



Analysis of Effective Working Capital Management on Business Sustainability: Accounting Standards as Moderating Variable

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Abstract: This research serves as a complement to filling the practical gap on the impact of effective working capital management on business sustainability by adopting a meta-analysis of several independently published audited annual report and accounts from 2019 to 2021. No doubt, the COVID-19 pandemic has occasioned gaps in trade finance. The research population is the entire fifty-four (54) countries in Africa and taking a statistical position from Africa's Gross Domestic Product (GDP) which was US \$2.354 trillion in the year 2020. This research adopted a systematic sampling of clusters considering that the population of Africa by GDP consists of discrete clusters with similar characteristics—this means that the units within each cluster are as heterogeneous as units in the overall population. Africa sub regional categorization was used to ensure comprehensive inclusivity in the research sample selection. This resulted in mapping the sub regions as -- North, South, West, and East. While the country with the highest GDP contribution to the total African GDP under each sub regional categorization was selected as the research sample. Eventually, the selected countries include—Egypt (North Africa), South Africa (Southern Africa), Nigeria (West Africa) and Kenya (East Africa). This represented a 50.66% aggregated GDP contribution to the total African GDP in 2020. The selected entities within the African countries are businesses operating in the real sector (Agribusinesses) that are listed on the stock exchanges. The research study used the SPSS-Structural Equation Modeling (SEM) for descriptive statistics and to process the meta-analysis data. This formed the basis for testing the formulated hypothesis and providing answers to the developed research questions. The software application assessed the relationship between working capital components and business sustainability. Data measurement for the working capital variable was defined as current assets minus current liabilities—which were evident in the published audited financial statements of the selected entities across the African continent. The data measurement for the business sustainability variable was defined as the total assets. Total assets are the total non-current assets and the total current assets. It was discovered that in a line diagram, the shape of the line showing the systematic movement in the net current assets to total assets (explaining the business sustainability variable) is nearly proportionally the same as that of the working capital (explaining the working capital management efficiency) on a three-year comparison—this finding was consistent across the selected entities in West, East, South, and North African sub regions. This finding was also consistent with the meta-analysis that was performed to test the formulated hypothesis. The study recommends that business leaders and those charged with governance should continuously ensure optimal business engineering through integration of the process, people, and technology. Furthermore, they are expected to ensure effective working capital management which subsequently translates to business sustainability.

Keywords: Agribusiness; Business Engineering; Business Management; Corporate Governance; Financial Analysis; Meta-Analysis; SDGs

1. Introduction

As the world moves towards financing and investment convergence for achieving Sustainable Development Goals (SDGs) by the year 2030 and beyond, it is imperative to consider the sustainability of the utilized investment and its multiplier effects on business, government, and society.^[1-67] Also, understanding and managing risk and uncertainty are the central task of current societies which is witnessing rapid social, technological, and environmental change (Olofsson *et al.*, 2019).^[49]

Working capital has been a continuous concern for businesses in the short-term running of the business—as this gives a degree of assurance to meeting current and immediate liquidity obligations of the business without jeopardizing the long-term profitability objective. Working capital is part of the business' capital sourced for managing day-to-day operations. This is also known as revolving or circulating capital or short-term capital.

Working capital is the current or short-term net assets of a business resulting from short-term assets less short-term liabilities. Short-term assets include cash, bank balances, receivables, and

marketable securities. While short-term liabilities include payables.^[58]

Business around the world grapples with the effect of the coronavirus disease 2019 (COVID-19) which has triggered the largest recession in 90 years and has set back hard-earned development progress. This has also posed direct challenges to foreign direct investment, trade, and remittances as well as access to international financial markets (United Nations Inter-Agency Task Force on Financing for Development, 2021).^[64]

Considering the relevance of working capital to the survival of a business, on one hand, it is important to understand the effectiveness of working capital management. On the other hand, the impact of this effect on business sustainability is key and should be of interest to researchers. This research focuses on the impact of effective working capital management on business sustainability while the applied accounting standards serve as the moderating variable.

The statement of the problem is the description of the current situation or gap in scientific knowledge. This shows the current controversy in findings in research interest (Locharoenrat, 2017).^[44]

The impact of COVID-19 on businesses across industries cannot be overemphasized as the recovery outlook gradually unfolds in the year 2021 and beyond. Businesses have strategically shifted focus from capital preservation to capital deployment. This implies that an efficient working capital market is vital in sourcing for capital to fund business and expansion opportunities.

The working capital index rose to its highest level in ten years. This has been occasioned by the widespread lockdowns with a direct impact on supply chains thereby delaying demands for products and services across multiple industries as the global economy went into recession. The pandemic crisis posed unique challenges in the ability to procure funding; resulting in a widening gap in cash levels between small and big companies (Morgan, 2021).

Drawing research inference from the economies in the DACH (Germany, Austria, and Switzerland) and Benelux regions (Belgium, The Netherlands and Luxembourg), the recovery of businesses from the various lockdowns is estimated to be challenging. The pandemic has made businesses to be more focused on the importance of cash and working capital management (PWC, 2021).^[50]

In the United Kingdom (UK) for instance, findings are that the continued uncertainty of COVID-19 as well as lack of clarity of the real impact of Brexit, and weak inflation means the Bank of England is likely to look for stabilization and guaranteed recovery before tightening policy.

It has been estimated that cash will remain relatively cheap and larger businesses will benefit thereon. On the flip side, access to a loan for smaller businesses may become more challenging. Generally, this implies that businesses in the UK must focus on managing working capital concerning changes in demand (BDO, 2021).^[12]

Notwithstanding the effectiveness of working capital management, one of its sources is trade financing. Trade finance markets reverted to more normal conditions in the main routes of trade but chronic shortages in developing and emerging economies continue to materialize post the 2008-2009 global financial crisis. The COVID-19 pandemic has occasioned gaps in trade finance. Within the context of international trade, the identified disruption includes

significant operational challenges for the processing of trade finance transactions, and the increase in risk aversion due to credit and sovereign risk deterioration thereby focusing on safer businesses. More specifically, the World Economic Forum estimated the global trade finance gap as US\$2.5 trillion by 2025 as supply chains would continue to be reallocated to developing countries with non-mature financial systems (Auboin, 2021).^[7]

The objectives of the study are highlighted below:

- a. To review the impact of effective working capital management on business sustainability.
- b. To examine the moderating role of accounting standards on the relationship between working capital and business sustainability.

The formulated research questions and a hypothesis guided the researcher in data collection, analysis, and interpretation for making an informed conclusion on the research problem.

The developed research questions were:

- a. What is the moderating role of accounting standards on the relationship between working capital and business sustainability?
- b. What is the impact of effective working capital management on business sustainability?

The formulated hypothesis was:

H1: Working capital management has a significant impact on business sustainability.

Business sustainability is pivoted on the primary factors--environmental, social and governance (ESG). The scope of this research study is restricted to working capital components and the accounting procedure within the governance framework. The selected businesses for this study were those in the real sector (agribusinesses) listed on the stock exchanges across Africa.

Furthermore, three (3) years of the audited annual report and accounts data were considered – this is from 2019 to 2021.

There has been an increasing quest for knowledge on managing and reporting practices of business working capital with linkages with sustainability.

The significance of this research study is that it filled the practical gap relating to the impact of effective working capital management on business sustainability through the meta-analysis of the independently published report and accounts (financial statements) of businesses in Africa.

The research was primarily targeted at reviewing the impact of effective working capital management on business sustainability—the applied accounting standards as moderating factor.

This study added to the body of knowledge by highlighting accounting standards and practices of managing and reporting business working capital and its nexus to sustainability. This study is unique as it adopts a meta-analysis of several independently published audited financial statements of businesses listed on the stock exchanges of selected African countries.

2. Experimental Section

This section comprises the literature review as well as the research methodology.

2.1. Literature Review

A literature review gives an analytical summary of an existing body of research considering a particular research phenomenon. This provides context for a research project and helps refine the research topic (Easterby-Smith et al., 2015).^[25] This research work has disaggregated review of literature under two (2) major categories as discussed in the subsequent subsections under the theoretical framework and the empirical studies of previous work relevant to the current research.

2.1.1. Theoretical Framework

The theoretical framework represents the beliefs of the researcher on how and why certain phenomena (or variables or concepts) are related to each other (a model). It is the logical flow of the model and theory from the documentation of previous research in the problem area. This includes—introducing definitions of the concept or variable in the research model. Furthermore, it includes developing a conceptual model which provides a descriptive representation and coming up with a theory that explains relationships between the variables in the research model (Sekaran & Bougie, 2016).^[57]

The theoretical framework that relates to this research work, as explained in the subsequent subsections, understanding the global outlook on sustainability and its nexus with the African economy, and the concept of business sustainability. Furthermore, it discusses the corporate governance framework and the integration of the working capital, and lastly, the accounting standards on Working Capital.

2.1.1.1. Global Outlook on Sustainability and its Nexus with the African Economy

The business world is interconnected in the wake of globalization leveraging enhanced mobility of factors of production. This has been more supported by the emergence of advanced technology (Carayannis et al., 2015).^[18] Globalization gives insights into how culture, economy, politics, and other fields are transformed based on collaboration. For businesses, globalization means the global sourcing of factors of production (Cherunilam, 2015).^[20] The dependency on the economy and the initial concept of dependency at the local, regional, or national levels is increasingly turning into a global dependency. By implication, the globe has become smaller. There have been merits and demerits of globalization in the past and currently (Aspers & Kohl, 2015).^[6]

The global financial crisis in 2008/2009 has urged businesses to redefine the boundaries of operation and strategic activities globally. Consequently, a volatile business environment under fierce economic conditions is making investors demand more capital gains on their investments as global threats and risks have been significant. This means that decision-makers are ensuring effective plans to drive sustainable business operations by challenging market obstacles while mitigating risks and offering investors more sufficient gains (Brunetta et al., 2017).

Considering the challenges occasioned by the global financial crisis among other humankind challenges such as poverty, hunger, infrastructural deficit, and unemployment amongst others, the United Nations developed the seventeen (17) sustainable

development goals (SDGs). The SDGs have been viewed as a call to action for business leaders all around the world and businesses have the power to accelerate the attainment of the SDGs. Also, businesses are the engine of the economy, growth, innovation, and job creation. This implies that every business (large or small) has the potential to make a significant contribution towards economic, social and environmental progress (Hoek, 2018).^[34]

The global economy has struggled to withstand the stress of a yearlong pandemic - however, new challenges confront all economies despite the economic recovery approach. The global growth for 2021 was upgraded to six (6) per cent which was boosted by the US \$1.9 trillion fiscal stimulus in the United States of America (International Monetary Fund, 2021).^[36] Approximately a decade after the global financial crisis, the world has been turmoil by a global pandemic- thereby threatening and eroding the conservative accumulated gains of economic recovery from the global financial crisis of 2008/2009.

Investments in African regions are driven by several factors such as- economic base, industry, information application, business convenience and consumer market (Wei et al., 2020).^[65] The African continent is projected to grow by 3.4 percent in 2021- however, challenged by the COVID- 19 pandemic.

Africa's GDP contracted by 2.1 percent in 2020- this is the continent's first recession in half a century with an estimation that about 39 million Africans could fall into extreme poverty in 2021 if there is no timely support.

To ameliorate the impact of the global pandemic on the African economy, the African Development Bank (AfDB) launched a US \$3 billion fight COVID-19 social bond on global capital markets- which is the largest US dollar-denominated social bond listed on London Stock Exchange, the Luxembourg Stock Exchange and Nasdaq (African Development Bank, 2021).^[2]

2.1.1.2. Concept of Business Sustainability

The concept of sustainability is meeting the needs of the present without compromising the ability to meet the needs of future generations (Andreas et al., 2011).^[5] Measuring business performance is imperative and timescale sensitive to aid sustainability (Bititci, 2015).^[14]

There have been several arguments on business sustainability in terms of whether a business should operate in a closed or an open economic environment. The closed economic environment is grounded on neoclassical economics which holds that business organisations should be separate from society and nature. This means that it focuses on the financial profits of the business. While an open economic environment of business operations is premised on sustainability which is achievable when business organisations can earn economic profits in a socially and ecologically responsible manner--- for the good of society and the natural environment (Stead & Stead, 2017).^[61]

Sustainability then implies that businesses should be able to meet the direct and indirect needs of stakeholders without compromising the ability to meet the needs of future stakeholders. Businesses must be able to strike balance between the immediate and future benefits—applying a long-term perspective to the needs of future stakeholders underlines the complexity of long-term

management practices and sustainable business models combined with a short-term request from shareholders for increased profits. Largely, incorporating sustainability into business means that business leaders at the corporate level must consider tripartite sustainable dimensions – which are, people, planet and profit (Aagaard et al., 2019).^[1]

2.1.1.3. Corporate governance Framework and the Integration of the Working Capital

Corporate governance is a set of mechanisms and institutions that are created to provide efficient monitoring and control over business strategy and operations. Good corporate governance creates market confidence and business integrity—this gives assurance to the credibility of the business when accessing capital—both short and long-term (Aluchna & Idowu, 2017).^[3]

A business corporation is a mechanism established to allow different parties to contribute capital, expertise, and labour for mutual benefit. It then means that the investor/ shareholder participate in the profit of the business without taking responsibility for the operations. While the management (including the financial manager) operates the business without being personally responsible for providing funds.

The intermediary between the shareholders/ investors and the management is the board of directors who approve all the decisions that affect the long-term performance of the business corporation.

Therefore, corporate governance refers to the relationship among the shareholders/investors, management and board of directors in determining the direction and performance of the business corporation (Wheelen et al., 2018).^[66]

Corporate management in the modern world is the management of financial flows (Brusov et al., 2018).^[16] As an integral part of corporate governance, a financial manager is fundamentally a buyer of capital who negotiates with the investors - such as bankers, shareholders, and bond investors to obtain funds at the lowest possible cost. And of course, ensure sound financial management of the business. The management of flows is one of the elements that optimize working capital and the reduction of capital employed by the business -- thereby tracking cash as a proactive pointer to potential operational problems. Considering that working capital has been argued to be a permanent requirement, it then means that it is imperative to establish a percentage relationship between a business's working capital and one or more of the measures of the volume of its business activities. Working capital is two-sided: firstly, it is liquid from the point of view of balance sheet value and secondly, it is permanent from a going-concern perspective (Quiry et al., 2018).^[51]

The theories of capital structure can be viewed from the point of the debt and equity capital components (Buus, 2015)^[17] which are mostly long-term - however, working capital is short-term in nature.

2.1.1.4. Concept of Business Engineering

No doubt the entire business entity requires seamless integration of its people, process and technology deployed to optimize the predetermined goals. In achieving business goals, it is imperative to understand the concept of business engineering and its nexus with

effective working capital management. Invariably, optimized business engineering could influence business sustainability.

Business engineering requires that professionals should consider a business as an integrated system that can be developed to attain better performance. Engineering approaches to business enterprises are categorized into two dimensions – focusing on understanding the Organisation's state of changes as well as focusing on understanding typical orientations of engineering methods. The first dimension which is the state of change requires the desired increase in an Organisation's ability to create sustainable value which includes new product design, service development and new technology adoption.

Furthermore, the orientation of methods focuses on the design, construction and evaluation methods, techniques, and support tools for business development (Simatupang et al., 2016).^[59]

Business engineering methodology relates to basic business design which delivers the structure of components comprising production, management, supporting and others, and their relationships as well as interaction with the environment that generates a business capability. Others include resource and operating management (Barros, 2016).^[10]

2.1.1.5. Accounting Standards on Working Capital- The IFRS and the National GAAP

For a true and fair presentation of the financial circumstances of a business, those charged with governance must prepare the business' financial statements in a manner that will aid informed decision-making. There are accounting standards that must be followed when preparing financial statements—which include the balance sheet (statement of financial position). The balance sheet of a business has three (3) key components—assets, liabilities, and ownership equity. The assets and liabilities are further subdivided into current and non-current. The current assets and liabilities constitute working capital components. The current assets are cash, account receivables, inventory, and prepaid expenses. While current liabilities are short-term notes payable, accounts payable, dividend payable, payroll liabilities, the current portion of long-term notes payable, and unearned revenue (Corelli, 2018).^[22]

There has been a strong advocate for the adoption of the IFRS as the global reporting standard—however; the criticism is that jurisdiction will have to relinquish its sovereignty in setting accounting standards. Furthermore, it has been argued that the IASB has an unusual structure as it is a private-sector body that acts in the public interests and that standardization may result in a departure from traditional practices in the jurisdiction (Barnes et al., 2019).^[9]

The application of accounting standards depends on the jurisdiction the business operates. Of the fifty-four (54) African countries, 36 require IFRS to be applied by all or most of its domestic publicly accountable entities. Furthermore, 3 jurisdictions permit or require IFRS standards for at least domestic publicly accountable entities (Deloitte, 2021).^[23]

2.1.2. Empirical Studies

The empirical findings on working capital management from previous studies are highlighted below.

- a. Working capital concepts and components have a statistically significant relationship with its theories. This was established in a study that adopted a conceptual research design approach. It examined the relevancy of working capital management concepts and components. This includes management of receivables, inventory and payables through their respective determining ratios such as average collection period, inventory conversion period and average payment period. Also, it examined theories of working capital that address agency/stakeholder, risk and return, cash conversion cycle, operating cycle and resource-based (Aminu & Zainudin, 2015).^[4]
- b. Innovation, firm size, and human capital have a significant impact on the Firm's external capital allocation. This has a strong association with a pecking order characterized by increasing agency costs. This was established through the examination of the relationship between firms' innovation activities and the hierarchy of financing behaviours—the analysis was carried out using information asymmetry in financing decisions covering innovation input (research & development), intermediate outputs (patents) and outcome (product and process innovations) (Mina & Lahr, 2018).^[45]
- c. Effective working capital management (WCM) has a statistically significant impact on business performance. This was established in an investigative study among listed Iranian manufacturing Firms using ordinary least squares with robust standard errors to analyze panel data covering the period of 2010-2016. The key finding was that the cash conversion cycle (CCC) is negatively related to return on assets and to refined economic value added (REVA). This implies that the shorter the span between expenditure to raw material purchase and collections of sales receivables, the higher the performance of the firm (Soukhakian & Khodakarami, 2019).^[60]
- d. Cumulative financing deficit does not wipe out the effects of conventional variables—that is, sales-based instruments track the financial deficit quite closely. This was established through pooled Partial Least Square (PLS) and random effect regressions that were performed to test the pecking order theory on the data from sixty-six (66) sampled Islamic firms listed in the Kingdom of Saudi Arabia stock market from 2006 to 2016.^[30]
- e. Firms adopt a moderate-conservative strategy for working capital management during the COVID-19 pandemic. Also, firms operating in large cities have lower sales returns—this was established from an investigative study to examine the effects of the COVID-19 pandemic on working capital management policies among Polish small and medium-sized enterprises operating in group Purchasing Organisations.^[67]
- f. All aspects of working capital management have a significant effect on financial performance. This implies that the inventory turnover period and average collection period are negatively related to earnings per share—conversely, the average payment period has a positive relationship with earnings per share. This was established from the study carried out to examine the effects of working capital management on the financial performance of seventy-one (71) non-financial companies quoted on the Nigerian Stock Exchange from 2014 to 2018 using a panel research design (Ibrahim & Isiaka, 2021).^[35]
- Furthermore, the empirical findings on business sustainability from previous studies are highlighted below.
- a) Corporate sustainability help improves how government, the private sector and academia understand the links between business and society—this was revealed through an empirical analysis of relevant academic literature on corporate sustainability using content configuration analysis (Bergman et al., 2017).^[13]
- b) Strategic planning and reporting involving infrastructure, environment, human resources, product innovation, organisation management and deadline setting are the baselines for the implementation of organizational sustainability practices. This was established in a study of the firms listed on the Brazilian stock market by the Corporate Sustainability Index (CSI) from 2012-2016 – deploying the Global Reporting Initiative (GRI) methodology. The study also established that reporting the actions performed by large organisations on the level of compliance with the three (3) pillars of sustainability—environmental, economic and social dimensions—are disclosed to main stakeholders based on short, medium and long-term sustainable goals (Batista & Francisco, 2018).^[11]
- c) Corporate sustainability creates opportunities and risks for business—therefore serving as an economic and strategic imperative. This advances the integrated strategies of sustainability theory integration, sustainable share value creation, continuous performance improvements and sustainability performance reporting and assurance (Rezaee, 2017).^[52]
- d) Quality and external assurance of corporate sustainability reports strengthens the relationship between disclosure and access to finance (including working capital). This finding emanated from the investigative studies on the impact of corporate disclosure (in terms of quantity, quality and external validation concerning assurance) on capital constraints. The analyzed data was drawn from the sampled international organisation from 2007 to 2016 (Garcia-Sanchez et al., 2019).^[29]
- e) Corporate sustainability strategy in organisations was examined by mapping literature through a bibliometric analysis. The key finding was that there has been fragmentation between the planning of a global strategy and the inclusivity of a sustainable strategy at the corporate level --- this was established from the Ninety-seven (97) documents that were analyzed. The study also established that the resources and market position of organisations are crucial to successful strategy implementation in terms of leveraging a resource-based view and competitive advantage (Rodrigues & Franco, 2019).^[53]
- f) Corporate sustainability predictors have a processual relationship with sustainability performance. This relationship upon which grounded theories were developed--- includes self-determination theory, stakeholder theory, sustainable leadership theory, complexity theory, knowledge-based theory, dynamic capabilities theory and knowledge management theory. This was established in the study aimed at exploring the processual relationship between the two variables carried out in Thailand (Kantabutra, 2019).^[41]

Table 1. The Research Onion: Justification Grid for the Current Research.

Parameters	Researcher's Selection	Description of Selection
Philosophy	Pragmatism	Examine practical financial circumstances of businesses with divergent ways of applying accounting standards for management and reporting of working capital to drive sustainability.
Approach	Abductive	<ul style="list-style-type: none"> • Blending deductive and inductive approaches. • Using accounting standard knowledge and independently published annual reports of businesses to generate testable conclusions. • Generalizing from interactions between the specific African countries and the general African countries. • Using the initial data collected on countries under review to test subsequent data collected. • Incorporating existing standards/concepts to build new/modified concepts.
Methodological Choice	Quantitative	Using independently audited financial data of businesses in Africa for data analysis, testing the hypothesis and providing answers to the research problem.
Strategy	Case Study	Explaining the application of accounting standards on managing and reporting working capital and nexus to the sustainability of businesses within African sub regions.
Time Horizon	Cross-sectional	2019 to 2021
Techniques and Procedures:		
Population	Aggregation	Fifty-four (54) African Countries
Sampling	Probability Sampling	The basis for Research Sample Categorization/Cluster is Africa Sub regions categorization-- North, South, West and East.
Design	Technique using Systematic Sampling of Cluster	Parameter For Selecting from Each Categorization/Cluster: % of Country's GDP Contribution to the total GDP of Africa
Data Collection	Secondary Data type	Secondary data was extracted from the independently published annual report and accounts of African agribusinesses listed on the stock exchanges.
	Methodology	Systematic Literature Review and Meta-analysis
Data Analysis	Software Application	Statistical Packages for Social Sciences (SPSS)
Source: Researcher's Assessment - 2021		

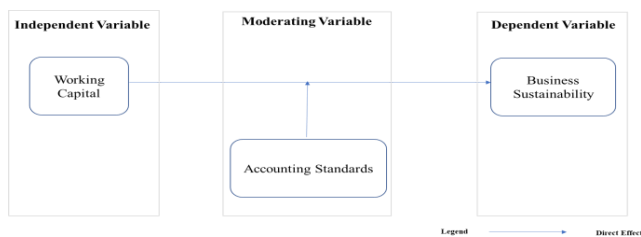


Fig. 1. Conceptual Framework

g) Firm size has a significant positive correlation with the ESG score. This raised the question of whether the ESG score methodology measures corporate sustainability in a manner that gives an advantage to larger firms with more resources – while not providing sufficient information to sustainable and responsible investors. This was established in a study using Thomson Reuters ASSET4 ESG rating to analyse the influence of firm size, available resources, and reporting framework on sustainability performance (Drempetic et al., 2019).^[24] Despite the absolute level of the individual ESG score not being impactful, the distance from the industry average for (excess or abnormal ESG performance) is positively relevant—thereby holding the view that competitive advantage supports sustainability. This was established in an empirical analysis to examine the impact of non-financial results (based on sustainability indicators) on economic (financial and market) performance for the period from 2014-2017 using primary information of companies listed in major European indices in Belgium, France, Germany, Italy and Spain. The study proposed a different approach from previous studies based on a PLS/Structural Equation Modeling (SEM) methodology.^[63]

h) There is an absence of causality among the corporate sustainability performance (CSP) and corporate firm performance (CFP) variables. This relationship impacts adversely on the CSP-CFP linkages – this means that firms in India do not derive financial performance benefits of investments from meeting the target for sustainability. This was established in a study to explore the relationship between CSP and CFP—the research samples were drawn from the top 500 Indian firms covering the period from 2008 to 2018 using the Granger causality test and multiple regressions for panel data. The CSP variables were environmental, social and governance performance. While the CFP variables were evaluated on accounting and market-based measures (Jha & Rangarajan, 2020).^[37]

2.2. Research Methodology

2.2.1. Research Conceptual Framework

The conceptual framework gives insights into the research variables. Variables are characteristics that can be different from one element to another—or can change over time. These variables can either be categorical (i.e., variables whose categories have names and distinguish among classes) or continuous (i.e., variables whose differences steadily progress and preserve the magnitude of difference between values). Furthermore, variables can either be independent (i.e., influences another variable), dependent (i.e., influenced by another variable) or intervening (i.e., either mediator or moderator--- mediate or moderate the effect of the independent variables on the dependent variables) (Leavy, 2017).^[42]

There are three (3) variables identified in the conceptual framework of this research work. The variables include one independent, one dependent and one moderating as shown in Fig. 1.

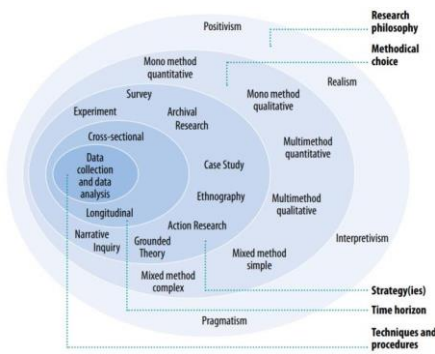


Fig. 2. Overview of the Research Onion Highlighting a Generic Research Design as Guidance.

2.2.2. Research Design

Research design is the organizing of the research activity including data collection in a systematic manner that will help achieve the research objectives (Easterby-Smith et al., 2015).^[25] The research is a quantitative research design using a meta-analytical approach to describe the phenomenon of working capital financing and its impacts on business sustainability focusing on businesses in Africa. This is intended to support the formulation of relevant research questions and hypotheses.

Meta-analysis is the range of methods to provide an overview of the effects of the relationship between an independent and a dependent variable (Suurmond et al., 2017).^[62]

The research design and methodology using meta-analysis address the research questions and effect sizes in terms of specification, definition and comparability of relevant theories and hypotheses. Also, it covers the research literature searching, compilation and coding for analysis using suitable statistical software (Havraneck et al., 2020).^[33]

Researchers must find answers to questions or address a problem after the research study (Saunders & Tosey, 2013).^[56] The overview of the components of the research design of this study is shown in table 1 and further discussed in subsequent subsections – this includes, the research population and sample, data sources/collection methodology and statistical tool for data analysis.

Fig. 2 shows an overview of the research onion highlighting a generic research design as guidance to the researcher.

2.2.3. Population and Sample

A research population is an entire phenomenon within the research area. The samples for the research work were drawn from the total population and the researcher should ensure that selected samples show a significant representation of the population using appropriate sampling techniques. The techniques include – non-probability and probability sampling techniques (Hague et al., 2016).

A non-probability sampling includes a selection of phenomena based on convenience, quota and purposive. The probability of sampling determines the samples based on random selection thereby giving each member of the population an equal chance of being chosen. This could be through simple random sampling or stratified random sampling where the researcher sample equally from each of the mapped layers in the entire population. The cluster

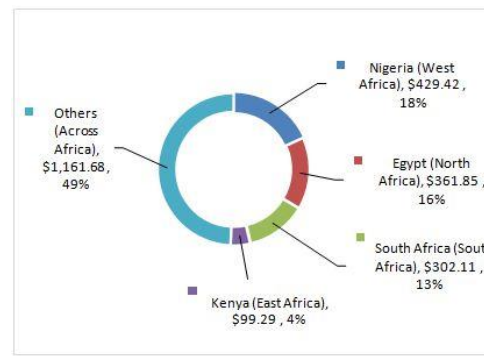


Fig. 3. Research Population and Sample Using Total Africa GDP (US\$ billion) in 2020—By Sub region Categorization

sampling of probability technique is whereby the population of interest is spread over a large area and the researcher could obtain a map of the area showing political boundaries or other subdivision characteristics. Furthermore, systematic sampling involves choosing individual phenomena in a cluster according to a predetermined sequence dependent on chance (Leedy & Ormrod, 2016).^[43]

The research population is the entire fifty-four (54) countries in Africa. Africa's Gross Domestic Product (GDP) in the year 2020 was US2.354 trillion. This research has adopted a systematic sampling of clusters considering that the population of Africa by GDP consists of discrete clusters with similar characteristics—this means that the units within each cluster are as heterogeneous as units in the overall population.

In the light of adopted sampling techniques, this research has considered the sub regions categorization of African countries to ensure comprehensive inclusivity in the research sample selection. This sub region categorization includes --- North, South, West, and East.

The countries with the highest GDP contribution to the total African GDP under sub regions categorizations are selected as the research samples.

The sample selection using the sub region categorization gave rise to the selection of four (4) countries across the African sub-region – North, South, West, and East. The countries are Egypt (North Africa), South Africa (South Africa), Nigeria (Western Africa) and Kenya (Eastern Africa).

See Fig. 3 for a pictorial analysis of the sub region categorization of the research population and sample using GDP at current prices.

The selected African countries represented 50.66% aggregated GDP contribution to the total African GDP in 2020. Furthermore, the selected entities within the African countries were businesses operating in the real sector (Agribusinesses) that were listed on the stock exchanges.

2.2.4. Data Source

The research study used secondary data from selected businesses. These were extracted from the published financial statements (independent audited annual report and accounts) for the relevant years covered by the scope of this research. The key research data were collected through a systematic literature review. This data type and the source are supported by a meta-analysis framework discussed in the subsequent subsection.

Table 2. Key Summary of Findings on the Accounting Standards Applications for the Working Capital Components

Region	Key Findings	
	Accounting Standard Adopted by Entity	Specific Application to the WorkingCapital Components in the Financial Statements
West Africa	<p>The financial statements were prepared following International Financial Reporting Standards (IFRSs) and interpretations issued by the IFRS Interpretations Committee (IFRS IC) applicable to companies and reporting under IFRS and in the manner required by the Companies and Allied Matters Act of Nigeria and the Financial Reporting Council of Nigeria Act, 2011 (Friesland Campina WAMCO Nigeria PLC, 2021),^[28] (Friesland Campina WAMCO Nigeria PLC, 2020)^[27] and (Friesland Campina WAMCO Nigeria PLC, 2019)^[26]</p>	<p>Inventories These are measured at the lower of cost and net realizable value. The cost of inventories includes expenditure incurred in acquiring the inventories and other costs incurred in bringing them to their existing location and condition. The basis of costing is as follows:</p> <ul style="list-style-type: none"> ✓ Raw and packaging materials, spares and purchased finished goods: Purchase cost on a first-in, first-out basis, including transportation and clearing costs ✓ Finished goods in the process: Cost of direct materials and labor plus a reasonable proportion of manufacturing overheads based on normal levels of activity ✓ Goods-in-transit: Purchase cost incurred to date ✓ Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses. ✓ Engineering spares are classified as inventory and are recognized in the profit and loss account as consumed. ✓ Allowance is made for obsolete, slow moving or defective items where appropriate. <p>Financial Assets The Company's financial assets include trade and other receivables, and cash and cash equivalents. They are included in current assets, except for maturities greater than 12 months after the reporting date which are included in non-current assets. Interest income from these assets is included in finance income using the effective interest rate method</p> <ul style="list-style-type: none"> ✓ It is the Company's policy to initially recognize financial assets at fair value plus transaction costs, except in the case of financial assets recorded at fair value through profit or loss which are expensed in profit or loss. The Company does not currently have financial assets measured at fair value through profit or loss. ✓ Classification and subsequent measurement are dependent on the Company's business model for managing the asset and the cash flow characteristics of the asset. On this basis, the Company may classify its financial instruments at amortized cost, fair value through profit or loss and at fair value through other comprehensive income. ✓ The business models applied to assess the classification of the financial assets held by the Company are: <ul style="list-style-type: none"> ➢ Hold to collect: Financial assets in this category are held by the Company solely to collect contractual cash flows and these cash flows represent solely payments of principal and interest. Assets held under this business model are measured at amortized cost. ➢ Fair value through other comprehensive income: Financial assets in this category are held to collect contractual cash flows and sell where there are advantageous opportunities. The cash flow represents solely payment of principal and interest. These financial assets are measured at fair value through other comprehensive income. ➢ Fair value through profit or loss: This category is the residual category for financial assets that do not meet the criteria described above. Financial assets in this category are managed to realize the asset's fair value. The Company's financial assets are held to collect contractual cash flows that are solely payments of principal (for non-interest-bearing financial assets) or solely payments of principal and interest (for interest-bearing financial assets). The financial assets are measured at amortized cost. ✓ Derivative assets are recognized at fair value. ✓ Recognition of impairment of financial assets provisions under IFRS 9 is based on the expected credit loss (ECL) model. The ECL model applies to the Company's financial assets classified at amortized cost. ✓ The measurement of ECL reflects an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes, time value of money and reasonable and supportable information that is available without undue cost or effort at the reporting date, about past events, current conditions and forecasts of future economic conditions ✓ Financial assets are derecognized when the contractual rights to the cash flow from the financial asset expire or when it transfers the financial asset, and the transfer qualifies for derecognition. ✓ Gains or losses on the derecognition of financial assets are recognized as other income/ (losses).

		<p>Financial Liabilities The Company's financial liabilities include trade and other payables, borrowings and derivative financial liabilities.</p> <ul style="list-style-type: none"> ✓ Financial liabilities of the Company are classified and measured at fair value on initial recognition net of directly attributable transaction costs and subsequently measured at amortized cost. ✓ Fair value gains or losses for financial liabilities designated at fair value through profit or loss are accounted for in profit or loss except for the amount of change that is attributable to changes in the Company's own credit risk which is presented in other comprehensive income. The remaining amount of change in the fair value of the liability is presented in profit or loss. The Company has no financial liabilities measured at fair value through profit or loss. ✓ Financial liabilities are derecognized when it is extinguished i.e. when the obligation specified in the contract is discharged or cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability. The difference in the respective carrying amounts is recognized immediately in the statement of profit or loss. ✓ Derivatives are initially recognized at fair value on the date a derivative contract is entered into, and they are subsequently measured to their fair value at the end of each reporting period. The accounting for subsequent changes in the fair value depends on whether the derivative is designated as a hedging instrument and, if so, the nature of the item being hedged. <p>Offsetting of financial assets and financial liabilities Financial assets and liabilities are offset, and the net amount is reported in the statement of financial position. Offsetting can be applied when there is a legally enforceable right to offset the recognized amounts, and there is an intention to settle on a net basis or realized the asset and settle the liability simultaneously.</p>
North Africa	The financial statements were prepared following the Egyptian Accounting Standards ("EAS") and in the light of prevailing Egyptian laws (Juhayna Food Industries Company S.A.E., 2022), ^[40] (Juhayna Food Industries Company S.A.E., 2021) ^[39] and (Juhayna Food Industries Company S.A.E., 2020). ^[38]	<p>Inventories These include raw materials, supplies, packing materials and spare parts which are measured at lower of cost or net realizable value. The cost of inventories is based on the weighted average principle and includes expenditure incurred in acquiring the inventories, production or conversion costs and other costs incurred in bringing them to their existing location and condition. Net realizable value is the estimated selling price, in the ordinary course of business, less estimated costs of the completion and selling expenses. The inventory of work in process is measured at the lower of cost, which is determined based on the cost of the last process reached or net realizable value. The finished production is measured at the lower of manufacturing cost or net realizable value. The manufacturing cost comprises raw materials, and direct labor, and cost includes an appropriate share of overheads based on normal operating capacity.</p> <p>Financial instruments Non-derivative financial assets: the company initially recognizes receivables and deposits on the date that they originated. All other financial assets (including assets designated at fair value through profit or loss) are recognized initially on the trade date, which is the date that the company becomes a party to the contractual provisions of the instrument. The company derecognized a financial asset when the contractual rights to the cash flow from the asset expire, or it transfers the right to receive the contractual cash flows on the financial asset in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred. Any interest in transferred financial assets that is created or retained by the company is recognized as a separate asset or liability. Financial assets and liabilities are offset, and the net amount is presented in the balance sheet when, and only when, the company has a legal right to offset the amounts and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously. The company classifies non-derivative financial assets into financial assets at fair value through profit or loss, held-to-maturity financial assets, loans and receivables and available-for-sale financial assets. Debtors are financial assets with fixed or determinable payments that are not quoted in the active market—such assets are recognized initially at fair value plus any directly attributable transaction costs. The short-duration trade and other receivables with no stated interest rate are stated at their nominal value (original invoice amount) less an allowance for any doubtful debts. Debtors comprise cash and cash equivalents, and trade and other receivables.</p>

		<p>Cash and cash equivalents comprise cash balances and call deposits with original maturities of three or less from the acquisition date that is subject to an insignificant risk of changes in their fair value and is used by the Company in the management of its short-term commitments.</p> <p>Non-derivative financial liabilities It is initially recognizing debt securities issued and subordinated liabilities on the date that they originated. All other financial liabilities (including those designated as at fair value through profit or loss) are recognized initially on the trade date, which is the date that the company becomes a party to the contractual provisions of the instrument. The company derecognizes a financial liability when its contractual obligations are discharged, cancelled, or expire. Non-derivative financial liabilities are classified into the other financial liabilities category. Such financial liabilities are recognized initially at the fair value plus any directly attributable transaction costs. After initial recognition, these financial liabilities are measured at amortized cost using the effective interest method. Other financial liabilities comprise loans and borrowings, bank overdrafts, and trade and other payables. Generally, trade payables are recorded at their nominal value. Bank overdrafts that are repayable on demand and form an integral part of the company's cash management are included as a component of cash and cash equivalents for the statement of cash flows.</p>
SouthAfrica	<p>The financial statements were prepared following the International Financial Reporting Standards ("IFRS") including interpretations of such standards as issued by the Interpretations Committee, the requirements of the Companies Act of South Africa No. 71 of 2008, Johannesburg Stock Exchange (JSE) Listing Requirements and Namibian Stock Exchange (NSX) Listing Requirements. (Oceana Group Limited, 2021),^[48] (Oceana Group Limited, 2020)^[47] and (Oceana Group Limited, 2019)^[46]</p>	<p>Inventories Inventories are stated at the lower of cost and net realizable value using the specific cost to value goods purchased for resale while the weighted average methods are used to value finished goods and consumable stores. The net realizable value represents the estimated selling price for inventories less all estimated costs of completion and costs necessary to make the sale. The cost of inventories comprises the cost of raw materials, direct labor and other direct cost and related production overheads that have been incurred in bringing the inventories to their present location and condition. Indirect cost allocated to inventories includes depreciation and certain other operating expenses. In the case of manufactured inventories and work in progress, costs include an appropriate share of overheads based on normal operating capacity.</p> <p>Financial Instruments Financial assets include investments and loans, cash and cash equivalents, trade and other receivables and derivative financial assets. At initial recognition, the Entity measures all financial assets at fair value. In the case of a financial asset not carried at fair value through profit or loss, transaction costs are included. However, transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss. Financial assets are subsequently measured at amortized cost or fair value through profit or loss, based on the financial asset's contractual cash flow characteristics and the Entity's business model for managing them. In the periods presented, the company does not have any financial assets at fair value through OCI.</p> <p>Financial assets at amortized cost A financial asset needs to give rise to cash flows that are 'solely payments of principal and interest' ("SPPI") on the principal amount outstanding to be classified and measured at amortized cost, The SPPI assessment is performed at an instrument level. The Entity's business model for managing financial assets refers to how it manages its financial assets to generate cash flows. The business model determines whether cash flows will result from collecting contractual cash flows, selling financial assets, or both. Financial assets held at amortized cost are subsequently measured at amortized cost. The amortized cost is the amount recognized on the financial asset initially, minus principal repayments, plus cumulative amortization (interest) using the effective interest method of any difference between the initial amount and the maturity amount, adjusted for any loss allowance. Cash and cash equivalents comprise cash on hand and on-demand deposits, net of bank overdrafts. Financial assets at amortized cost include trade and other receivables (excluding VAT and prepayments), cash and cash equivalents and loans. Loans include third-party loans and amounts owing from related parties.</p> <p>Financial assets at fair value Financial assets that do not meet the criteria for amortized cost or fair value through OCI are measured at fair value through profit or loss. A gain or loss on a financial asset that is subsequently measured at fair value through profit or loss is recognized in profit or loss and presented net within other gains/ (losses) in the period in which it arises. Derivative financial assets include forward exchange contracts ("FECs") and interest rate swaps.</p>

		<p>Derivative financial assets are initially recognized at a cost which approximates their fair value and is remeasured to fair value at subsequent reporting dates. Gains and losses that are part of a hedging relationship are recognized in OCI. The ineffective portion is recognized in profit or loss under overhead.</p> <p>Derecognition Financial assets are derecognized when the rights to receive cash flows from the financial assets have expired or have been transferred and the Entity has transferred substantially all the risks and rewards of ownership.</p> <p>Impairment The Entity recognizes an allowance for expected credit losses ("ECLs") for all financial assets not held at fair value through profit and loss (local and foreign trade and other receivables and loans). ECLs are based on the difference between the contractual cash flows following the contract and all the cash flows that the Entity expects to receive, discounted at the approximation of the original effective interest rate. For local and foreign loans, the Entity applies the general approach in calculating ECLs. ECLs are recognized in two stages. For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12 months (12-month ECL). For credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure, irrespective of the timing of the default (Lifetime ECL). For local and foreign trade and other receivables, the Entity applies the simplified approach in calculating ECLs. The Entity recognizes a loss allowance based on lifetime ECLs at each reporting date. Trade receivables are assessed collectively in Entities that share similar credit risk characteristics. The Entity has established a provision matrix based on its historical credit loss experienced, adjusted for factors specific to the customer and geography where the customer is based, along with general economic conditions and an assessment of the current and forecast direction of conditions at the reporting date. The Entity deposits short-term cash surpluses only with major financial institutions of high-quality credit standing and therefore no ECL has been provided as it is immaterial. All credit losses are recognized in profit or loss.</p> <p>Write-Off The Entity writes off financial assets when there is information indicating that the counterparty is in severe financial difficulty and there is no realistic prospect of recovery, e.g. when the counterparty has been placed under liquidation or has entered into bankruptcy proceedings. Financial assets written off may still be subject to enforcement activities under the Entity recovery procedures, taking into account legal advice where appropriate. Any recoveries made are recognized in profit or loss.</p> <p>Financial Liabilities Financial liabilities recognized in the statement of financial position include borrowings, trade and other payables (excluding VAT and amounts received in advance), amounts owing to related parties, and derivative financial liabilities. All financial liabilities are classified as subsequently measured at amortized cost except for derivative financial liabilities, which are classified as subsequently measured at fair value through profit or loss. Financial liabilities are recognized initially at fair value. Financial liabilities not at fair value through profit or loss are recognized net of directly attributable transaction costs. Financial liabilities are initially recognized when the Group becomes a party to the contractual provisions of the instrument.</p> <p>Financial Liabilities at Amortized Cost Financial liabilities are subsequently measured at amortized cost using the effective interest rate method, with any difference between cost and redemption value being recognized in profit or loss over the period of the liability.</p> <p>Financial Liabilities at Fair Value Through Profit or Loss Financial liabilities carried at fair value through profit or loss includes derivative instruments. Derivative instruments include FECs and interest rate swaps. Derivative financial liabilities are initially recorded at cost and approximate their fair value and are remeasured to fair value at subsequent reporting dates. Gains or losses arising from a change in the fair value of financial instruments that are not part of a hedging relationship are recognized in profit or loss in the period in which the change arises. Gains and losses that are part of a hedging relationship are recognized in OCI. Derivative instruments are presented as part of trade and other payables on the statement of financial position.</p>
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		<p>Derecognition Financial liabilities are derecognized when the obligations are discharged, cancelled or expire. The difference between the carrying amount of the financial liability derecognized and the consideration paid and payable, including any non-cash assets transferred or liabilities assumed, is recognized in profit or loss.</p> <p>Offsetting of Financial Instruments Financial assets and financial liabilities are offset, and the net amount is reported in the consolidated statement of financial position when the Entity has a legally enforceable right to offset and intends to settle either on a net basis or to realize the asset and settle the liability simultaneously.</p>
East Africa	<p>The financial statements were prepared following and comply with International Financial Reporting Standards (IFRSs) and the Kenya Companies Act, 2015. (SASINI PLC, 2021)^[55] and (SASINI PLC, 2020)^[54]</p>	<p>Inventories These are stated at the lower of cost and net realizable value. Cost is determined by the weighted average cost. Cost comprises expenditures incurred in the normal course of business, including direct material costs, labor and production overheads, where appropriate, that have been incurred in bringing the stocks to their present location and condition. Net realizable value is the price at which the inventory can be realized in the normal course of business after allowing for costs of realization. Consumable stores are stated at the weighted average cost less provisions for obsolescence, slow-moving and defective stocks. Agricultural produce is measured at fair value less cost to sell at the point of harvest. Any changes arising on initial recognition of agricultural produce at fair value less cost to sell are recognized in profit or loss. The cost of finished goods and work in progress comprise the fair value less cost to sell agricultural produce at the point of harvest, raw materials, direct costs and related production overheads (based on normal operating capacity) but excluded borrowing costs.</p> <p>Biological assets These are measured on initial recognition and at each reporting date at fair value less cost to sell. Cost to sell includes all costs that would be necessary to sell the assets including transportation costs. Any changes to the fair value are recognized in profit or loss in the period in which they arise. The fair value net of deferred tax is reserved in equity as a non-distributable reserve. The fair value of livestock is determined based on the market prices of livestock of similar age, breed and sex. Where a meaningful market is determined, prices do not exist to assess the fair value of the company's other biological assets, the fair value is determined based on the net present value of expected future cash flows, discounted at an appropriate pre-tax rate. All costs incurred relating to mature biological assets are recognized in profit or loss in the period in which they are incurred. Costs incurred relating to immature biological assets is factored in the fair value adjustment. Biological assets that are expected to be realized within 12 months at the reporting date are classified as current assets.</p> <p>Financial instruments Financial assets and financial liabilities are recognized when the company becomes a party to the contractual provisions of the instrument. Financial assets and financial liabilities are initially measured at fair value. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities (other than financial assets and financial liabilities at fair value through profit or loss) are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at fair value through profit or loss are recognized immediately in profit or loss. Financial assets are categorized into amortized cost, fair value through profit or loss (FVTPL) and fair value through other comprehensive income (FVOCI). The classification depends on the purpose for which the financial assets were acquired. Management determines the classification of its financial assets at initial recognition. The classification of financial assets and their subsequent accounting will be determined by the application of dual tests examining the contractual cash flow characteristics of the financial instruments and the company's business model for managing the assets. Financial assets may be held at amortized cost only where both the asset is held in a business model whose objective is to hold financial assets to collect contractual cash flow and the contractual terms of the financial asset give rise on specified dates to cash flows that consist solely of principal and interest on the outstanding principal. Financial liabilities are measured at amortized cost using the effective interest rate (EIR) model unless the option to fair value liabilities is taken.</p>

		<p>Offsetting of financial assets and financial liabilities</p> <p>Financial assets and liabilities are offset, and the net amount is reported in the statement of financial position when there is a legally enforceable right to offset the recognized amounts, and there is an intention to settle on a net basis or realized the asset and settles the liability simultaneously.</p> <p>Impairment of financial assets, the company recognizes a loss allowance for expected credit losses on investments in debt instruments that are measured at amortized cost or FVOCI, trade receivables and contract assets, as well as on financial guaranteed contracts.</p> <p>The amount of expected credit losses is updated at each reporting date to reflect changes in credit risk since the initial recognition of the respective financial instruments.</p> <p>The incurred loss model has been replaced by the expected credit loss model in IFRS 9. This applied to all financial assets not held at fair value through profit and loss (FVTPL)—certain investments, loans, trade receivables and other receivables.</p> <p>For financial assets carried at amortized cost (including loans and other receivables such as trade debtors), impairment losses are recognized under the expected loss model, building up a debtors' provision/ allowance account against credit losses over the life of the financial asset (including an estimate of initial credit risk), rather than the incurred loss model used under IAS 39, where a loss was recognized only if there was a specific event (such as the default) triggering an impairment review.</p> <p>Financial assets are derecognized when the contractual rights to the cash flows from the asset expire or when it transfers the financial asset, and substantially all the risks and rewards of ownership of the asset to another entity.</p> <p>Where the company neither transfers nor retains substantially all the risk and rewards of ownership and continues to control the transferred assets, the company recognizes its retained interest in the asset and an associated liability for amounts it may have to pay.</p> <p>If it retained substantially all risk and rewards of ownership of a transferred financial asset, it continues to recognize the financial assets and also recognizes collateralized borrowing for the proceeds received.</p>
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Source: Research Data Analysis, 2022

2.2.5. Data Analysis, Variables and Measurement

There have been several arguments for meta-analysis in the data analysis in social sciences. A meta-analysis which is also known as quantitative research synthesis is an approach to summarizing and comparing results from the empirical literature.

One of the key arguments for meta-analysis is that it portrays the advancement of scientific knowledge based on the systematic building of one study on top of a foundation of prior studies—the accumulation of which increases and enriches the body of knowledge. Meta-analysis involves the statistical analysis of the results from more than one study—forming the unit of analysis (effect sizes). Furthermore, obtaining these effect sizes does not require having access to the raw data—the researcher can rely on the published data of each study under consideration. The uniqueness of meta-analysis is that it can be performed using any software program that can conduct weighted general linear model analysis (e.g., weighted regression analysis) – examples of such statistical software are Statistical Package for the Social Sciences (SPSS) and Statistical Analysis Software (SAS) (Card, 2012).^[19]

The key benefit of a meta-analysis is that it provides a pooled outcome with increased precision. The further empirical review reveals that meta-analysis is a secondary (post) analysis and it tests only primary hypotheses formulated in the current research study. Also, a meta-analysis uses probability statements that are probably more valid than those of other secondary studies. No doubt, it requires scientific rigour such as—predefined clarity on hypotheses and a thorough search of trials. Other requirements are that there should be strict inclusion criteria and uniform guidelines for data analysis. However, the researcher when adopting meta-analysis must consider some pitfalls and devise strategies to mitigate the negative impact on the research analysis. These pitfalls include publication bias, heterogeneity, and robustness.^[21]

Table 3. A Three-year Summary of Working Capital Components of the Entity in West Africa

Description	2021	2020	2019
Currency	US\$ (Million)	US\$ (Million)	US\$ (Million)
Current Assets			
Inventories	110.38	70.72	56.27
Biological assets	0.30	0.40	-
Trade and Other Receivables	38.82	40.63	33.42
Prepayments	173.40	39.55	50.51
Derivative assets	-	6.48	3.17
Cash and cash equivalents	123.07	200.37	17.75
Total	445.97	358.15	161.12
Current Liabilities			
Current tax liabilities	19.61	14.02	10.97
Trade and other payables	338.83	208.50	154.81
Loans and Borrowings	109.90	142.02	4.71
Government grant	0.37	0.23	-
Derivative liabilities	2.98	-	-
Lease liabilities	-	0.23	-
Total	471.69	364.98	170.49
Working Capital Ratio	0.95	0.98	0.95

Source: Research Data Analysis, 2022

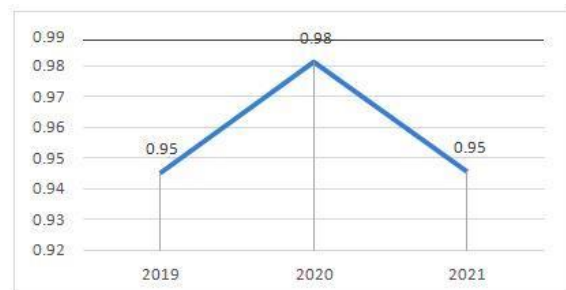


Fig. 4. A Three-year Summary of the Working Capital Ratio of the Entity in West Africa.

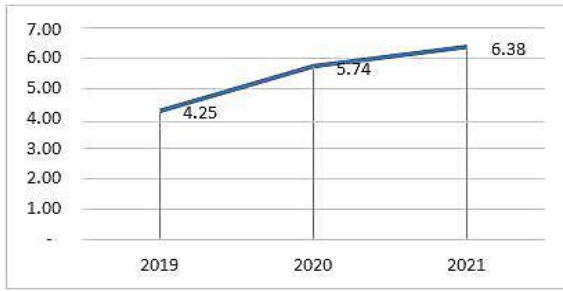


Fig. 5. A Three-year Summary of the Working Capital Ratio of the Entity in East Africa.

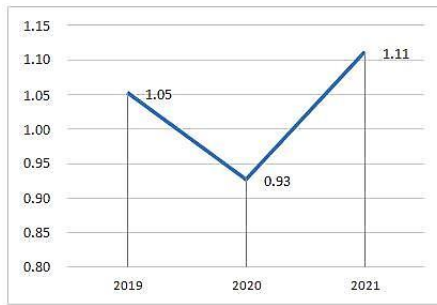


Fig. 6. A Three-year Summary of the Working Capital Ratio of the Entity in North Africa.

As corroborated, meta-analysis is of fundamental importance to obtain an unbiased assessment of the available evidence (Balduzzi et al., 2019)^[8] and is suitable to examine the effectiveness of management activities towards business sustainability.^[32]

The research study used the IBM SPSS v29 software on Structural Equation Modeling (SEM) for descriptive statistics and to process the meta-analysis data. This formed the basis for testing the formulated hypothesis and providing answers to the developed research questions. The software application assessed the relationship between working capital components and business sustainability.

Data measurement for the working capital variable is defined as current assets minus current liabilities—which are evident in the published audited financial statements of the selected entities across the African continent Furthermore; the data measurement for the business sustainability variable is defined as the total assets accumulated over the years under review. Total assets are the total non-current assets and total current assets.

3. Results and Discussions

3.1. Accounting Standards Adopted for the Working Capital Components

Considering the divergent official languages in African countries, some audited financial statements were primarily in non-English languages. However, English-translated copies of the financial statements were obtained for the research. As observed, there were divergent applications of accounting standards by countries for the financial reporting of working capital components. Table 2 shows the summary of the key findings on the accounting standards applied for the working capital components of entities across the African continent.

Table 4. A Three-year Summary of Working Capital Components of the Entity in East Africa

Description	2021	2020	2019
Currency	US\$	US\$	US\$
	(Million)	(Million)	(Million)
Current Assets			
Inventories	4.00	4.68	6.60
Biological assets	2.55	1.62	0.92
Trade and Other	7.50	4.38	3.72
Receivables			
Amount due from related companies	-	-	0.01
Tax Recoverable	0.10	0.77	0.77
Cash and cash equivalents	6.78	4.90	3.54
Total	20.92	16.35	15.56
Trade and other payables	3.06	2.62	2.45
Loans and Borrowings	-	-	0.94
Tax Payable	-	-	0.06
Post-employment benefits	0.07	0.10	0.20
Lease liabilities	0.15	0.13	-
Total	3.28	2.85	3.66
Working Capital Ratio	6.38	5.74	4.25

Source: Research Data Analysis, 2022

Table 5. A Three-year Summary of Working Capital Components of the Entity in North Africa

Description	2021	2020	2019
Currency	US\$	US\$	US\$
	(Million)	(Million)	(Million)
Current Assets			
Inventories	35.87	35.66	42.57
Biological assets	0.43	0.50	1.27
PPE held for sale	0.07	0.27	0.25
Trade and Other	18.61	14.69	16.90
Receivables			
Cash and cash equivalents	18.48	7.45	3.95
Total	73.46	58.57	64.94
Provision for claims	2.86	2.07	0.67
Bank Credit Facilities	11.15	11.28	16.28
Amounts due to related parties	-	-	0.02
Creditors and other credit balances	37.87	27.51	28.39
Loans and Borrowings	-	-	11.62
Income tax payable	7.35	7.87	4.23
Lease contract liabilities – current portion/Lease liabilities	6.85	14.43	0.47
Total	66.08	63.16	61.68
Working Capital Ratio	1.11	0.93	1.05

Source: Research Data Analysis, 2022

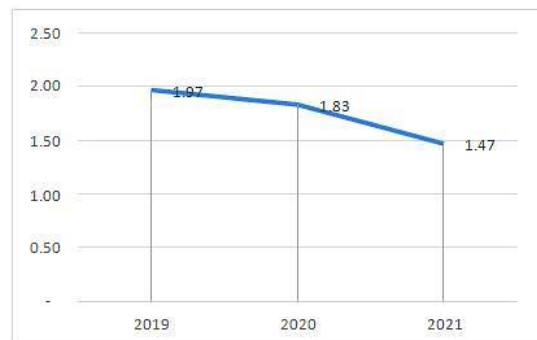


Fig. 7. A Three-year Summary of the Working Capital Ratio of the Entity in Southern Africa.

Table 6. A Three-year Summary of Working Capital Components of the Entity in Southern Africa

Description	2021	2020	2019
Currency	US\$ (Million)	US\$ (Million)	US\$ (Million)
Current Assets			
Inventories	61.30	100.03	109.57
Trade and Other Receivables	83.15	61.04	61.50
Tax Recoverable	2.84	1.38	4.29
Cash and cash equivalents	54.50	83.64	44.54
Total	201.79	246.09	219.89
Liabilities			
Borrowings	40.72	23.94	22.27
Provision for claims	0.45	0.71	0.56
Short-term banking facility	5.31	-	-
Trade and other payables	78.44	91.84	76.82
Derivative liabilities	0.42	-	-
Income tax payable (Tax Payable)	1.15	2.14	0.38
Liability to Joint Operator	8.27	13.03	11.69
Current Portion -Lease	2.72	2.67	-
Total	137.49	134.32	111.72
Working Capital Ratio	1.47	1.83	1.97

Source: Research Data Analysis, 2022

Table 7. A Three-year Financial Performance Highlights of the Entity in West Africa (US\$ Million—i.e., Absolute Terms)

Description	2021	2020	2019
Currency	US\$ (Million)	US\$ (Million)	US\$ (Million)
Total Asset	240.71	466.82	561.47
Total Liabilities	185.97	407.44	501.98
Total Capital & Reserves	54.74	59.39	59.49
Turnover	365.56	450.71	606.35
Earnings Before Interest & Taxation (EBIT)	46.96	43.87	49.70
Earning After Interest & Taxation(EAIT)	27.93	19.83	17.14
Net Current Asset (NCA) (i.e., Working Capital)	(9.37)	(6.83)	(25.72)

Source: Research Data Analysis, 2022

Table 8. A Three-year Financial Performance highlights of the Entity in West Africa (in Percentage – i.e., Relative Terms)

Ratio	2019	2020	2021
	%	%	%
NCA % to Total Asset	-3.89	-1.46	-4.58
Working Capital %	-5.81	-1.91	-5.77

Source: Research Data Analysis, 2022

Table 9. A Three-year Financial Performance Highlights of the Entity in East Africa (US\$ Million—i.e., Absolute Terms)

Description	2021	2020	2019
Currency	US\$ (Million)	US\$ (Million)	US\$ (Million)
Total Asset	121.00	120.20	124.86
Total Liabilities	14.75	12.57	14.01
Total Capital & Reserves	106.25	107.63	110.86
Turnover	23.05	34.18	43.38
Earnings Before Interest & Taxation (EBIT)	(3.23)	0.28	5.95
Earning After Interest & Taxation(EAIT)	(2.78)	0.10	4.73
Net Current Asset (NCA) (i.e., Working Capital)	11.90	13.50	17.64

Source: Research Data Analysis, 2022

Table 10. A Three-year Financial Performance highlights of the Entity in East Africa (in Percentage – i.e., Relative Terms)

Ratio	2019	2020	2021
	%	%	%
NCA % to Total Asset	9.84	11.23	14.13
Working Capital %	76.49	82.57	84.33

Source: Research Data Analysis, 2022

**Fig. 8.** Relationship between Net Current Assets to Total Asset and Working Capital of the Entity in West Africa (in % – i.e., Relative Terms).

3.2. The Trend of Working Capital Components

The trend of working capital components of the entity in West Africa is below the 2:1 benchmark. Furthermore, there was a rise from 0.95 in 2019 to 0.98 in 2020. However, the growth was reversed to 0.95 in 2021 as shown in table 3 and Fig. 4.

The trend of working capital components of the entity in East Africa is above the 2:1 benchmark. Furthermore, it shows a steady increase from 4.25 in 2019 to 5.74 in 2020 and 6.38 in 2021 as shown in table 4 and Fig. 5.

The trend of working capital components of the entity in North Africa is below the 2:1 benchmark. Furthermore, there was a decrease from 1.05 in 2019 to 0.93 in 2020. However, this increased to 1.11 in 2021 as shown in table 5 and Fig. 6.

The trend of working capital components of the entity in Southern Africa is below the 2:1 benchmark. Furthermore, there was a steady decrease from 1.97 in 2019 to 1.83 in 2020 and 1.47 in 2021 as shown in table 6 and Fig. 7.

3.3. Impact of Working Capital on Business Sustainability

From the research study data analysis, tables 7 to 14 show the financial performance highlights in absolute terms and the ratio analysis to measure the impact of effective working capital management on business sustainability. Furthermore, figs. 8 to 11 show the visual relationship between net current assets to the total asset and the working capital management in relative terms.

The tables 7 & 8 show the financial performance highlights of the entity in West Africa in both absolute and relative terms over the three years under review-2019 to 2021. The significance of the study in absolute terms is the peaked turnover of US \$606.35 million in 2021 and the peaked total assets of US \$561.47 million in 2021. However, on relative terms, the best of the worst working capital management was in 2020.

From the Fig. 8, the shape of the line showing the systematic movement in the net current assets to total assets (explaining the business sustainability variable) is nearly proportionally the same as that of the working capital (explaining the working capital management efficiency) on a three-year comparison.

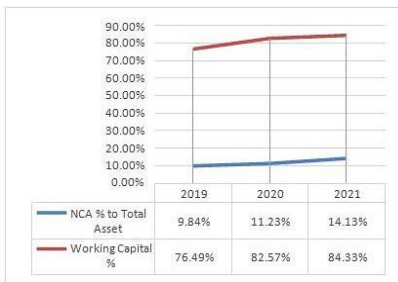


Fig. 9. Relationship between Net Current Assets to Total Asset and Working Capital of the Entity in East Africa (in % – i.e., Relative Terms).



Fig. 10. Relationship between Net Current Assets to Total Asset and Working Capital of the Entity in North Africa (in % – i.e., Relative Terms)

Table 11. A Three-year Financial Performance Highlights of the Entity in North Africa (US\$ Million—i.e., Absolute Terms)

Description	2021	2020	2019
Currency	US\$	US\$	US\$
Total Asset	217.06	209.53	222.55
Total Liabilities	105.80	91.08	93.49
Total Capital & Reserves	111.26	118.45	129.06
Turnover	311.53	305.82	359.27
Earnings Before Interest & Taxation (EBIT)	33.91	34.17	34.02
Earning After Interest & Taxation(EAIT)	13.41	17.48	21.48
Net Current Asset (NCA) (i.e., Working Capital)	3.26	(4.59)	7.38

Source: Research Data Analysis, 2022. (US \$Million)

Table 12. A Three-year Financial Performance highlights of the Entity in North Africa (in Percentage – i.e., Relative Terms)

Ratio	2019	2020	2021
	%	%	%
NCA % to Total Asset	1.50	-2.19	3.32
Working Capital %	5.01	-7.84	10.05

Source: Research Data Analysis, 2022



Fig. 11. Relationship between Net Current Assets to Total Asset and Working Capital of the Entity in South Africa (in % – i.e., Relative Terms).

Table 13. A Three-year Financial Performance Highlights of the Entity in South Africa (US\$ Million—i.e., Absolute Terms)

Description	2021	2020	2019
Currency	US\$	US\$	US\$
Total Asset	661.97	737.82	661.80
Total Liabilities	361.53	390.70	340.53
Total Capital & Reserves	300.44	347.12	321.26
Turnover	446.44	485.03	445.62
Earnings Before Interest & Taxation (EBIT)	67.59	81.72	70.14
Earning After Interest & Taxation(EAIT)	37.85	47.65	41.94
Net Current Asset (NCA) (i.e., Working Capital)	108.18	111.77	64.30

Source: Research Data Analysis, 2022. (US \$Million)

Table 14. A Three-year Financial Performance highlights of the Entity in South Africa (in Percentage – i.e., Relative Terms)

Ratio	2019	2020	2021
	%	%	%
NCA % to Total Asset	16.34	15.15	9.72
Working Capital %	49.19	45.42	31.86

Source: Research Data Analysis, 2022

The tables 9 & 10 show the financial performance highlights of the entity in East Africa in both absolute and relative terms over the three years under review-2019 to 2021. The significance of the study in absolute terms is the peaked turnover of US \$43.38 million in 2021 and the peaked total assets of US \$124.86 million in 2021. However, on relative terms, the best working capital management was in 2021.

From the Fig. 9, the shape of the line showing the systematic movement in the net current assets to total assets (explaining the business sustainability variable) is nearly proportionally the same as that of the working capital (explaining the working capital management efficiency) on a three-year comparison-this finding is the case for that of the entity in West Africa.

The tables 11 & 12 show the financial performance highlights of the entity in North Africa in both absolute and relative terms over the three years under review-2019 to 2021. The significance of the study in absolute terms is the peaked turnover of US \$359.27 million in 2021 and the peaked total assets of US \$222.55 million in 2021. However, on relative terms, the best working capital management was in 2021.

From the Fig. 10, the shape of the line showing the systematic movement in the net current assets to total assets (explaining the business sustainability variable) is nearly proportionally the same as that of the working capital (explaining the working capital management efficiency) on a three-year comparison—this finding is consistent with the findings of the entities in West Africa and East Africa.

The tables 13 & 14 show the financial performance highlights of the entity in South Africa in both absolute and relative terms over the three years under review—2019 to 2021. The significance of the study in absolute terms is the peaked turnover of US \$485.03 million in 2020 and the peaked total assets of US \$737.82 million in 2020. However, on relative terms, the best working capital management was in 2019.

From the Fig. 11, the shape of the line showing the systematic movement in the net current assets to total assets (explaining the business sustainability variable) is nearly proportionally the same as that of the working capital (explaining the working capital management efficiency) on a three-year comparison—this finding is consistent with the findings of the entities in West Africa, East Africa, and North Africa.

Table 15. Disaggregated Data: Net Current Assets to Total Assets % (Dependent Variable) - West, East, North and South Sub regions

Study Label	NCA/TA%(CG- r)	NCA/TA%(CG-n)	NCA/TA%(CG-ES(Zr))	NCA/TA%(CG-w)	NCA/TA%(CG-w*EffectSize (mean))	NCA/TA%(CG-Std Error)
2019-WA	-0.04	16.00	-0.04	13	-0.51	0.10
2020-WA	-0.01	16.00	-0.01	13	-0.19	0.10
2021-WA	-0.05	16.00	-0.05	13	-0.60	0.10
2019-EA	0.10	18.00	0.10	15	1.48	0.10
2020-EA	0.11	18.00	0.11	15	1.69	0.10
2021-EA	0.14	18.00	0.14	15	2.13	0.10
2019-NA	0.02	6.00	0.02	3	0.05	0.10
2020-NA	-0.02	6.00	-0.02	3	-0.07	0.10
2021-NA	0.03	6.00	0.03	3	0.10	0.10
2019-SA	0.16	5.00	0.16	2	0.33	0.10
2020-SA	0.15	5.00	0.15	2	0.31	0.10
2021-SA	0.10	5.00	0.10	2	0.19	0.10

Source: Research Data Analysis, 2022

NB: *WA= West Africa, EA= East Africa, NA= North Africa & SA= SouthernAfrica *NCA= Net Current Asset, TA= Total Assets, CG= Control Group

Table 16. Disaggregated Data: Working Capital % (Independent Variable)- West, East, North and South Sub regions

Study Label	NCA/TA%(CG- r)	NCA/TA%(CG-n)	NCA/TA%(CG-ES(Zr))	NCA/TA%(CG-w)	NCA/TA%(CG-w* EffectSize (mean))	NCA/TA%(CG-Std Error)
2019-WA	-0.06	16.00	-0.06	13	-0.76	0.10
2020-WA	-0.02	16.00	-0.02	13	-0.25	0.10
2021-WA	-0.06	16.00	-0.06	13	-0.75	0.10
2019-EA	0.76	18.00	1.01	15	15.12	0.10
2020-EA	0.83	18.00	1.17	15	17.62	0.10
2021-EA	0.84	18.00	1.23	15	18.49	0.10
2019-NA	0.05	6.00	0.05	3	0.15	0.10
2020-NA	-0.08	6.00	-0.08	3	-0.24	0.10
2021-NA	0.10	6.00	0.10	3	0.30	0.10
2019-SA	0.49	5.00	0.54	2	1.08	0.10
2020-SA	0.45	5.00	0.49	2	0.98	0.10
2021-SA	0.32	5.00	0.33	2	0.66	0.10

Source: Research Data Analysis, 2022

NB: *WA= West Africa, EA= East Africa, NA= North Africa & SA= SouthernAfrica *NCA= Net Current Asset, TA= Total Assets, CG= Control Group

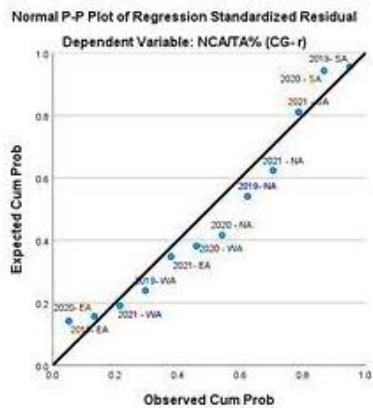


Fig. 12. Regression Standardized Residual of Expected and Observed Cumulative Probability.

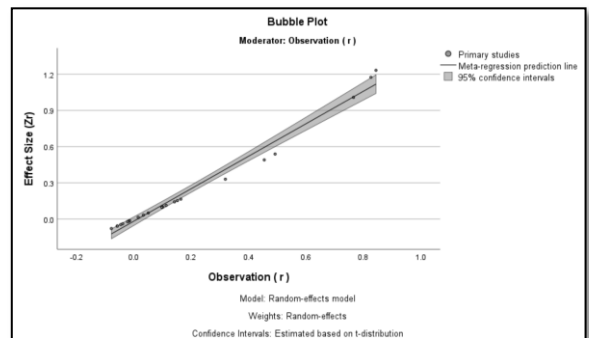
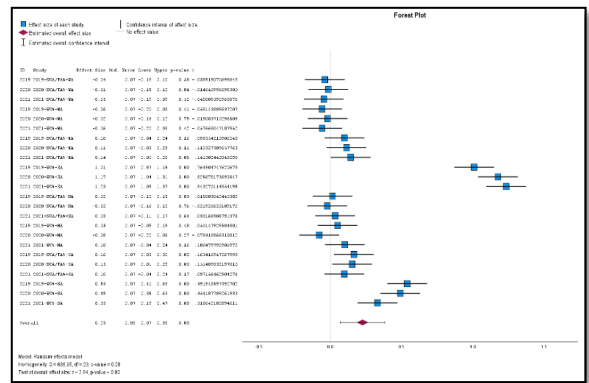


Fig. 13. Meta-Regression Prediction Line using Random-Effect Model

3.4. Testing the Hypothesis using Meta-Analysis

The research study further analyzed the research data using Structural Equation Modelling (SEM). The IBM SPSS v29 software was deployed to conduct the related SEM. The hypothesis “Working capital management has a significant impact on business sustainability” was tested and various statistical techniques in the software were used to validate the consistency of the findings as shown below. The research study established two categories of data sets—disaggregated and aggregated.

Table 17. Descriptive Statistics, Model Summary, ANOVA, Correlations

1. Descriptive Statistics										
	Mean	Std. Deviation	N							
NCA/TA% (CG-r)	.057577589478430	.078161657276557	12							
WC% (TG-r)	.302995392897413	.363307728470368	12							

2. Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change	Durbin-Watson
						F Change	df1	df2		
1	.861 ^a	.741	.715	.0417	.741	28.644	1	10	<.001	.396

a. Predictors: (Constant), WC% (TG-r) b. Dependent Variable: NCA/TA% (CG-r)

3. ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.050	1	.050	28.644	<.001 ^b
	Residual	.017	10	.002		
	Total	.067	11			

a. Dependent Variable: NCA/TA% (CG-r) b. Predictors: (Constant), WC% (TG-r)

4. Correlations ^a									
Model		Unstandardized Coefficients		Standardized Coefficients			Correlations		
		B	Std. Error	Beta	t	Sig.	Zero-Order	Partial	Part
1	(Constant)	.001	.016	.091	.929				
	WC%(TG-r)	.185	.035	.861	5.352	<.001	.861	.861	.861

5. Coefficient Correlations ^a			
Model		Coefficient Correlations	WC% (TG-r)
1	Correlations		1.000
	Covariance		.001

a. Dependent Variable: NCA/TA% (CG-r)

6. Collinearity Diagnostics ^a					
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	WC% (TG-r)
1	1	1.657	1.000	.17	.17
	2	.343	2.197	.83	.83

a. Dependent Variable: NCA/TA% (CG-r)

Table 18. Aggregated Data: Working Capital% (Independent Variable)- West, East, North and South Sub regions

Study Label	Observation(r)	N	Effect Size (Zr)	Weighted (W)	Weighted Effect Size	Std Error
2019-NCA/TA%-WA	-0.04	16	-0.04	13	-0.51	0.07
2020- NCA/TA%-WA	-0.01	16	-0.01	13	-0.19	0.07
2021- NCA/TA%-WA	-0.05	16	-0.05	13	-0.60	0.07
2019-WC%-WA	-0.06	16	-0.06	13	-0.76	0.07
2020-WC%-WA	-0.02	16	-0.02	13	-0.25	0.07
2021-WC%-WA	-0.06	16	-0.06	13	-0.75	0.07
2019- NCA/TA%-EA	0.10	18	0.10	15	1.48	0.07
2020- NCA/TA%-EA	0.11	18	0.11	15	1.69	0.07
2021- NCA/TA%-EA	0.14	18	0.14	15	2.13	0.07
2019-WC%-EA	0.76	18	1.01	15	15.12	0.07
2020-WC%-EA	0.83	18	1.17	15	17.62	0.07
2021-WC%-EA	0.84	18	1.23	15	18.49	0.07
2019- NCA/TA%-NA	0.02	6	0.02	3	0.05	0.07
2020- NCA/TA%-NA	-0.02	6	-0.02	3	-0.07	0.07
2021- NCA/TA%-NA	0.03	6	0.03	3	0.10	0.07
2019-WC%-NA	0.05	6	0.05	3	0.15	0.07
2020-WC%-NA	-0.08	6	-0.08	3	-0.24	0.07
2021-WC%-NA	0.10	6	0.10	3	0.30	0.07
2019- NCA/TA%-SA	0.16	5	0.16	2	0.33	0.07
2020- NCA/TA%-SA	0.15	5	0.15	2	0.31	0.07
2021- NCA/TA%-SA	0.10	5	0.10	2	0.19	0.07
2019-WC%-SA	0.49	5	0.54	2	1.08	0.07
2020-WC%-SA	0.45	5	0.49	2	0.98	0.07
2021-WC%-SA	0.32	5	0.33	2	0.66	0.07

Source: Research Data Analysis, 2022

Table 19. Meta-Analysis: Testing using Regression and Continuous Outcomes with Pre-calculated Effect Sizes**1. Meta-Analysis: Regression****Model Summary**

Effect Size	Effect Size (Zr)
Standard Error	Std Error
Model	Random-effects meta-regression
Method	REML
SE adjustment	None

2. Case Processing Summary

	N	Percent
Included	24	100.0%
Excluded	0	0.0%
Total	24	100.0%

3. Test of Residual Homogeneity

Chi-square (Q statistic)	df	Sig.
5.025	19	.999

Tests the null hypothesis that tau-squared is equal to 0

4. Meta-Analysis: Continuous Outcomes with Pre-Calculated Effect Sizes**Meta-Analysis Summary**

Data Type	Pre-calculated
Outcome Type	Continuous
Effect Size Measure	Effect Size (Zr)
Model	Random effects
Weight	Inverse-variance ^a
Estimation Method	Empirical Bayes
Standard Error Adjustment	None

a. Random-effects weights including both within- and between-studyvariance

5. Case Processing Summary

	N	Percent
Included	24	100.0%
Missing	0	0.0%
Invalid ^a	0	0.0%
Total	24	100.0%

a. No positive variance or standard error.

6. Effect Size Estimates

	Effect Size	Std. Error	Z	Sig. (2-tailed)	95% Confidence Interval		95% Prediction Interval ^a	
					Lower	Upper	Lower	Upper
Overall	.225	.0793	2.841	.004	.070	.381	-.583	1.034

a. Based on t-distribution.

7. Test of Homogeneity

	Chi-square (Q Statistic)	df	Sig.
Overall	686.955	23	<.001

3.4.1. Category 1 – Disaggregated Dataset

The category one (1) data set for this research study is the separation of the independent variable (working capital %) from the dependent variable (i.e., net current assets to total assets %). The period covered for these data is from 2019 to 2021 of entities across the African sub regions as shown in table 15 (dependent variable) and table 16 (independent variable).

Table 17 shows the various techniques performed on the dataset to test the hypothesis as well as provide further statistical analysis to address the research questions. Furthermore, Fig. 12 shows the relationship between the dependent and independent variables. The result of the tests indicated that working capital management has a significant impact on business sustainability.

3.4.2. Category 2 – Aggregated Dataset

The category two (2) data set for this research study is the aggregation of the independent variable (working capital %) and the dependent variable (i.e., net current assets to total assets %). The period covered for these data is from 2019 to 2021 of entities across the African sub regions as shown in table 18.

Table 19 shows the additional techniques performed to test the hypothesis as well as provide further meta-analysis to address the research questions. Furthermore, Fig. 13 shows the meta-regression prediction line using the random-effect model—this shows a visual clustering of the tested variables indicating a significant relationship. The result of the tests indicates that working capital management has a significant impact on business sustainability.

Table 20. Research Limitations, Working Assumptions and Strategy

S/N	Simulated Limitation	Working Assumption	Strategy Adopted
1	Use of divergent accounting standards by countries for the financial reporting of working capital components.	The accounting standards applied by a business entity operating in a particular jurisdiction are as prescribed and approved by the body responsible for setting accounting standards in that jurisdiction.	The researcher carried out analysis on a case-by-case basis with consideration for the unique accounting practices in the jurisdiction.
2	Possible delay in the publication of financial statements of business entity.	The delay is permitted (with possible sanctions) within the accounting/reporting practices in that jurisdiction.	The researcher ensured that the selected business entities were those with published audited financial statements.
3	Possible restatement due to changes in accounting policies/ standards for the treatment of working capital components in the published financial statements.	The restatement is permitted within the accounting/reporting practices in that jurisdiction.	The researcher relied on the latest/ updated/ restated published audited financial statements.
4	Divergent official languages in African countries.	Having financial statements written language other than English is permitted within the accounting /reporting practices in that jurisdiction.	The researcher relied on the English-translated audited financial statements.
	Major official languages include Arabic, French, English, and Portuguese. Thereby, the possibility of having financial statements written and published in a language other than English for some non- English-speaking countries in Africa is covered in the research sample.		Considering that the research report was to be produced in the English language.
5	Possibility of not having business entities in the real sector (agribusiness) listed on the stock exchanges for the selected sampled African countries.	Not having sufficient listed business entities in the real sector (agribusiness) is permitted within the regulatory framework in that jurisdiction.	The researcher relied on the general accounting practices of subsisting business entities with a degree of public significance.

Source: Researcher's Assessment – 2021 and Research Data Analysis 2022

4. Conclusions

From the reviewed accounting standards of the selected entities across the African Continent, the accounting standards for each component of the working capital moderated the relationship between working capital and business sustainability.

Working capital management has a significant impact on business sustainability, considering that the shape of the line showing the systematic movement in the net current assets to total assets (explaining the business sustainability variable) are nearly proportionally the same as that of the working capital (explaining the working capital management efficiency) on a three-year comparison within the scope of the research study. Furthermore, this finding is consistent with the meta-analysis that was performed to test the formulated hypothesis. This conclusion shows consistency among the selected entities across the African continent-- West, East, South and North Sub regions.

Business leaders and those charged with governance should continuously ensure optimal business engineering by integrating the entire business process, people, and technology. Furthermore, they are expected to ensure effective working capital management which subsequently translates to business sustainability.

Supporting Information

The researcher encountered some limitations – no doubt, this is peculiar to most research studies. For example, concerning accounting standards, some countries prescribe the use of

either Generally Accepted Accounting Principles (GAAP)/ national accounting standards issued by the national accounting/reporting standards board of the jurisdiction, or the International Financial Reporting Standards (IFRS)/ International Accounting Standards (IAS) issued by the IFRS Foundation and the International Accounting Standards Board (IASB).

The complexity of the divergent application of accounting standards posed challenges concerning the moderating variable. However, the researcher has identified strategies based on the assumptions that helped address the limitations—as shown in table 20.

Furthermore, it is expected that future research should endeavour to consider the expansion of the variables across the other real sector other than agribusiness; at least to test the consistency of findings as to the impact of working capital on business sustainability.

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Conflicts of Interest

The authors declare no conflict of interest.

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