements. Understanding and measuring the consequences of working capital management and its impact on corporate performance are crucial (Mazlan & Leng, 2018).

Manufacturing industries are those that change things, or are primarily manufacturing industries in and of themselves. However, they also include activities, such as installing and repairing industrial equipment and performing subcontracting work for other parties. A total of 6.6 million jobs were added as a result of the rise in U.S. exports, including 2 million in manufacturing, 0.5 million in resource sectors, and an astounding 4.1 million in services (Feenstra & Sasahara, 2018).

A study from Supporting Economic Transformation (SET) (2018) showed that, despite significant obstacles, African manufacturing has seen notable success.

Some examples include the production of automobiles in South Africa, clothing in Mauritius and East Africa, and other niche industries such as footwear, agro-processing, food and beverage production, and consumer goods (Chitonge, 2021)

A review of these examples reveals that encouraging industrial activity relies on a combination of general enabling characteristics and policy functions. Africa (sub-Saharan Africa, including South Africa) as a whole, is experiencing an increase in manufacturing production, although the trends vary from nation to nation. Manufacturing production has nearly doubled since 2000, going from \$85 billion in 2000 to more than \$160 billion in 2015, although its share of gross domestic product decreased from 18% in 1975 to 11% in 2015 (Chitonge, 2021).

Although the manufacturing firms on the African continent has known some growth, some of the wealthiest nations, like South-Africa and Nigeria have experienced a slow growth (Supporting Economic Transformation, 2018). Between 2005 and 2014, Asia experienced the largest annual average increase in manufacturing exports (8.3%), followed by Africa (7.4%), and substantially lower growth in Europe (4.3%), the Americas (3.9%) and Oceania (2.7%). Africa now accounts for 0.9% of global manufacturing and up to 0.8% in the past (Wood & Bischoff, 2020).

Except for Nigeria, manufacturing foreign direct investment (FDI) increased in nine African countries between 2003 and 2006 and between 2010 and 2014. Greenfield FDI surged from \$1 billion in 2016 to \$4 billion in 2017 for African textiles, apparel, and leather. The largest manufacturing segment comprises food and beverages, followed by textiles and apparel. Automobile assembly and manufacturing in South Africa, clothing production in Mauritius and East Africa, and consumer

goods production throughout the continent are examples of successful manufacturing production (Kumar et al., 2021).

According to this study, working capital management and business profitability are positively connected in Ghana. The findings also demonstrate a concave quadratic link between working capital management and corporate profitability (Amponsah-Kwatiah & Asiamah, 2020). After the global spread of COVID-19 and the arrival of the first cases in Ghana, a partial lockdown was implemented, restricting economic activity in Greater Accra and Greater Kumasi, where the majority of manufacturing firms are located. The partial lockdown forced many businesses to close, while even firms that were not affected by the lockdown measures found themselves with fewer customers and orders. Firms also had increased difficulties in sourcing inputs and found it difficult to cover revenue shortfalls. Firms in trade (93.7 percent) and manufacturing (92.7 percent) were largely affected. The average decrease in sales was 60.6 percent. This corresponds to an estimated 115.2 million Ghana Cedis. This situation can affect firms' working capital (Uzir et al., 2022).

Statement of the Problem

A firm's ultimate goal in global competition is to increase profits and achieve long-term growth. This goal cannot be met without effective working capital management, particularly for short-term capital because liquidity management has a significant impact on a firm's existence. Indebtedness can result from a company's inability to properly manage its operating capital.

The manufacturing companies in Ghana are facing challenges with working capital management, which is causing a decline in their profitability. However, it is

unclear whether listed firms on the GSE have a correlation between WCM and profitability, which is why this study must be conducted in the context of listed firms on the GSE to ascertain whether working capital management and profitability are linked. There is a need for more research because the results of some studies point to a positive effect, while others show a negative effect in current studies.

Working capital is compared to the blood rushing through a corporate entity's vessels in a manufacturing company (Esther, 2022). Research has shown that poor working capital management is one of the main reasons for financial trouble and insolvency in most organizations (Wang et al., 2020). Owing to the unpredictable financial market circumstances in Ghana, which are largely brought about by uncertainty in macroeconomic fundamentals, working capital management is crucial for manufacturing companies. Price volatility is a phenomenon that requires business owners to carefully manage their working cash.

Additionally, Akomeah and Frimpong (2019) support the notion that the importance of effective working capital management by listed firms cannot be overstated, because it is critical to boost profitability and increase industry and productivity expansion, which is a requirement for addressing the country's unemployment issues and ensuring economic stability. Although Ghana's previous and current administrations have initiated a number of policy interventions with the primary goal of restructuring the country's industrial sector, there are still issues that need to be addressed. Concurrent research on the relationship between working capital management (WCM) and Ghanaian company profitability is being conducted to provide empirical evidence for future research (Braimah et al., 2021).

In addition, contradictory findings from previous research make broad policy formulation challenging. Nwude et al. (2018), Ceylan (2021), and Linh and

Mohanlingam (2018) discovered a negative link between inventory turnover, accounts receivable turnover, cash conversion cycle, and firm profitability. According to Alvarez et al. (2021) and Pakdel and Ashrafi (2019), account payable turnover and business profitability have a positive link. It was also emphasized that these and other studies evaluated WCM using a variety of measures and approaches such as panel analysis and linear regression. Concurrent studies on the relationship between WCM components and the profitability of manufacturing companies listed on the Ghana Stock Exchange are being conducted to support the proposed direction (Prempeh & Peprah-Amankona, 2018; Akoto et al., 2013; Yeboah & Agyei, 2012). As a result, the overarching goal of this study is to investigate how working capital management affects the performance of Ghanaian-listed manufacturing enterprises.

Ghana began an import-substitution industrialization programme in the immediate post-independence period with active participation in the state. Currently, manufacturing accounts for 15% of Ghana's GDP, or over 1.1 billion US dollars, and employs more than 734,341 people (as of 2021). The value of Ghana's industrial production in 2021 was \$8.30 billion, an increase of 8.22% from the previous year. Ghana's industrial production in 2020 increased by 10.48% from the previous year to \$7.67 billion. Ghana's industrial production in 2019 was \$6.94 billion, an increase of 1.95 % from 2018. Ghana's industrial output was \$6.81 billion in 2018, an increase of 11.06% from 2017. This affects the objective of profit maximization of industrial enterprises listed on the Ghana Stock Exchange (Li et al., 2020).

This study seeks to address this question by examining the effect of effective working capital management on the profitability of listed companies on the Ghana Stock Exchange. This is done in light of the previously mentioned factors, as well as the recent clean-up of the financial sector, which resulted in the failure of several

financial institutions (Bank of Ghana, 2019), leaving businesses with few other options for funding. This provides strong evidence in favor of the need for efficient working capital management for publicly traded manufacturing firms to achieve profitability (Quansah & Opoku, 2023).

Research Questions

The study sought to address the following research questions:

1. What is the effect of accounts receivable management on the profitability of selected manufacturing firms listed on the Ghana Stock Exchange?
2. What is the effect of accounts payable management on the profitability of selected manufacturing firms listed on the Ghana Stock Exchange?
3. What is the effect of inventory management on the profitability of selected manufacturing firms listed on the Ghana Stock Exchange?
4. What is the effect of cash management on the profitability of selected manufacturing firms listed on the Ghana Stock Exchange?
5. What is the moderating effect of the years of existence on the relationship between working capital management and profitability of selected manufacturing firms listed on the Ghana Stock Exchange?

Hypotheses

1. There is no significant effect between accounts receivable management and the profitability of selected manufacturing firms listed on the Ghana Stock Exchange.

2. There is no significant effect between accounts payable management and the profitability of selected manufacturing firms listed on the Ghana Stock Exchange.
3. There is no significant effect between inventory management and the profitability of selected manufacturing firms listed on the Ghana Stock Exchange.
4. There is no significant effect between cash management and the profitability of selected manufacturing firms listed on the Ghana Stock Exchange.
5. There is no significant moderating effect of the years of existence on the relationship between working capital management and profitability of selected manufacturing firms listed on the Ghana Stock Exchange.

Conceptual Framework

A conceptual framework is a visual representation of the main concepts of a study and their relationships . It is useful as it helps the researcher to make sense of the variables that are to be used in the study (Van der Waldt, 2020). The conceptual framework is built from the concepts gathered from the literature, and is created by the researcher. In this study shows the independent, moderating and dependent variables. Working capital management with all its components represents the independent variable and profitability, as measured by the Return on Assets, is the dependent variable. Further, the years of existence of the firm is the moderating variable. The diagram below shows the relationship between these three types of variables.

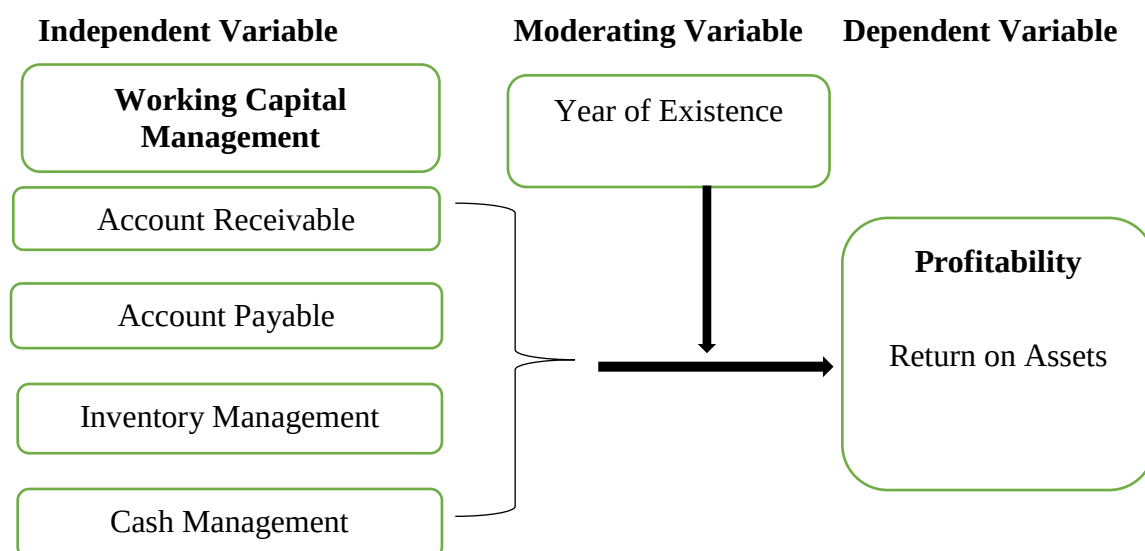


Figure 1. Conceptual Framework of the Study

In an organization the working capital management can be classified into four categories: inventory, accounts receivable, cash, and payable management. Inventory consists of an organization's stock. Inventory ordering and holding costs must be minimized for working capital management. Thus, the cost of stocking-out has decreased (Baker et al., 2019). Cash Management is the cash received is a substantial component of working capital. This is critical for the day-to-day functioning of a company. Although the percentage of assets in cash is often quite modest, maintaining this asset is critical for guaranteeing the financial health of a corporation (Adade, 2023). Account Receivable Management is about managing the sales made on credit. Businesses offer credit while selling goods and services to boost their sales. This form of current asset investment necessitates the proper and efficient management of potential costs. Resource management must maintain a credit level that will bring in more money than the cost and risk of extending this credit. To guarantee higher profits, this also ensures a large difference between the cost of goods and their sales (Holzhauer, 2023). Account Payable Management has to do with payables. The latter

have a substantial impact on a company's working capital. Working capital is reduced as the number of accounts payable grows, and payment timeliness is a component of working capital management (Mabele, 2019).

Profitability is the dependent variable in this consider. By partitioning a company's net salary by all resources, I will compute the ROA money related proportion. The following rate is the benefit a commerce makes for each resource it more viable at turning its resources into profit. ROA is considered a valuable indicator for firms recorded on the GSE to analyze their money related performance and compare it with other companies within the same division or industry. It is imperative to note that diverse segments or businesses may have shifting levels of capital concentrated, which can influence their ROA values. Furthermore, a few companies may have the next ROA, but may too carry a tall level of obligation, which can increment their budgetary risk (Attom & Rahman, 2022). Generally, ROA could be a valuable marker to evaluate the money related execution of companies recorded on the GSE. When a company's ROA rises over time, more profit is extricated from each dollar of resources it possesses. In differentiating, a decrease in ROA demonstrates destitute speculation choices, intemperate consumption, and indeed threat to the organization (Ramadan & Morshed, 2023).

The moderating variable for this study is the number of years of existence. The number of years of existence of a manufacturing company is an important element when addressing the issue of profitability. Firms' processes are recurrent and the firms that have existed for a long period can use the knowledge acquired over the years to improve their practices and activities (Susilo et al., 2020). Hence it is deemed necessary to verify if at all the years of existence moderate the relationship between the variables in this case also.

Significance of the Study

Studying the profitability and management of working capital in companies listed on the Ghana Stock Exchange could have important implications for scholars and practitioners. This study can enhance academic comprehension and contribute to the existing knowledge by providing empirical evidence on the correlation between working capital management and profitability. In this context, the study focuses on Ghana, a country located in West Africa. The study can help highlight some aspects of the operations of listed companies in a developing country, thus building up the pool of knowledge regarding these countries. This could aid future study in the finance and accounting industry by expanding current concepts and models.

Further, this study can provide insights into the working capital management strategies of companies listed on the Ghana Stock Exchange, which can help inform business decisions. Businesses can utilize the data to identify opportunities for improving financial performance and to make more informed decisions on working capital management. Moreover, investors can use the results of this study to make well-informed investing selections concerning the Ghana Stock Exchange.

The findings could have significant implications for the economic growth of Ghana and West Africa. This study may encourage organizations to adopt more efficient and effective working capital management practices by highlighting its significance to financial performance. This could ultimately contribute to the region's economic growth and success.

Finally, the study will add to the researcher's knowledge and contribute to the dissemination of knowledge regarding working capital management in academic circles.

Scope and Limitations of the Study

Geographically, the study was done in Ghana, a country located in West Africa. The study focuses on the impact of the Accounts Receivables Management, Accounts Payables Management, Cash Management and Inventory Management on the profitability of the listed companies on the Ghana Stock Exchange. Other variables could have been chosen that also affect the profitability, but the study limited itself to those variables only.

Only 15 firms were chosen for the study, even though the researcher would have needed to cover all the listed enterprises. The choice was due to incomplete information on some of the listed firms. The study used Secondary records only, namely annual financial records. The years covered were 2016 to 2021. Only manufacturing companies were chosen.

Operational Definition of Terms

Listed companies: A company whose shares can be traded on a country's main stock market

Account receivable management: The average collection period is the average number of days between the dates of credit sales and the dates of receipt of money from clients.

Account payable management: This is the average amount of time a business takes to pay off payable credit accounts.

Cash Management: This is a metric that expresses the time it takes for a business (measured in days) to turn its inventory and other resources investments into cash flows from sales.

Cash Conversion Cycle (CCC): is a measure of an organization's cash management.

Inventory Management: This ratio indicates how many times a business has sold and replaced inventory over a given period

Return on Assets: This indicator measures how profitable a business is in relation to its total assets.

Return on Equity: Return on Equity (ROE) is considered a measure of a corporation's profitability in relation to stockholders' equity.

Operating Margin: It is also represented as a percentage of sales and demonstrates a company's effectiveness in regulating the expenditures and expenses involved with its operations.

Working Capital Management: It is the efficient and effective management of current assets and obligations.

Working Capital: It denotes the difference between Current Assets and Current Liabilities.

CHAPTER 2

REVIEW OF LITERATURE

Capital management is an important component of finance, and its primary function is to manage associated assets and liabilities throughout time. Working capital management expresses shareholder wealth multiplication and its eventual impact on the firm's success. Working capital management refers to how firms manage short-term funding, with the primary goals of supporting long-term liquidity, profitability, and shareholder value.

Working Capital Management Theory

One key factor in determining a company's profitability is its working capital management. Nyaga and Aluoch (2022) defined working capital management as the administration of a company's current assets and obligations. Working capital management consists of the following components: cash conversion cycles, accounts payable, accounts receivable, and inventory management.

More importantly, WCM is an organization's lifeblood, and effective WCM is a requirement for an organization's ability to make money (Amponsah-Kwatiah & Asiamah, 2021). Research has indicated that, generally speaking, the procedures most often carried out in working capital management have to do with protecting cash, inventory, and credit risk evaluation (Kabuye et al., 2019).

According to Ogolla (2019), a decrease in a company's inventory in relation to the amount of time it takes to settle its liabilities, which are tied to the amount of time

it takes for customers to pay, is associated with increased corporate profitability.

Liukkonen (2021) also comes to the conclusion that a shorter cash conversion cycle boosts a company's profitability. In summary, efficient and effective WCM is critical to a company's profitability (OMOTAYO, 2023). WCM guarantees that a business can stay in business and has enough cash flow to pay off impending operating costs, as well as maturing short-term debt (Alagoa, 2021).

There are a number of theories concerning working capital management, particularly for businesses that operate in extremely unstable economic contexts such as Ghana. Nonetheless, cash conversion cycle theory, pecking order theory, and trade-off theory have all been considered for the purposes of this study.

The theory of working capital management has attracted the attention of researchers in the literature because of its importance to firm profitability. This theory has been described in several ways. Working capital management is defined by Lyngstadaas (2020) as the regulation, modification, and control of a firm's current assets and liabilities, so that maturing commitments are satisfied and fixed assets are appropriately serviced. According to Matole (2019), in order to manage working capital, financial managers must plan and control current assets as well as CL in a way that avoids the danger of failing to satisfy due short-term commitments. These two writers' points of view assume that working capital management is a philosophy that aims to blend a firm's current assets and liabilities in the most efficient way for an organisation to maximise profit.

As Ibrahim et al. (2021) put it, effective working capital management results in appropriate liquidity, solvency, efficiency, and optimal profitability and shareholder value. Sensini (2020) also asserted how organisations manage their working capital has a substantial influence on their profitability and cash holdings.

According to Mwariri (2020) efficient working capital is known to have many favorable effects, including speeding the payment of short-term commitments to firms. Yeboah (2018) argues that this reduces the tendency of working capital to become a source of failure among small businesses.

According to Mbaye (2023), effective working capital management assists organizations in improving their budgeting and forecasting procedures, strengthening cash flow levels, and increasing profitability and shareholder value. Poliakov and Zayukov (2023) explain how it guarantees solid liquidity for long-term growth and the achievement of the profit-generating process. Insufficient working capital results in bankruptcy. Too much working capital, on the other hand, results in wasting cash and ultimately decreasing profitability (Suntraruk, 2023). These critical appraisals and perspectives on working capital management theory describe it as one that requires more attention than it now receives, because it has a direct influence on an organization's profitability and sustainability.

There are numerous concepts about working capital management, particularly in organizations that operate in severely volatile economic environments, such as Ghana. However, cash conversion cycle theory, Frank Knight theory of profit, and working capital cycle theory have all been considered for the purposes of this research.

Cash Conversion Cycle theory

The Cash Conversion Cycle theory, created by Richards and Laughlin in 1980, elucidates how companies might shorten their operational cycle to mitigate the consequences of inadequate working capital management. This quantifies the duration between a company's inventory acquisition and the cash receipts from its accounts

receivables. Firms' management might utilize the cash conversion cycle theory to forecast the duration that a firm's cash is held up in its activities. Kabuye et al. (2019) suggest that a prolonged duration in collecting outstanding accounts receivables, excessive inventory, or rapid payment of expenses by Management can extend the cash conversion cycle. A longer cash conversion cycle indicates a longer period to create cash, which suggests insolvency for the organization.

Nworie et al (2023) posit that when a company efficiently manages its accounts receivable, inventory forecasting, and accounts payable, it reduces its cash conversion cycle. A shorter cash conversion cycle signifies a healthier organization. Consequently, the extra funds can be utilized for future purchases or to reduce existing debt. The cash conversion cycle theory is the fundamental theory that elucidates working capital management in connection to all aspects and elements, ranging from raw materials to finished products and outputs, reflecting inventory levels, receivables, payments, and the cash component (Pham et al., 2020).

Firm management can forecast how long a company's cash is committed to its operations, using the idea of the cash conversion cycle. According to Kabuye et al. (2019), the cash conversion cycle is prolonged when management accumulates excessive inventory, pays bills too soon, or takes a long time to collect past-due accounts receivables. Longer cash conversion cycles indicate that the company is insolvent because it takes longer to create cash.

Alternatively, the cash conversion cycle can be shortened by a company paying its bills slowly or by taking less time to collect its past payments and accurately estimate its inventory needs (Zhong, 2022). Therefore, a shorter cash conversion cycle signifies a healthier company. Further purchases or debt repayments are thus possible with the extra cash made. It can be argued that the cash conversion cycle theory serves as the

fundamental theory for understanding working capital management with respect to all ideas and elements, including raw materials, completed goods, outputs that show inventory levels, receivables, payments, and cash components.

Pecking Order theory

The information asymmetry that underpins pecking order theory is the perception that a company's managers are better knowledgeable about its values than prospective investors. According to this idea, when a company requires outside funding, it prefers to employ debt rather than common stock and internal finance (Myers and Majluf, 1984).

The use of debt here indicates positive information about the firm, but the use of common shares signals negative information about the same (Correa et al., 2007). Internally generated funds are believed to incur no transaction cost. According to Chen and Zhao (2004), pecking order theory supports business management of strong cash reserves and highly liquid assets to guarantee that commitments are fulfilled promptly and to prevent the need for outside funding.

Furthermore, the theory highlights that a company that employs a cautious financing approach is more likely to have easy access to credit and be viewed favorably by potential investors. Thus, businesses should maintain a lower level of current assets and a higher level of supplier financing to implement an aggressive working capital policy. By doing so, the company guarantees a substantial amount of internal funding to support its operations, ideally without using debt or stock.

The pecking order theory obviously matters when it comes to working capital management for businesses that operate in extremely unpredictable economic circumstances. This theory offers a way around some of the drawbacks of the initial

capital structure view of the company and is helpful in understanding the uneven information that exists between managers and investors.

Trade-Off Theory

As per this theory, firms need to maintain an optimal level of working capital to balance the costs associated with holding too much cash or too little cash. Holding too much cash may lead to missed investment opportunities, while holding too little cash may lead to liquidity issues.

The classic TOT (i.e., static TOT) proposes that enterprises strive for the best capital structure and consider the benefits and costs associated with an additional "monetary unit of debt." The benefits of this method are the "tax benefits of interest payments" (DeAngelo & Masulis, 1980; Modigliani & Miller, 1963, as quoted in Agyei et al., 2020). Similarly, a decrease in conflicts between shareholders and managers is connected to free cash flows (Jensen, 1986; Stulz, 1990). As debt levels rise, the potential "costs of financial distress" (Haugen, R. A. & Senbet, L. W. (1978), and the agency costs between owners and financial creditors (Jensen & Meckling, 2019; Myers, 1977) become more apparent. When an optimal capital structure is reached, the benefits of debt funding are balanced against debt-related expenses, resulting in an equilibrium. According to Myers (1984), organizations who adopt this method are regarded as creating a "target debt ratio" and attempting to achieve it gradually.

Myers (1984) proposes a trade-off approach, claiming that the optimal level of debt is one in which the discounted tax benefit of employing debt financing outweighs the discounted cost of potential hardship. In trade-off theory, costs and advantages associated with debt use define the optimal level for a value-maximizing organization.

The firm determines its goal debt level, which is the point at which the marginal cost of debt equals the marginal benefit (Barclay & Smith, 1995). The cost of debt comprises the financial distress cost and agency costs of asset substitution, whereas the benefits are the tax benefit and reduction in agency costs (Tong and Green, 2005).

As a result, the trade-off approach proposes that the ideal level of debt is determined by evaluating the benefits of tax relief against the potential for greater bankruptcy costs. Considering the tax benefits of debt financing and financial distress, it is possible to conclude that business value is maximized at the lowest cost of capital.

Frank Knight Theory of Profit

Frank H. Knight proposed the Knight's Theory of Profit in 1921, stating that profit is a reward for bearing uncertainty, rather than risk (Knight, 2021). Because events are unpredictable, decision-making is a vital job for an entrepreneur or management. An entrepreneur earns a profit if their decisions are proven accurate by subsequent events; conversely, they incur a loss if their decisions are proven incorrect. The Knight's theory of profit states that profit is generated by judgments made in uncertain settings. Knight argues that profit can be generated from market-related decisions, such as increasing market monopoly, holding stocks for windfall gains, introducing new products and techniques, etc.

In the context of industrial enterprises, Knight's theory indicates that market uncertainty and ambiguity generate profits. Given this unpredictability, manufacturing organizations must make judgments about output levels, pricing, and investments. Profits can be earned by organizations that can better foresee future market situations and adjust their strategy accordingly. According to Knight's idea, manufacturing

organizations must be entrepreneurial in their approach, continuously looking for new possibilities and inventing to remain ahead of competition. Firms that can successfully manage uncertainty and take reasonable risks are more likely to be profitable in the long term.

Working Capital Cycle Theory

Working capital management, according to this theory, follows a cycle depending on the type of organization being studied (Brealey & Myers, 2002). With such a cycle, a company may estimate its working capital requirements at any moment. The working capital cycle is defined as the time span between when a company turns cash into raw materials or finished goods and when it receives cash from debtors (Myers & Majluf, 1984). The cycle varies by company and should be calculated considering factors such as company size, goods, and assets. According to Brealey and Myers (2002), a manufacturing company's working capital cycle typically resembles the following:

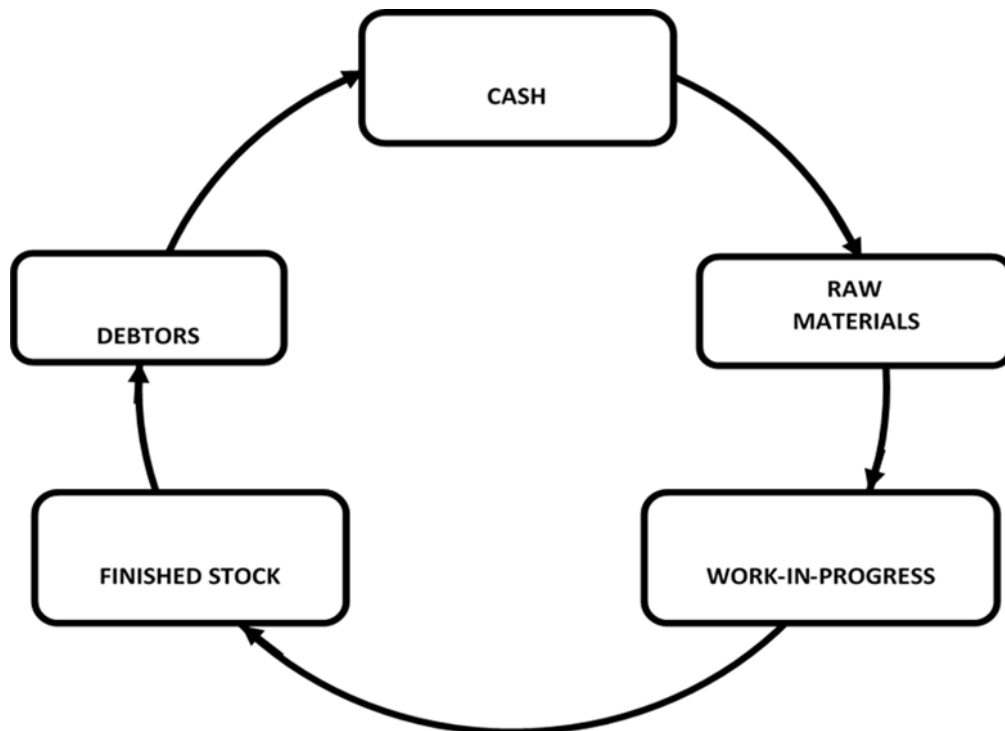


Figure 2. Brealey and Myers' working capital cycle for manufacturing companies

The cycle follows the following sequence:

Step 1: Cash is the starting point. Then there is the conversion of cash into raw materials.

Step 2: Conversion of raw materials into work in progress.

Step 3: Conversion of work in progress into finished stock.

Step 4: Conversion of finished stock into accounts receivables (Debtors) through sale

Step 5: Conversion of account receivables into cash, and the cycle is complete and starts all over again.

The Concept of Working Capital

It is indisputable that organizations cannot operate or continue in existence without adequate working capital. Organizations purchase inputs or invest in raw materials, and expect revenue when finished products are sold. However, there is a significant time lag between the investment and revenue receipt (Basyith et al. 2021). This means that funds are locked during the time-lag period. Organizations need to manage their finances in a manner that makes operations possible during the time lag.

Working capital is defined as the difference between current assets and current liabilities by Basyith et al. (2021). In contrast to current liabilities, which include payables, current assets include stock investments in raw materials, work-in-progress, finished goods-receivables, as well as cash and cash equivalents. According to Hossin and Begum (2020), current obligations are those that are payable within a year, whereas current assets are those that can be easily turned into cash within a year.

Two categories of working capital are distinguished. These represent, respectively, the gross and net working capital. An organization's total investment in

current assets is known as gross working capital (Husain & Sunardi, 2020). The difference between the total of current assets and liabilities is known as net working capital. Total current obligations and current assets might differ or change in either a positive or negative way. An organization's net working capital is positive if current assets are greater than current liabilities; otherwise, it is negative. Knowing about both ideas is necessary for working capital management (Ilham et al., 2022).

Working Capital Management

A significant percentage of finance personnel in many organizations handle daily capital decision-making concerns. Current assets are always converted into other current assets, such as sales into credit sales (debtors) and inventory into sales. It is purported that current liabilities are better paid off within the timeframe specified by third parties. The operating cash flows of those assets, not the forced-sell (liquidation value), determine liquidity (Sogomi et al., 2024).

The three primary company operations that drive working capital investments and the associated short-term financing are purchasing, producing, and selling. This is caused by business operations. While working capital balances are determined by activities, they also determine costs (e.g., the expense of a third party to collect debtor payments) and flexibility (e.g., the length of time it takes to convert stock into sales).

The tasks of buying, manufacturing, and selling can become more flexible and cost-effective, with better working capital and debt management within a year. To improve the management of business operations, working capital items are examined, and remedies are proposed in the conclusion. Working capital management can save expenses and help companies (Preece, 2023).

Since an organization cannot pay its creditors, it is technically bankrupt and effective working capital management is essential. For trading and manufacturing

companies, the portfolio of current assets is substantial in relation to total assets; therefore, it is imperative that working capital is managed optimally to strike a balance between profitability and liquidity. Even when a business is profitable, it will need to take on more credit or borrow more money to finance its inventory if significant portions of its income are locked up in receivables. This can result in a situation where the company needs money to purchase stock for sales and will have to pay interest if an overdraft is used to finance the stock (Onyari, 2023).

For this reason, if a company wants to maintain its viability, profitability and liquidity must be closely controlled. Purchasing inventory is a crucial and inevitable step towards achieving sales. Purchasing inventory wisely—that is, purchasing items with a decent probability of making successful sales— increases profitability and liquidity. A shorter cash operating cycle is associated with fast moving goods (Nurfadilah et al. 2023).

Oketch (2022) reports that a significant proportion of business failures can be attributed to poor working capital management, which may result from the high number of inventories and creditors and, consequently, a protracted cash operating cycle. Rapid cash generation enables businesses to extend credit to clients and purchase additional stocks for resale. Consequently, the company's success has increased. Working capital is defined by Gbaram and Uzochukwu (2020) as current assets less current liabilities. This is the money a firm uses to run on a daily basis. It is understood that "current" means less than a year.

Having adequate operating capital on hand at all times is critical for a company's growth and efficiency. Using working capital recklessly or excessively on stocks during an economic downturn is not recommended, because credit will be difficult to obtain if current assets must be funded with loans. A tight monetary policy

deters banks from lending during recessions. One could argue that, during a recession, firm products will be less in demand than before. However, if the demand for the product is inelastic, it will not decrease (Coleman & Wu, 2020).

The successful development of internal funds is closely tied to the management of working capital. Working Capital is the difference between a company's current assets and current liabilities and is related to short-term financial management. Short-term financial management is primarily concerned with a firm's short-run operating and financing activities. Firms are willing to use internally generated cash because they do not have to pay interest or have no maturity time. However, managers can also become complacent. Additionally, accumulating debt raises the debt-to-equity ratio, making the share price unappealing if the company is not profitable.

Firms have more freedom to use their own funds for investments. The same is not true when a firm obtains a loan from a financial institution; financial organizations only make loans available quickly and cheaply when there is a need to expand a company's productive capability. Consequently, internally generated funds provide a company with flexibility (Sari et al., 2022).

Working capital management, according to Awodiran (2019), is concerned with the administration of current assets such as cash, receivables, marketable securities, and inventory. It entails managing and sustaining existing assets and liabilities at acceptable levels to enable for the organization's day-to-day operations (Ramadan & Morshed, 2023). Working capital is made up of numerous components. To achieve capital adequacy, organisations must strive to maintain an adequate mix and balance of working capital components (Hossin & Begum, 2020).

Organizations invest in their existing assets, which require funding on a daily basis. Working capital management is thus concerned with decisions about the management and financing of current assets. It entails establishing the working capital management strategies required for the firm to meet its goals and objectives, such as profitability, growth, and maximising of shareholder wealth (Bhattacharyay, 2023).

According to research findings, one of the ripple effects of the current financial crisis is that enterprises are unable to receive cash credit because of rigorous and unavailable credit requirements. As a result, enterprises must manage their working capital more carefully because cash is not readily available. According to recent PwC data, the UK's largest corporations have failed to free up to £125 billion in cash over the last five years as a result of poor working capital management, compared to £400 billion across Europe. Little was done to significantly improve working capital efficiency between 2004 and 2008, including the onset of the present financial crisis (Yong, 2024). This demonstrates that working capital management must be carefully addressed.

According to the above definition, working capital management is the efficient management and administration of working capital components, as well as the adoption of policies necessary for the investment and financing of current assets and liabilities in order to achieve organisational goals of profitability and shareholder wealth maximization (Adam & Quansah, 2019)

Components of Working Capital

Depending on the nature of the business and sector, different organizations' working capital requirements may differ (Deb et al., 2023). Even though some components might be general and common to all organizations, the levels differ among organizations. Firms in the manufacturing industry will keep large volumes of

their current assets in inventories and work-in-progress, whereas firms in the banking sector will keep large volumes of their current assets in loan receivables and investments. As a result, it is critical for the business to comprehend and accurately measure the components of working capital (Tyagi et al., 2023). Keeping adequate levels of working capital is critical for an organization's existence, since insufficient working capital may result in the business losing profitable opportunities and suffering short-term financial difficulties (Allam et al., 2023) and insolvency (Hossin & Begum, 2020).

Management of Working Capital Components

Working capital components are critical components of every organization's operations. These components must be managed correctly in order to accomplish corporate goals. This study considers the following: Management of receivables, management of payables, management of inventories, and cash management.

Account Receivables Management (ARM)

Organizations sell on credit to receive cash in the future. This phenomenon creates debtor balances or receivables on the balance sheet of the selling organization. The selling company provides a period during which it expects to receive payments for the goods or services supplied. This period is called the credit period (Dameti, 2020). None of the creditors makes goods payments on the same day. Some make payments within the period, whereas others pay after the expiry of the credit period. The debtor's collection period or accounts receivable turnover in days is the average time it takes creditors to settle their accounts (Olayemi & Fakayode, 2021).

Management of receivables is crucial to the survival of an organization as it forms part of the essential components of current assets. According to Awodiran

(2019), organizations give credit for intending to increase sales and hence achieve their profitability goals by maximizing profits. Debt collection costs should not exceed the amount collected throughout the exercise. In giving out credit facilities, creditworthiness checks must be conducted on new customers, and old customers should also have their creditworthiness reviewed occasionally before granting them credit facilities (Hassan, 2022). This reduces the incidence of bad debt, which is a charge against profit, and hence reduces organizational profitability. Information for the creditworthiness check can be obtained from bank references, trade references, published annual reports, credit reference agencies, and the organization's own experience (Olayemi & Fakayode, 2021).

Working capital is the lifeblood of businesses, and it must be constantly improved. Early receipt of cash improves an organization's working capital. To achieve this, organizations can discount their receivables to a factoring company that will, in turn, offer early cash and pursue trade creditors. The risk associated with this policy is that the firm will receive cash early in the short run. However, if the factoring company uses harsh means to pursue debt, the organization will ultimately lose customers as it switches to competitors (Dameti, 2020).

Yator and Gitagia (2023) argues that organizations purchase raw materials, turn them into finished goods, supply them on credit to customers, and expect to receive payments later. The average collection period serves as a proxy for the receivables/debtors policies of a company. This shows the swiftness of an organization in collecting its debts. This indicates the average length of time it takes organizations to collect receivables from customers (Taghipour et al., 2020), and a shorter period is indicative of the efficient management of liquidity (Abdullahi et al., 2021).

Increases in AR as part of Trade Credit (TC) and Working Capital

Management (WCM) appear to increase sales by giving customers more time to pay (Mbathi, 2022). This lessens the information asymmetry between the buyer and seller, and provides them with an affordable source of credit (Asare et al., 2022). Holzhauer (2023) asserts that credit conditions must be met to guarantee successful ARM. Businesses frequently use credit criteria to improve their trade credit and cash discount policies, as well as factoring in their receivables.

Aduda (2022) states that, when adopting an ARM policy, businesses should consider three key factors: growth in sales, assessment of profits, and potential issues that may arise from higher sales and profits. Longer production processes typically require a company to hold more cash in inventory, which increases the amount of time it takes for customers to pay their bills and ultimately increases the value of accounts receivable.

Furthermore, a company tends to require less capital to run its operations if it postpones paying for its own supply. Hassan et al. (2023) discovered a substantial inverse relationship between AR and business performance, measured as gross operating income. Budianto and Dewi (2023) presented evidence supporting the idea that companies should concentrate on enhancing their ARM procedures to stay profitable. The average collection period is calculated by dividing account receivables by net sales and multiplying the result by 365 days.

$ACP = (Receivables/Net\ Sales) * 365\ days$ (Olagunju et al., 2020).

Accounts Payable Management (APM)

Account payables form part of an organization's working capital components, and their management is essential if the objective of enhanced profitability is to be achieved. Account payables can be broadly categorized into two types: trade account

payables and other account payables (Adam & Quansah, 2019). Trade account payables are short-term obligations that arise when companies purchase merchandise on credit from other companies to make payments at a future date, while other account payables are short-term obligations that arise from the operations of a company other than buying merchandise on credit (Yunusa, 2021).

Trade account payables present the organization with a cheaper source of financing, as the credit received from supplies can be used to fund the credit given to customers. When the credit period received from supplies is longer than that given to customers, the cash received from customers can be used to finance further investments in inventory before payments are made to creditors. This source of financing is cheaper than relying on short-term debt (Dameti, 2020).

Dameti (2020) further opined that organizations should pay creditors on a timely basis, as this will increase their creditworthiness ratings and give them access to more credit and trade discounts from current and other supplies in the industry. Forecasted cash flow should be managed to make funds available when payments are due. It is also important that, in managing account payables, organizations know the credit time allocated to them by creditors to plan payments (Olayemi & Fakayode, 2021).

For many businesses, the primary source of unsecured short-term financing is accounts payable (AP), which enables them to obtain inputs immediately while deferring payment (Liu et al., 2022). AP arises from purchases of goods in which the buyer agrees to pay the supplier the amount in compliance with the credit terms specified on the supplier's invoice, but no formal note is signed to demonstrate the customer's ability to pay the seller (Sulthana, 2024). On the balance sheet, AP denotes the current liabilities that must be paid off in less than a year.

The counterpart of ARM, or accounts payable management (APM), ensures that suppliers have steady inventory quantities (Sulthana 2024). Business agreement to purchase a product and pay for liabilities at a later date. Day account payables refer to the period between the acquisition of goods and their payments (Dan, 2020). A company's goodwill and share value are negatively affected if it is unable to pay its account payables on time, as this indicates that the company has financial difficulties and may file for bankruptcy.

Businesses may benefit from shorter account-payable terms because of the related discounts, but doing so would require the company to shorten its collection time, which could result in lower sales. Businesses should exercise extreme caution when determining how long account payables should last. The longer the day of accounts payable, the better is the researcher's opinion.

Organizations purchase goods with credit, sell them, and are expected to pay for the purchases later. The payment period for accounts serves as a proxy for an organization's payables/creditors policy. This represents the average delay between credit purchases and when cash is paid to suppliers for credit purchases (Osei et al.,2023). The average payment duration was determined by dividing accounts due by purchases and dividing the result by 365 days (Osei et al.,2023).

$$APP = (\text{Payables}/\text{Net purchases}) * 365 \text{ days.}$$

Inventory Management (IM)

Inventory are part of an organization's current assets and, as such, must be managed if increased profitability is to be reached. Companies that produce items for sale require raw material and finished goods stocks to fulfil the needs of both the production department and the customers at all times. Revenue will be lost if enterprises are unable to satisfy immediate consumer demand due to a low level of

stocks in which cash is locked up, or if stock levels are too high and stocks become outmoded. As a result, it is advisable for businesses to strike a balance between keeping acceptable inventory levels and having adequate working cash (Dameti, 2020).

Inventory management requires the organization to plan, coordinate, and control the activities of all departments – production, marketing, purchasing, and finance – that rely on inventory to determine the appropriate levels to maintain. The levels of inventory kept will affect the associated costs, such as ordering, holding, and carrying (Yunusa, 2021). Companies must understand the typical time it takes to turn raw resources into completed goods, which are then sold. This is known as inventory turnover in days, and it is a critical variable in any effective inventory management policy. A firm's profitability decreases if it takes a long time to convert inventory to sales (Haddad, 2024). Inventory turnover in days shows the relationship between the cost of sales and average cost of inventory. It is defined as the number of times the inventory is turned over in a year.

However, this study's emphasis on manufacturing enterprises often has five (5) distinct inventories: raw materials, finished goods, excess material, work-in-progress (WIP) materials, and consumption materials (Sah & Furedi-Fulop, 2022). A significant portion of a company's overall current assets is inventory. Because inventory management is essential for maintaining successful and efficient WCM, it continues to be one of the most difficult responsibilities of WC managers (Danielsbacka, 2020).

Goods that are supplied and delivered to a buyer's warehouse and then transported to the production region for conversion are referred to as raw materials (Opuwari, 2024). For an effective WCM, minimizing the raw material is ideal

(Mesfin, 2019). As stock, finished goods are kept in the warehouse and ready to be sold and delivered to customers. The three core and interconnected components of inventory management include estimating future demand, determining when and how much to reorder, and determining the best location for stock storage. According to Weldeyes (2019) inventory management affects WCM and business success.

Inventory policy is proxied by inventory turnover in days, also known as the inventory conversion cycle, which is used to gauge how effectively an organization's inventory management strategy is working (Olayemi & Fakayode, 2021). This is an indication of how long a company holds its stocks. It looks at how long it typically takes a company to turn raw materials into completed goods and sell them. A longer term denotes a larger investment in stocks. It is computed by dividing the inventory by the cost of sales and multiplying the result by 365 days (Olayemi & Fakayode, 2021).

Cash Management (CM)

Cash, as a component of current assets, consists of all cash balances, bank balances, and marketable securities (Haralayya, 2021) which are collectively referred to as cash and cash equivalents. Organizations hold cash for various motives, such as transaction, precautionary, and speculative motives (Dimitropoulos et al., 2020); therefore, organizations must determine the optimal level of cash necessary for the business operation cycle (Dimitropoulos et al., 2020). Irrespective of the motive for holding cash, organizations should have significant cash management policies.

An efficient cash management policy provides an organization with appropriate levels of cash that balance the risks associated with insufficient and excessive funds. Firms with insufficient funds have operational challenges while firms with excessive funds lose out on the opportunity to earn more from investments

(Naradda Gamage et al., 2020). Budgets must be prepared by organisations in order to estimate their financial requirements and anticipate cash inflows and outflows. This allows for the determination and maintenance of optimal cash levels, as well as the reduction of risks.

Cash Conversion Cycle (CCC)

The cash conversion cycle (CCC) is a measure of an organization's cash management. It investigates the time elapsed between when an organisation acquires raw materials and when payment is paid for things sold (Dbouk et al., 2020). The duration of the cash conversion cycle has consequences for the company.

Organizations with lengthier cash conversion cycles, according to Prempeh and Peprah-Amankona (2019), must invest more in working capital. As a result, firms must implement policies that minimise the cash conversion cycle while still creating value for shareholders (Amponsah-Kwatiah & Asiamah, 2020). The cash conversion cycle thoroughly analyses working capital since its components include receivable management, payable management, and inventory management. The cash conversion cycle is calculated as the sum of the average collection period and inventory turnover on days fewer than the average payment period (Mmaduka et al., 2022).

$$CCC = ACP + ITID - APP$$

The Concept of Profitability

According to Ado et al. (2020), firm profitability is the capacity to use investment and operational choices and tactics to attain a company's financial stability. Hossin and Mondol (2020) asserted that metrics for an organization's accomplishments make up a firm's profitability. Consequently, an organization's benchmarks and financial goals are measured by its profitability. Numerous metrics, such as debt,

liquidity, and profitability, have been employed in the literature to assess a company's financial performance (Oshim & Nze, 2022).

Profit maximization is the ultimate goal of any organization, as demonstrated by Hossin and Mondol (2020), which is why profitability measures are more commonly utilized than other measures. Among the profitability metrics are net interest margin (NIM), ROA, and ROE. Because ROA is commonly used and is suitable for this type of research, it was used in this study. According to Nyamiobo (2023), return on assets (ROA) plays a crucial role in explaining a company's success, because it usually provides information on how well management is using its resources.

Every business exists to generate profits and improve shareholder value. As a result, profitability is critical to the survival of every firm. According to Sartika et al (2021), profitability is an organization's capacity to benefit from all of its business operations, and it is indicative of management's efficiency in using existing resources to make profits. Financial decisions or investments in assets generated by organizations generate returns that have a positive or negative net present value. Profitability is an organization's ability to make returns with a positive net present value from their investments or financial decisions. Financial decisions and investments that potentially generate returns with a negative net present value should be discarded as they pose a great risk to shareholder wealth (Guenzel & Malmendier, 2020). Organizations incur revenue generation costs. Profitability occurs when the revenue generated exceeds the cost of revenue generation (Puriboriboon, 2021). Profitability is a relative concept that is assessed in terms of revenue.

Profit is calculated as the difference between income and expenditure over a period of time, generally one year. Profitability ratios computed to gauge an

organization's efficiency include return on investment, return on equity, and return on assets (Mshelia & Polycarp, 2024).

Return-on-Assets (ROA)

According to Suharyanto et al. (2024), return on assets measures a company's increased bottom line as a proportion of all assets that the company has access to. It evaluates a management team's ability to generate profits from a company's capital (assets). As a result, over time, return on assets captures the overall effects of management choices and actions, as well as the business environment in which it operates. Return on assets is an easily understood performance metric because it shows the effectiveness of all assets under management control.

All of the firm's assets are employed to create revenue, either directly or indirectly. Return on assets is a proxy for profitability that evaluates the firm's profits as a proportion of total assets employed to produce income (Mareta et al., 2022). This is a proportion of the money generated by the business, which demonstrates that the firm is efficient (Sholichah et al., 2021). It is calculated by dividing net income by total assets (Hidayat, 2021).

$ROA = \text{Net Income} / \text{Total Assets}$.

The Development of the Ghana Stock Exchange

In order to deal with challenges facing the GSE, a number of propositions have been suggested by various studies. Agyeman (2010) discuss policy options for promoting the development of the stock markets in Africa. To address the challenges of stock exchanges in Africa, they recommended robust electronic trading systems and central depository systems as being very crucial. The findings

of their study are useful and may have re-enforced the need for an electronic platform and hence the automation of the GSE.

However, it takes much more than automation and institutional developments to enhance liquidity. If the shares of a listed equity are not available, no matter how robust the electronic trading systems are, the level of liquidity would still be relatively low. To deal effectively with liquidity, there should be amongst other things the existence of a large pool of investors and relatively large float of shares.

Wallenius (2009) illustrates the securities clearing and settlement on the Ghana Stock Exchange in the light of international standards set for these processes. She compares and contrasts the clearing and settlement process on the GSE with other emerging market. She suggests that the modernization of the clearing and settlement processes will lay a good foundation for the overall improvement of the stock exchange. Clearing and settlement refers to everything that happens after that initial declaration to cause the actual transfer of assets and ownership. The modernization of the clearing and settlement process would offer real opportunities to drive down transaction costs, shorten the settlement cycle and increase the volume of successful trades.

Acheampong and Agalega (2013) provide evidence to support the need to automate daily trading on the GSE. He recognizes that though it will take a strong political will and significant financial commitment to automate the trading system, its cost will be outweighed by the increase in efficiency of the GSE. The GSE now uses an electronic trading platform which allows stockbrokers to trade from the floor of the Ghana Stock Exchange, their offices through and any location through a secured internet. There is an electronic clearing and settlement system operating alongside the trading system.

There is also a securities and depository system which offers depository services to complement the Exchange's automated trading, clearing and settlement systems. The System allows investors to transfer, pledge and access security information in a more efficient manner. It is expected that this revolution will make it easier for investors to trade in listed securities thereby boosting liquidity and reduce risk such as impersonation and forgery that were associated with the previous paper certification. In general, the electronic trading is expected to improve upon efficiency and enhanced liquidity in the market. The electronic technology has provided direct access to trading information in real-time available to investors across the globe via the Bloomberg Professional service. Nevertheless, it's too early to conclude that the cost of automating will be outweighed by the increase in efficiency as postulated by Acheampong, especially when no extensive research has been conducted on the effect of the automation on the GSE.

Importance of Stock Exchange for Developing Economies

The study looks at how to strengthen Ghana's stock exchange. However, there are many theoretical differences over whether improving the GSE, or any stock market, is good to the economy as a whole.

One school of thought is that the development of the stock market is critical for mobilizing savings, allocating capital, imposing corporate control, and easing risk management, as well as stimulating economic growth. Nazir et al. (2010) looked at the link between economic growth and stock market development. They discovered a strong positive correlation between stock market development and long-run economic growth after controlling for initial per capita GDP, initial human capital investment, political instability, fiscal and monetary policies, and exchange rate

policy. Although the study found a high association between stock market development and economic growth, the findings did not indicate a causal relationship between the two factors.

In a time series cross-sectional study of nine African nations, Osamwonyi and Kasimu (2013) discovered that stock market development is linked to investment and, as a result, economic growth. Although the article gives information on how stock market development affects economic growth, it does not show causality. Both studies claim that the success of the stock exchange has a major impact on economic growth. The findings presented above suggest that the stock market drives economic growth and vice versa. Against this context, addressing the Ghana Stock Exchange's issues will have a broad influence on the Ghanaian economy.

Asamoah (2018) researched the stock market's influence on economic growth in Ghana. The empirical findings revealed that stock market development Granger-causes economic growth in Ghana, with a one-way causal relationship between the two variables. hence, the study found that the founding of the Ghana Stock Exchange (GSE) has had a favorable influence on economic growth from its inception, and hence is important for Ghana's economic development.

According to an Africa Recovery study, stock markets stimulate private company expansion, which leads to higher national economic growth. According to the study, "if you have stronger companies that have greater access to capital for their growing businesses ... then there is the potential for creating more sustainable jobs, which can also lead to a reduction in poverty" (Akenten et al., 2020, p. 2). In developing nations such as Ghana, the banking sector, rather than the stock exchange, provides the majority of corporate funding. Ghana is mostly populated by solo entrepreneurs and small-medium businesses. Such firms are more comfortable borrowing from banks.

According to Bokpin and Isshaq (2008), the size of the Ghanaian stock market does not yet have a substantial influence on enterprises' financing decisions in Ghana. It is vital to recognize that the growth of the stock market will undoubtedly result in additional jobs.

The second school of thought maintains a different perspective on the role of stock markets. According to Osei et al. (2023), more expansion in the banking sector is unimportant for small economies such as Ghana. This suggests that tiny African economies should not invest more valuable resources and energy to developing them at this time, as Africa has many more pressing issues such as high poverty rates, inadequate social services, and underdeveloped infrastructure.

Claessens et al. (2006) demonstrate that during the previous two decades, financial markets, particularly stock markets, have expanded significantly in both developed and developing nations. They argue, however, that countries would be better off focusing on creating conditions such as improving shareholders' rights and the quality of the local legal system that allow corporations to issue and trade shares abroad efficiently rather than developing a fully-fledged local stock exchange.

General performance of listed firms

Listed firms play a basic part in society by contributing to financial development, giving business openings, and creating shareholder wealth. Listed firms essentially contribute to financial development by making employments, paying taxes, and contributing in foundation and advancement. It also permits financial specialists to take an interest within the development and success of a company by obtaining offers. This empowers financial specialists to produce wealth and make financial security (Heino & Jussila, 2020).

Listed firms are subject to strict regulatory standards and corporate governance requirements, which help promote transparency, accountability, and ethical behavior (Basheer et al., 2022). Many listed firms are committed to social responsibility and make significant contributions to the community through initiatives such as corporate social responsibility (CSR) programs, philanthropy, and volunteerism (Wirba, 2023).

The global performance of listed firms has been positive over the years, with many companies recording strong financial results and delivering consistent returns to shareholders. However, the economic conditions of listed firms vary depending on the region and the sector in which they operate (Bossman et al, 2022). In developing countries and Africa in particular, listed companies face unique challenges such as political instability, limited access to capital, and weak regulatory frameworks. Despite these challenges, listed companies in Africa have shown resilience and recorded strong growth in recent years (Secinaro et al., 2020).

In Ghana, listed firms operate in a relatively stable economic environment, with sound macroeconomic policies and a supportive regulatory framework. The performance of listed firms in Ghana is positive, with many companies recording strong financial results and delivering consistent returns to their shareholders. However, there is room for improvement, particularly in terms of access to capital and corporate governance (Abdula, 2022).

If the GSE is inefficient, market prices for common stocks and similar assets are inaccurate and depart from the genuine discounted value of their future cash flows. As a result, market forces drive share prices either higher or lower than their genuine worth. Though investors might profit from such inefficiencies, firms with chronically low stock prices suffer. Many shareholders evaluate their firms'

performance based on the rise of share prices. It is particularly discouraging for management when the market consistently underprices their shares, as is typically the case on the GSE. Market inefficiencies may deter other businesses from listing on the GSE.

Thus, listed firms play a vital role in society by contributing to economic growth, providing employment opportunities, and generating wealth for shareholders. The performance of listed companies globally and in developing countries, including Africa and Ghana, is shaped by various factors including economic conditions, regulatory frameworks, and corporate governance standards (Puni & Anlesinya, 2020).

Importance of Years of Existence in the WCM concept

The years of existence of a manufacturing company are very important to address the issue of profitability. Firm's processes are recurrent and hence firms that have been in existence for a long period can use the knowledge acquired over the years to improve their practices and activities (Nguyen & Nguyen, 2020). Bukwimba and Ngata (2022) posits that resources and capabilities are incorporated into historical backgrounds. Organizational resources and capability are emerging in nature and a prevalent organizational capability is the result of previous decisions, deliberate actions, and choices that have affected past main decision-makers interpretation of situational factors. Each company has a difference in the experiences that have accumulated over time. Accumulated expertise, skills, and learned experiences can be beneficial or hamper a firm's development and future profitability (Sari et al., 2022). The years of existence of the manufacturing firms will also help us to know either new manufacturing firms are experiencing weak profitability.

Empirical Review

Several authors and scholars have examined working capital management and profitability. Based on the sample's features, they appeared to agree in some areas but disagree in others. Yet, it appears that the focus of all efforts is to demonstrate that good and effective working capital management helps significantly to the achievement of organizational goals and objectives, particularly in the area of profitability (Zimon & Tarighi, 2021).

Sugathadasa (2018) studies the link between the cash conversion cycle and the profitability of Colombo Stock Exchange-listed firm sector enterprises in Sri Lanka. The cash conversion cycle is calculated by using the inventory conversion period, debtor conversion period, and creditor conversion period as proxies for independent variables, and profitability is measured by return on assets and return on equity. Throughout a five-year period, from 2013 to 2017, data was collected for ten publicly traded companies that manufactured electrical equipment, using two linear multiple regression models. The findings showed a positive relationship between the inventory conversion period and the receivable conversion period but an inverse relationship between the payable conversion period and ROA. Furthermore, a negative relationship is found between the elements of the cash conversion cycle and ROE as profitability measures.

In Sri Lanka's listed manufacturing sector, the regression results showed that inventory turnover and firm profitability have a positive correlation, but this was not the case between receivable turnover and firm profitability. The latter registered a negative correlation (Garg & Singh, 2023). Moreover, there was found an insignificant inverse relationship between payable turnover and firm profitability. The authors concluded that there is a substantial relationship between the cash conversion

cycle and a firm's profitability in Sri Lanka's manufacturing sector, suggesting the urgent need for proper working capital requirements management (Lewliyadda et al., 2023).

Chatterjee (2010 as cited in AlSharif, 2021) investigated the association between working capital management practices and the level of profits of a firm listed on the London Stock Exchange, using a sample of 30 organizations. Pearson correlation was employed to analyze the data ranging from 2006 to 2008 to demonstrate a strongly unfavorable relationship between the levels of profits and working capital management aspects. According to the findings, there is a large inverse association between total debt and profitability, as well as a significant adverse relationship between profitability and liquidity. The study also showed a strong positive association between profitability levels and the size of the organization.

As a result, as businesses improve their working capital management, their profitability grows. Having highly liquid assets, in particular, is crucial since it boosts firm profitability significantly (Habib & Dalwai, 2023). This is owing to the ease with which assets can be sold and the proceeds reinvested in other correspondingly larger current assets, as well as the elimination of court cases and the associated costs that result from the business inability to pay its current debts. The findings also suggested that more debts affect the firm's finances, but increases in sales boost corporate profitability (Chambers & Cifter, 2022).

Gooneratne and Jayasinghe (2022) researched the relationship between profitability and working capital management practices in 208 Tehran Stock Market enterprises from 1998 to 2005. Their findings suggest that managers who employed conservative techniques were able to improve the value of their company's shares.

Furthermore, their findings suggested that when choosing a portfolio, investors preferred companies with short-term credit practices and a low level of current liabilities.

Furthermore, Vu Thi et al (2021) examine the relationship between the cash transformation cycle and profitability using data obtained from Japanese businesses between 1990 and 2004. According to these studies, profitability and the cash transformation cycle are not positively correlated. With the exception of service providers and commercial enterprises, the findings were constant across all organizations studied. Tauringana and Afrifa (2013) as cited in Mbathi (2022) analyzed the role of working capital management and its components in the profits of SMEs. From 2005 through 2009, 19 companies were studied using panel data analysis. According to the report, managing accounts payable and receivable is crucial for SME profitability, and accounts payable and receivable rate higher in terms of SME profitability than the cash conversion cycle.

Musa and Ibrahim (2022) evaluated the effect of working capital management on the profit levels of Nigerian Stock Exchange-listed pharmaceutical companies. The study used multiple regression analysis and ordinary least squares to analyze data from five firms from 2002 to 2011. Accounts receivable collection management, accounts payable management, cash conversion cycle management, inventory management, and the management of operating cash flow have an effect on the profitability of pharmaceutical enterprises in that country. According to the report, enterprises should prioritize decreasing inventory turnover days, collecting receivables on time, and postponing payments to creditors in order to invest cash in short-term securities and generate additional profits. The cash conversion cycle ideally must involve more days (Chaurasiya, 2023).

Adade (2023) evaluated the relationship between working capital management and profitability in industrial businesses listed on the Ghana Stock Exchange. Panel data analysis was used to examine data from 13 industrial organizations from 2005 to 2009. The findings demonstrated a negative relationship between accounts receivable days and profits, with a significantly positive correlation between the level of profits and the cash conversion cycle, current asset ratio, size, and current asset turnover.

To analyze the effect of working capital management on the level of profitability of manufacturing organizations in the construction sector in Pakistan, Awan et al. (2014) as cited in Kalim et al (2023) used a correlation coefficient and multiple regression analysis. Secondary data was gathered from ten Karachi stock exchange-listed companies. The study found a link between the return on equity and the cycle of cash conversion, inventory turnover in days, and average payment period. Additionally, profitability is related to gross working capital turnover, quick ratio, average payment duration, business size, and government support received.

Regression analysis was used in a study by Napompech (2012) as cited in Ramadan & Morshed (2023) on 255 companies listed between 2007 and 2009 on the Thailand Stock Exchange. The impact of working capital management on corporate profitability was examined in this study. The recommendation was that managers should shorten the time of the cash conversion cycle, inventory conversion cycle, and receivables collection cycle to increase profits.

Mansoori and Muhammed (2012) as cited in Rorlen et al (2023) examined how working capital management affected the level of profitability in Singaporean businesses. A panel data regression analysis was used using a sample size of 736 businesses, 92 of which were tracked during a time span of eight years (2004 -2011). There findings indicated an inverse relationship between the cash conversion cycle

and profitability. Moreover, the account receivables, inventory conversion time, and payment deferral period components of the cash conversion cycle negatively impacted profitability.

Sharma and Kumar (2011) chose 263 non-financial enterprises listed on the Bombay Stock Exchange between 2000 and 2008. The aim was to evaluate the impact of working capital management on business profitability in India. They employed ordinary least squares and multiple regression. The findings contradicted other studies in various ways. The cash conversion cycle and days account receivable were found to be favorably correlated with firm profitability, the length (in days) in the inventory and the day's account payable have a negative relationship with company profitability.

Agyei and Yeboah (2011) used a panel methodology and random effects approaches to study the relationship between working capital management practices and bank profitability in Ghana. Observations were performed using information from 28 banks between 1999 and 2008. It was found that the debtor length has a noticeably positive correlation with profitability, whereas the creditors' payment period has a noticeably negative correlation with profitability.

Agyeman and Asiedu (2013) looked into how working capital management affected the financial performance of companies listed on the Ghana Stock Exchange. Using the method of a panel data from 2007 to 2011, they concentrated their analysis on manufacturing companies in Accra, Ghana. They found that the profitability of manufacturing businesses was influenced by working capital management factors such inventory days, accounts payable, and cash conversion cycle. Account payables and inventory days negatively affect the profitability of the business. However, the cash conversion cycle had a favourable but insignificant effect on the profitability.

The recommendation was to use the best working capital management techniques to ensure the company's viability (Torku & Laryea, 2021).

The empirical evidence shown above clearly demonstrates the importance of the link between working capital management and profitability. Yet, the studies' findings showed different conclusions, prompting further research into the issue. For example, the studies of Haitham et al. (2010), Mansoori and Muhammed (2012), Napompech (2012), and Awan et al. (2014), found that the cash conversion cycle was negatively correlated with firm performance. On the other hand, Sharma and Kumar (2011), Agyeman and Asiedu (2013), Agyei and Yeboah (2011), and Akoto et al. (2013), found a positive correlation between these two variables.

The ambiguity of the results of many studies on the subject drives the need for more research into the subject in localised contexts and economic situations to examine the implementation of the principles under such conditions. By examining all businesses in a single study, the findings from this study will shed more light on the relationship that exists between working capital management and firm profitability on the Ghana Stock Exchange (D'Amato & Falivena, 2020).

CHAPTER 3

RESEARCH METHODOLOGY

This study investigated the effect of working capital management on profitability. This chapter covers the research design, population and sampling techniques, data collection instrument(s), data collection procedure, and method of data analysis (model specification). Lastly the ethical considerations are explained.

Research Design

The researcher used panel data and a quantitative technique to assess the effect of working capital management on the profitability of manufacturing enterprises. Panel data are collected by professionals by observing particular variables over a period of time at a regular frequency (Berrington et al., 2006). A balanced dataset is one in which each output class (or target class) is represented by the same number of input samples. An unbalanced panel is a dataset in which entities are observed different numbers of times. Balanced data are preferred over unbalanced panels in this study because they allow for the observation of the same unit across time (e.g., a year), thereby reducing the noise generated by the unit. Although the balanced panel is ideal, this is not always the case because of the missing values. However, most panel data regression models can be used for unbalanced datasets (Hsiao, 2022). There were 90 observations in this study (six years $\times$ 15 firms). A balanced panel was

used in this study. There were no missing values and the target class was the same for each firm.

Population and Sampling Procedure

Ghanaian manufacturing enterprises comprised the study population. The target population for the study was 42 firms listed on the GSE, including both the manufacturing and financial industries. The study used a purposive sampling procedure to select participants. The purposive sampling procedure is a non-probabilistic method in which certain places, people, or events are chosen to offer significant information that cannot be gathered from other options (Zickar & Keith, 2023). Only 15 manufacturing firms were selected, because their annual financial reports were freely accessible. The firms belong to the following manufacturing and processing subsectors from 2016 to 2021:

Table 1. Number of Companies by Major Sector

Sector	Number of Firms
Consumer Goods	9
Consumer Services	2
Basic Materials	2
Industrial	1
Health Care	1
TOTAL	15

The analysis used annual financial records from industrial businesses from 2016 to 2021. Those companies that do not belong to the manufacturing and processing subsectors from 2016 to 2021 were not selected for this study. Other firms

that belonged to the manufacturing sector but had missing information regarding their working capital management and profitability were also excluded.

The Instrument for Data Collection

This study used only secondary data to analyze working capital management and profitability. The data were obtained from the financial statements of manufacturing firms. They were available because one of the requirements of the International Financial Reporting Standard (IFRS) is for firms listed on the Ghana Stock Exchange to publish their financial statements. The financial statements for the six years from 2016 to 2021 were acquired via the Ghana Stock Exchange website and the firm's website. ROA was computed for manufacturing firms that do not have ROA in their published financial statements. Given that other information was provided, it was easy to calculate ROA.

Data Analysis

A panel unit root test was used to ensure stationarity of the variables. A panel unit test was designed to test the null hypothesis of a unit root for each series in a panel (Herwartz et al., 2023). Stationarity is a flat looking series, without trend, constant variance over time, a constant autocorrelation structure over time and no periodic fluctuations (Konomi & Zani, 2023). Relevant tests were performed in this study with other regression models to establish the reliability of Ordinary Least Squares regression (OLS). The Hausman test was used to assess which regression model was most suitable. A multicollinearity test (correlation coefficient) was

performed to determine whether the explanatory variables were highly correlated. The data were analyzed using SPSS version 26.

Model Specification

For the data analysis, the model proposed by Wang (2002) was adopted (Wang, 2002, as cited in Pandey et al., 2023). Model specification is a statistical method used to estimate the fixed effects of a panel dataset with a large number of entities. Its assumptions and choices, such as the strict endogeneity assumption and the use of first-differenced variables, are designed to provide valid and consistent estimates of the effects of observable variables on the outcome of interest while controlling for unobserved individual heterogeneity. This model calculates profitability (ROA) as a dependent variable, four independent variables (Account Receivable Management (ARM), Account Payable Management (APM), Inventory Management (IM), and Cash Management (CM)), and the control variable (Year of Existence (YE)). Specifically, the link between working Capital Management and profitability of listed manufacturing firms in Ghana were modelled using the Ordinary-Least-Square (OLS) regression technique.

$$ROA_{it} = \beta_0 + \beta_1 ARM_{it} + \beta_2 APM_{it} + \beta_3 IM_{it} + \beta_4 CM_{it} + \beta_5 YE_{it} + \epsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 ARM_{it} + \beta_2 APM_{it} + \beta_3 IM_{it} + \beta_4 CM_{it} + \beta_5 YE_{it} + \epsilon_{it}$$

$$OM_{it} = \beta_0 + \beta_1 ARM_{it} + \beta_2 APM_{it} + \beta_3 IM_{it} + \beta_4 CM_{it} + \beta_5 YE_{it} + \epsilon_{it}$$

Where:

ROA_{it} = Return on Assets of firm i in year t.

ROE_{it} = Return on Equity of firm i in year t.

OM_{it} = Operational Margin of firm i in year t.

ARM_{it} = Account Receivable of firm i in year t

APM_{it} = Account Payable of firm i in year t

IMit = Inventory of firm i in year t

CMit = Cash of firm i in year t

YEit = Year of Existence of firm i in year t

ε_{it} = Error term of firm i in year t

β_0 = the intercept

β_1 - β_4 = Coefficient of Independent Variables

β_5 - β_6 = Coefficients of Control Variable.

Ethical Considerations

After downloading the financial information, the researcher did not manipulate the figures from what they were, and they were used as they were found. Since the data's source is only secondary data that are already available on the website of the listed firms, there are no private individuals or firms involved whose privacy needs to be respected. However, as this was an academic paper, care was taken to include the figures as they were stated without manipulation of any data. In addition, the data were strictly analyzed with the aim of accomplishing the purpose of the study.

CHAPTER 4

RESULTS AND DISCUSSION

This chapter presents and discusses the results of the research from the data collected for the study based on the research objectives. A descriptive analysis was conducted using statistical tools, such as mean and standard deviation, and inferential statistics, such as regression, were used to analyze the study's objectives. All data were analyzed quantitatively using the Statistical Package for Social Sciences (SPSS) version 26.

Descriptive Results

A summary of the key descriptive statistics for the dependent and independent variables is summarized in Table 1 below, which presents the descriptive statistics for 15 manufacturing firms on the Ghana Stock Exchange (GSE) for a period of six (6) years from 2016 to 2021. Table 1 shows the mean, standard deviation, minimum, and maximum based on the manufacturing firms listed in Ghana. The dependent variable is return on assets (ROA), while the independent variables used in this study are account payable days (APM), account receivable days (ARM), inventory days (IM), and cash conversion cycle (CM). The number of years of existence (YoE) was used as a moderating variable. Based on Table 1, the average profit of manufacturing firms, as indicated by ROA is -0.35%. The minimum value for ROA is reported as negative 242%, with a maximum value of 120%, whereby the standard deviation of ROA is

indicated as 40%, which means that the ROA value can deviate from the mean of both sides by 40%.

Table 2: Summary of Descriptive Statistics

	N	Mean	SD	Minimum	Maximum
APM	90	763	1,798	1	8,266
ARM	90	99	100	-	538
IM	90	438	1,416	11	8,981
CCC	90	(225.76)	1,218.07	(7,403.32)	2,279.61
ROA	90	-0.35%	40%	-242%	120%
YoE	90	42	14	17.00	63.00
Sales	90	94,300,000	337,000,000	37,256	2,300,000,000

Source: Jamova Output, 2024

According to the findings of these studies, manufacturing companies do not obtain the expected benefits from their operations, and this can be attributed to the high cost of operations and overinvestment in assets that do not generate the necessary revenue growth. One factor that could explain this situation is that the data used were information generated during the COVID-19 pandemic. The pandemic affected many businesses worldwide, including the countries in Sub-Saharan Africa. According to Yeboah (2023), the pandemic adversely affected the operations and profitability of several businesses in Ghana.

For Working Capital Management components, it was noted that APM reported the highest mean value of 763 days, followed by ARM with an average of 99 days, CCC had a mean of negative 225.76 and IM recorded an average of 438 days. These reflect that manufacturing firms receive payment from sales proceeds on average of 99 days with standard deviation of 100 days, which the minimum

collection period from receivables proceeds is 0 day with maximum period of 538 days. Furthermore, firms take an average of 438 days to sell inventory, with a standard deviation of 1,416 days. Meanwhile, firms pay their purchases for an average of 763 days with a standard deviation of 1,798 days, with a minimum period of one day and a maximum period of 8,266 days. The mean size of manufacturing firms' cash management is reported to be 225.76 with a standard deviation of 1,218.07. This indicates that manufacturing companies in Ghana sell their inventories on average before making payments to their suppliers, and that suppliers finance their operations, which is a desirable situation. However, there is also a risk associated with this. Suppliers can default because of many factors, which can bring negative repercussions to businesses that depend on them to finance their operations. Meanwhile, the average sales are Ghanaian Cedi, GHC 94,300,000 (\$15,983,051), and the companies under study have a mean of 42 years of existence.

These findings on account payable management (APM) contradict Dameti's (2020) study, which proposes that organizations should pay creditors on a timely basis to increase creditworthiness. The findings for ARM, IM, and CCC were corroborated by Abdullahi et al. (2021); Taghipour et al. (2020); Haddad (2024).

Correlational Analysis

The Pearson product-moment correlation coefficient was used to analyze the relationship between independent and dependent variables. An initial analysis was performed to prevent violation of normality, assumptions of linearity, and homoscedasticity. The strength of the effects was determined and interpreted based upon Cohen (1988) absolute correlation values where $r=.1$ to $.29$ indicates small/low, $r=.30$ to $.49$ indicates medium/moderate and $r=.5$ to 1.0 indicates large/high.

Table 3. Correlation Metrics

		Return on Asset
Accounts Payable Management	Pearson's r	0.181
	p-value	0.040
Accounts Receivable Management	Pearson's r	0.128
	p-value	0.109
Inventory Management	Pearson's r	0.297
	p-value	0.002
Cash Conversion Cycle	Pearson's r	0.405
	p-value	<.001

Correlation analysis was also performed on the relationship between account payable management (APM) and return on assets (ROA). The results show a statistically significant and positive relationship between account payable management (APM) and return on assets (ROA) ($r=.181$, $p=.040$) at a 95% confidence interval, as shown in Table 2. With 95% confidence, it is estimated that the magnitude of the relationship is within the range of .1 to .29 indicating a very small effect size according to Cohen (1988).

The study examined the relationship between account receivable management (ARM) and return on assets (ROA). The research indicated a statistically non-significant relationship between account receivable management (ARM) and return on assets (ROA) ($r=.128$, $p=.109$) at a 95% confidence interval, as shown in Table 2. Moreover, an analysis was conducted of the relationship between inventory management (IM) and return on assets (ROA). There is a statistically significant relationship between inventory management (IM) and return on assets ($r=.297$, $p=.002$) at a 95% confidence interval, as shown in Table 2. With 95% confidence, it is estimated that the magnitude of the relationship is within the range of .30 to .49 indicating a moderate effect size. The same analysis was conducted to check the relationship between cash management (CCC) and profitability (ROA). The results

indicate a positive significant relationship between cash management (CCC) and profitability (ROA), ($r=.405$, $p=.000$). The magnitude of the relationship is within the range of .30 to .49 indicating a moderate effect size. Thus, the findings revealed that, except for accounts receivable management, the other elements of working capital management are significantly correlated with return on assets of the manufacturing businesses in Ghana.

These findings are in tandem with Sugathadasa's (2018) findings, which showed a significant positive relationship between the inventory conversion period, payable conversion period, and Return on Assets. Lewliyadda et al. (2023) confirmed the relationship between Cash Conversion Cycle and Return on Assets. Further, other studies found a negative but significant relationship between Accounts Receivable Management and Return on Assets (Vu Thi et al. 2021; Mbathi, 2022). This study contradicts the latter studies by showing a non-significant relationship between accounts receivable and return on assets.

Regression Analysis

The regression analysis was used to find the effect of the four sub-variables of the independent variable (working capital management) comprising account payable management, accounts receivable management, inventory management, cash conversion cycle, on the level of profitability (ROA). The tables 4 and 5 below show the findings, and the results were interpreted.

Table 4. Model Fit Measures

R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
					F Change	df1	df2	Sig. F Change
.604 ^a	0.365	0.337	0.390	0.365	12.948	4	90	0.00

Table 5. ANOVA

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7.914	4	1.979	12.948	.000 ^b
	Residual	13.753	90	.153		
	Total	21.667	94			

a. Dependent Variable: ROA

b. Predictors: (Constant), CCC, ARM, IM, APM

The results from the tables 4 and 5 show that there is an r^2 of 0.365 or 36.5% and p-value of <0.001 , indicating that there is a significant effect of working capital management on profitability. Thus, the findings suggest that all the variables of the working capital management combined can predict the level of return on assets by 36.5% and that was also statistically significant ($p = < .001$). However the 36.5%, imply that other variables than the working capital management can also explain the firms' ROA.

The findings from the coefficient correlation table (see below) that account receivable management does not have an effect on the profitability of the firms (beta = -0.105 , $t = -1.023$, $p\text{-value} = .309$). Therefore, the study fails to reject the null hypothesis stating that there is no significant effect between account receivable management (ARM) and return on assets (ROA). The regression analysis further analyzes if there is a significant effect of accounts payable management on the profitability of the firms. The result shows that account payable management does

have an effect on the profitability level of the firms (beta 1.189, t = 4.674, p-value = < 0.05). Thus, we reject the null hypothesis that there is no significant relationship between account payable management (APM) and return on assets (ROA). The coefficient correlation from the regression analysis indicated that Inventory Management does have a significant effect on the level of profitability (beta = -.793, t = -3.421, p-value = 0.001). Therefore, we reject the null hypothesis that there is no significant relationship between inventory management (IM) and return on assets (ROA). Finally, the coefficient correlations from the regression analysis further show that Cash Management has a significant effect on the level of profitability (beta = .986, t = 6.201, p-value = < 0.05). Hence, this study rejects the null hypothesis that there is no significant effect between cash management (CCC) and profitability (ROA).

Table 6. Model Coefficient

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta	t		Lower Bound	Upper Bound
1 (Constant)	-0.007	0.056		-0.120	0.905	-0.118	0.105
APM	0.000	0.000	1.189	4.674	0.000	0.000	0.000
ARM	0.000	0.000	-0.105	-1.023	0.309	-0.001	0.000
IM	0.000	0.000	-0.793	-3.421	0.001	0.000	0.000
CCC	0.000	0.000	0.986	6.201	0.000	0.000	0.000

a. Dependent Variable: ROA

The proposed applied model based on the standardized beta for this study is

$$\text{ROA} = -0.007 + 1.189\text{APM} - 0.105\text{ARM} - .793 \text{ IM} + .986 \text{ CCC} + \epsilon.$$

Where

ROA = Return on Assets, ARM = Account receivable management, APM= Account payable management, IM= Inventory management, CCC= cash conversion cycle

The study confirms the findings of Apponsah-Kwatiah and Asiamah (2020), who also found a positive effect of working capital management on profitability. On the other hand, Adade's (2023) findings contradict the findings of this study in that it found a negative relationship between working capital and profitability.

Moderation Analysis

In analyzing the analysis of the impact of moderation is defined and submitted following the models of Jose (2013), Haye (2009), and Hayes and Matthes (2009). The effect of moderation, that is, an interaction effect, is perceived as either enhancing or antagonistic (Hayes & Matthes, 2009). An enhanced moderating impact occurs when an increase in the moderator's quantity induces an increase in the impact of the independent variable on the dependent variable. An antagonistic effect occurs when an increase in the moderator has a reverse effect on the independent variable.

This study aims to determine the moderating effect of years of existence on the relationship between working capital management and profitability. The output (see Table 4) tells us that the direct effect of working capital management is statistically non-significant ($p=0.869$). Additionally, the direct effect of years of existence (YoE) was not statistically significant ($p=0.295$).

Table 7. Moderation Estimate

	Estimate	SE	Z	p
WCM	-0.0000176	0.000107	-0.165	0.869
YoE	0.00313	0.00299	1.047	0.295
WCM * YoE	-0.00000425	0.00000476	-0.894	0.371

The interaction effects of years of existence on the relationship between working capital management and profitability was introduced, and the results show a non-significant interaction ($\beta = -0.00000425$, $p = .371$). The findings from this study seem to indicate that there is no enhancing effect of WCM on the profitability of the years of existence of listed manufacturing companies in Ghana. Therefore, the results lead the researcher to *fail to reject* the null hypothesis that years of existence has no moderating effect on the relationship between working capital management and profitability.

Table 8: Simple Slope Estimate

	Estimate	SE	Z	p
Average	-0.0000176	0.000107	-0.165	0.869
Low (-1SD)	0.0000407	0.0000533	0.765	0.444
High (+1SD)	-0.000076	0.000169	-0.449	0.653

Note. Shows the effect of the predictor (WCM) on the dependent variable (ROA) at different levels of the moderator (YoE)

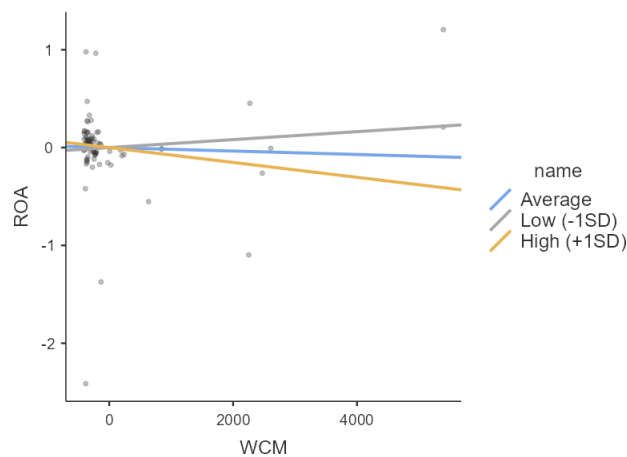


Figure 3: Simple Slope Plot

It was found that participants who reported higher than average levels of years of existence experienced a greater effect of WCM on ROA ($\beta = -0.000076$, $z = -0.449$,

$p = 0.653$), when compared to average or lower than average levels of years of existence ($\beta = -0.0000176$, $z = -0.165$, $p = .869$, $\beta = 0.0000407$, $z = 0.765$, $p = 0.444$, respectively). From these results, it can be concluded that the effect of WCM on ROA is not moderated by years of existence. In addition, from the plot above, it can be observed that the low and high lines do not skew, indicating non-moderating effects.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter presents a summary of the study, its conclusions, and recommendations regarding the effect of working capital management on profitability. This study focuses on working capital management (WCM), a key aspect of organizational financial performance. Without sound working capital management, companies cannot be sustainable. Therefore, this study is significant. The setting is in the Ghanaian context, using manufacturing companies listed on the Ghana Stock Exchange.

Summary

This study aims to determine the effect of working capital management on the profitability of listed manufacturing companies on the Ghana Stock Exchange. The rationale for this study is that working capital management is a critical factor in companies' financial success. In the case of listed companies, effective working capital management is very important because of their size and the key role they play in providing economic stability in the country. Several studies have already been conducted in Ghana, and the results point to different conclusions, meaning that sometimes the effect of working capital management on profitability is positive and sometimes it is negative. This contradiction warrants further studies to obtain a clearer picture of what is happening.

Five research questions were posed to address this problem. The first four questions analyzed the effect of a) accounts receivable management, b) accounts payable management, c) inventory management, and d) cash management on the profitability of firms listed on the Ghana Stock Exchange. Each of these questions focused on a variable of the working capital management. The fifth research question focused on the moderating effect of years of existence on the relationship between working capital management and profitability of selected manufacturing firms. Five hypotheses are proposed based on these research questions.

This study has a quantitative causal design using a panel data technique to address the research questions. The target population comprised 42 firms listed on the Ghana Stock Exchange. Using a purposive sampling procedure, 15 manufacturing firms were selected because of the availability of their annual financial reports for the period 2016–2021. The financial statements of these firms were used as the data. Therefore, only secondary data were used in this study. The panel unit root test maintained the stationarity of the variables and regression analysis was used to analyze the data. A multiple regression model was used to regress the four independent variables (Account Receivable Management (ARM), Account Payable Management (APM), Inventory Management (IM), and Cash Management (CM)) on the dependent variable, profitability measured via the return on assets (ROA).

The findings from the analysis showed that among the working capital management components, account payable management has the highest mean followed by account receivable management and inventory management. In addition, the cash conversion cycle shows a negative mean for working capital management. Furthermore, the return on assets (ROA) showed a negative mean of 0.35%.

The correlation analysis showed that account payable management (APM), Inventory management (IM), and cash conversion cycle (CCC), were positively and significantly correlated to return on assets (ROA). However accounts receivable management (ARM) was not significantly related to the return on assets (ROA).

Based on the conceptual framework, the predictor of profitability (ROA), as revealed in this study, was working capital management components. The results from the regression analysis show that 36.5% of profitability could be accounted for by working capital management. Furthermore, the study found that the year of existence does not statistically moderate the relationship between profitability (ROA) and the working capital management of manufacturing firms in Ghana.

Conclusion

The findings seem to concur with those of studies that show that working capital management does have an effect on firms' profitability. However, the study also revealed that account receivable management does not seem to affect the return on investment. This is contrary to other studies that show a negative but significant relation that account receivable and return on assets. One possible explanation could be that since the data used were taken mainly during the COVID period, which was an abnormal period of time. Indeed, since production and consumption were severely reduced due to the lockdown periods, and where operations were stalled, it could suggest that the firms operated in a relatively unstable economic environment that affected the way the account receivables were managed. COVID pandemic is not the only element that can perturb the economic environment of businesses. There are other turbulences that can occur, such a war conditions, and

natural disasters. These can explain why sometimes the firms' performance does not follow the predicted patterns they ought to.

Recommendations

This study makes the following recommendations based on the findings.

1. Improvement of profitability by effectively and efficiently managing working capital to reduce short-term borrowing required by manufacturing firms in Ghana. This will help reduce interest payments.
2. Managers of manufacturing firms should consider proper working capital management in terms of effective inventory, creditors, debtors, and cash flow management.
3. Policies on working capital management must be developed by manufacturing business in Ghana
4. Setting up of risk mitigation mechanisms to protect firms from perturbances in the economic environment that can occur.

Recommendations for Further Research

1. This study was conducted during a period that included the COVID-19 pandemic. It may be that there was some irregular turbulence because of this. More studies need to be conducted during the post-COVID era to verify if the results are the same.
2. Further studies can be conducted to investigate 63.5% of the variables that are found to predict the profitability of manufacturing firms in Ghana, other than the working capital management elements, such as corporate taxation and governance.

3. The study's context was listed manufacturing firms. More studies need to be conducted for non-listed manufacturing firms, and a comparison can be made to see points of commonality and differences.

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APPENDIX

STATISTICAL ANALYSES

Descriptive Statistics

	Mean	Std. Deviation	N
ROA	-.011646501214785	.480102109441677	90
APM	857.91697962804620	1959.5456999743450	90
ARM	98.164201832765400	103.82506133162154	90
IM	549.37101462812550	1742.5730405679976	90
CCC	-269.53398239433034	1465.7655638841316	90

Correlations

		ROA	APM	ARM	IM	CCC
Pearson Correlation	ROA	1.000	.181	.128	.297	.405
	APM	.181	1.000	.550	.771	-.343
	ARM	.128	.550	1.000	.466	-.052
	IM	.297	.771	.466	1.000	.225
	CCC	.405	-.343	-.052	.225	1.000
Sig. (1-tailed)	ROA	.	.040	.109	.002	.000
	APM	.040	.	.000	.000	.000
	ARM	.109	.000	.	.000	.308
	IM	.002	.000	.000	.	.014
	CCC	.000	.000	.308	.014	.
N	ROA	90	90	90	90	90
	APM	90	90	90	90	90
	ARM	90	90	90	90	90
	IM	90	90	90	90	90
	CCC	90	90	90	90	90

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.604 ^a	.365	.337	.390906296219431

a. Predictors: (Constant), CCC, ARM, IM, APM

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.914	4	1.979	12.948	.000 ^b
	Residual	13.753	90	.153		
	Total	21.667	94			

a. Dependent Variable: ROA

b. Predictors: (Constant), CCC, ARM, IM, APM

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.007	.056		-.120	.905
	APM	.000	.000	1.189	4.674	.000
	ARM	.000	.000	-.105	-1.023	.309
	IM	.000	.000	-.793	-3.421	.001
	CCC	.000	.000	.986	6.201	.000

a. Dependent Variable: ROA

Coefficient Correlations^a

Model			CCC	ARM	IM	APM
1	Correlations	CCC	1.000	-.192	-.821	.834
		ARM	-.192	1.000	.113	-.343

Covariances	IM	-.821	.113	1.000	-.904
	APM	.834	-.343	-.904	1.000
	CCC	2.710E-9	-4.752E-9	-2.728E-9	2.705E-9
	ARM	-4.752E-9	2.260E-7	3.443E-9	-1.017E-8
	IM	-2.728E-9	3.443E-9	4.076E-9	-3.596E-9
	APM	2.705E-9	-1.017E-8	-3.596E-9	3.881E-9

a. Dependent Variable: ROA

CURRICULUM VITAE

1. PROFILE

Philip Owusu-Ansah, born in Mampong-Benim, on December 15, 1976, to Ghanaian Parents Samuel Yaw Dennis Yeboah and Lydia Titiati. Honest financial professional skilled in financial forecasting to identify revenue and expenditure trends. Accustomed to utilizing data to draft reports to inform decision-makers and guide stakeholders to achieve business goals. Demonstrated success in treasury roles over eleven (11) years of industry success.

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2. EDUCATIONAL ATTAINMENT

Adventist University of Africa – Nairobi Kenya.

Current | MBA in Finance

Valley View University, Accra, Ghana

November 2011/ Bachelor of Administration (BBA-Marketing)

Institute of Management Studies, Accra-Newtown, Ghana

January 2000/ Diploma in Public Relations

West Africa Computer Science Institute, Accra-Kokomlemle, Ghana

October 1997/ Diploma in Computer Programming

3. WORK PROFILE - EXPERIENCES

Senior Accountant / January 2017 – Current

Accra City Conference of SDA | Dansoman, Accra -Ghana

- ✓ Planned and managed annual budgets, tracking expenses, and investigating discrepancies to maintain optimal controls.
- ✓ Oversaw daily financial functions, including accounting, payroll, and financial reporting.
- ✓ Advised Management regarding significant expenditures to keep operations in line with budget limitations.
- ✓ Prepared external audit documentation and financial reports for use by management in operational planning and key decision making.

Cashier / January 2014 – December 2016

Accra City Conference of SDA | Dansoman, Accra -Ghana

- ✓ Handling transactions
- ✓ Counting and managing cash
- ✓ Processing credit and debit card transactions

- ✓ Providing customer service

Accounts Officer / April 2012 – August 2013

Mid - South Ghana Conference of SDA | Cape Coast, Governor Row Road, Ghana

- ✓ Oversaw payroll of workers
- ✓ Prepares periodic financial reporting
- ✓ Trained local Church treasurers to ensure understanding of Church accounting processes, procedures, and deadlines.
- ✓ Performed auditing of local and district financial transactions

Cashier / Accounts Officer / January 2006 – November 2010

Bright School Complex, Ogbojo, Accra - Ghana

- ✓ Handling transactions
- ✓ Counting and managing cash
- ✓ Preparation annual budgets for Board approval
- ✓ Oversaw payroll of workers
- ✓ Prepares periodic financial reporting

4. EXTRA PROFESSIONAL EXPERIENCES

Accomplishments

- ✓ Achieved a clean audit report for the period of stewardship as an Accountant
- ✓ Successfully assisted the Conference sustenance at Mid-South Ghana Administrative Unit since its inception.
- ✓ Increase revenue mobilization of over 20% annually at the Centre.

5. ABILITIES AND SKILLS

- ✓ General ledger accounting proficiency
- ✓ Financial Statements expertise.
- ✓ Budgeting
- ✓ Audit Coordination
- ✓ Financial analysis