The Impact of Working Capital Management on the Profitability of Small and Medium Enterprises (SMEs) in the Fishing Industry in Morocco

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Abstract

In today's fast-paced business environment, characterised by shifting business models and increasing competition, working capital management (WCM) has become central to creating business value. This thesis focuses on analysing the impact of WCM practices on profitability within the Moroccan fishing small and medium enterprise (SME) sector. Further, it explores the moderating effects of institutional support, bureaucratic corruption and corporate governance on the association between WCM and profitability. To achieve its goals, this research adopts a quantitative research approach, employing sequential mixed-methods quantitative data collection that combines both primary and secondary data, enabling to conduct of more sophisticated analysis and modelling, leading to deeper insights and more reliable results. The data for the study is based on a sample of 100 small and medium fisheries observed over a six-year period from 2015 to 2020. The findings revealed a significant relationship between four WCM components (cash conversion cycle, days payables outstanding, days inventory outstanding and days sales outstanding) and profitability. Moreover, it was revealed that corporate governance and bureaucratic corruption, when included as moderating variables, have negatively influenced the relationship between WCM and profitability, while institutional support, on the other hand, has a positive moderating effect. This thesis contributes to the literature on WCM and profitability by extending the theory of cash conversion cycle to provide a more comprehensive explanation of financial management practices in small fishery businesses. Furthermore, this study offers a new developing-country perspective to account for firm-specific characteristics and contextual factors in the capital management of small fishery businesses. Finally, the study has significant practical implications relevant for academics, practitioners, and regulators, as it provides valuable insights informing the development of more effective policies to enhance the competitiveness and long-term sustainability of small and medium fisheries in Morocco.

Keywords: Working capital management, Profitability, Small and medium fisheries, Bureaucratic corruption, Institutional support, Corporate governance.

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List of Acronyms and Abbreviations

ABII	Applied Business Intelligence Inform
AEM	Accrual Earnings Management
AfDB	African Development Bank
ANPME	National Agency for the Promotion of Small and Medium-sized Enterprises
ARB	Accounting Research Bulletin
BCI	Bureaucratic Corruption Index
CCC	Cash Conversion Cycle
CCG	Central Guarantee Fund
CEO	Chief Executive Officer
CFO	Corporate Finance Officer
CG	Corporate Governance
CGEM	General Confederation of Enterprises in Morocco
CGI	Corporate Governance Index
CURR_RAT	Liquidity Ratio
DEBT_RAT	Financial Leverage
DIO	Days Inventory Outstanding
DPM	Département de la Pêche Maritime
DPO	Days Payables Outstanding
DSO	Days Sales Outstanding
FE	Fixed Effects
FIRM_SIZE	Firm Size
FMCG	Fast-Moving Consumer Goods
GDP	Gross Domestic Product
GFCM	General Fisheries Commission for the Mediterranean
GMM	Generalized Method of Moments

GRWCE	Gross Working Capital Efficiency
ICGI	Indian Corporate Governance Index
ISI	Institutional Support Index
JIT	Just In Time
KMO	Kaiser-Meyer-Olkin
KSE	Karachi Stock Exchange
MAD	Moroccan Dirham
MAPDRE&F	Ministère de l'Agriculture, de la Pêche Maritime, du Développement Rural et des Eaux et Forêts
MENA	Middle East and North Africa
MSEs	Micro and Small Enterprises
MSME	Micro Small and Medium Enterprise
NASDAQ OMX	National Association of Securities Dealers Automated Quotations
NWC	Net Working Capital
OLS	Ordinary Least Squares
OMPIC	Moroccan Office of Industrial and Commercial Property
PCA	Principal Component Analysis
PCGs	Partial Credit Guarantees
RE	Random Effects
ROA	Return on Assets
ROE	Return on Equity
SME	Small and Medium Enterprise
TCGI	Turkey Corporate Governance Index
WCM	Working Capital Management
WCREQ	Working Capital Requirement

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Chapter 1

1. Introduction

This chapter of the thesis sets the scene, drawing on the relationship between working capital management (WCM) and the profitability of small and medium enterprises (SMEs) in Morocco's fishing industry. It outlines the aim of the study, the research objectives, and the research questions, then highlights the knowledge gap followed by a discussion of research contributions and practical implications. Then, it offers a general overview of the research context. The chapter concludes with a summary outlining the structure of the subsequent chapters.

The crisis caused by the COVID-19 pandemic came little more than a decade after the global financial crisis. It resulted in significant disruptions to supply chains and caused one of the sharpest stock market declines in history, with over 20% loss in value (Farzadi et al., 2021). The crisis has been compounded by the war in Ukraine and prolonged supply chain bottlenecks, leading to soaring energy prices and inflation (Morgan, 2022), which have had adverse effects on businesses across various sectors and economies, causing declines in financial markets, domestic consumption, and business sales (Demirgüç-Kunt et al., 2021; Liu et al., 2020; Shen et al., 2020). The decline in sales has significantly affected the working capital performance of businesses, leading to excess inventory levels and unpaid trade receivables. Additionally, the decline in acquisitions of products has resulted in a reduction in trade payables, increasing the likelihood of default (Raddatz, 2010). The value of firms' assets has decreased due to economic interruptions, impacting their short-term capital requirements and making them ineffective in WCM (Almaghrabi, 2022). SMEs usually have lower cash reserves, which makes them more vulnerable to customers' delayed payments and results in a rise in accounts receivable and payable days (Chilwana, 2021). Consequently, companies' net working capital (NWC) days reached a five-year high in 2020 (Farzadi et al., 2021).

During periods of economic downturns, many companies experience heightened liquidity constraints as cash becomes a scarce commodity due to stringent credit market conditions and reduced demand (Enqvist et al., 2014). Reduced demand rapidly depletes businesses' working capital, posing a threat to their stability. This, in turn, affects their crucial role as creators of jobs and revenue generators, and underscores the critical significance of adept WCM practices. WCM refers to the managing of short-term financing of the business, that is, current assets and current liabilities (KPMG, 2021), and it directly impacts the firm's liquidity, solvency, and profitability (Akbar et al., 2021). Effective WCM involves determining appropriate cash levels, extending credit, overseeing inventory, ensuring timely conversion of accounts receivable and inventory into cash, making prompt payments to accounts payable, securing access to bank credit lines, investing in highly liquid securities, making informed decisions on cash generation methods, and renegotiating long-term liabilities (Fazzari et al., 2000).

It is thus imperative for financial managers to possess a comprehensive understanding of the tools essential for proficient WCM and of the internal and external variables influencing the need for NWC. Effective WCM is crucial if companies are to minimize risk of failure and increase profitability in the face of rapidly changing business environments and disruptions in global supply chains (Enqvist et al., 2014). To accomplish long-term growth, companies must consistently employ sound working capital strategies, as establishing an optimal level of net working capital leads to cost optimization in their management and maintenance of financial liquidity (Zimon & Dankiewicz, 2020). This research argues that efficient WCM facilitates the proper running of operations and helps to increase the company's earnings and profit. By implementing a strong cash management system, firms have an opportunity to control financial risk and improve operational efficiency. Research emphasises the importance of WCM efficacy (Golaś, 2020). This research acknowledges that WCM is a significant factor to consider when comparing the liquidity and profitability of different companies (Eljelly, 2004) and making a choice, based on the total quantity, structure, and financing of current resources (Boisjoly et al., 2020). Each element of WCM,

including cash, accounts payable, accounts receivable, and inventory management, is critical to the overall functioning of any company (Akbar et al., 2021).

Existing literature on corporate finance has demonstrated that effective WCM can influence a firm's performance by the effect it has on current assets, short-term liabilities, revenues, and operating costs (Braimah et al., 2021; Sensini & Vazquez, 2021). Optimising WCM is a vital component in a company's broader strategy for maximising shareholder value (Nazir & Afza, 2009). Hence, the endeavour by businesses to retain an ideal working capital in order to optimise their overall worth (Deloof, 2003). Previous research has primarily focused on the influence of WCM on the profitability of large corporations (Chiou et al., 2006; Emery, 1987; Falope & Ajilore, 2009; García-Teruel & Martínez-Solano, 2007). The public availability of information on large companies has facilitated a sufficient grasp and awareness of their WCM strategies (Tingbani, 2015). In contrast, the limited resources of SMEs have made it difficult for researchers to conduct studies on them, and hence, information on their WCM policies is less readily available (Afrifa, 2015). This lack of accessible, formal, reliable, and current sector-specific databases further compounds the challenge of understanding and analysing the operational strategies and financial practices of SMEs. For SMEs with limited resources, including management competency and cash flow, understanding the significance of WCM and its contribution to profitability is crucial (Sardo & Serrasqueiro, 2021). Further research is necessary to gain a full understanding of the importance of WCM and its components in the context of SMEs.

Recent research studies have examined the relationship between WCM and corporate profitability, primarily from the perspective of developed economies such as the US, UK, and China (Baños-Caballero et al., 2014; Dalci et al., 2019; Enqvist et al., 2014; Laghari & Chengang, 2019; Mahmood et al., 2022; Tsuruta, 2018). A limited number of studies have explored the relationship in emerging economies. For example, Amponsah-Kwatiah and Asiamah (2021) explored the effect of WCM on the profitability of listed manufacturing firms in Ghana. Amponsah-Kwatiah and Asiamah explained that efficient

WCM could minimize a firm's reliance on short-term borrowing, lowering interest costs and boosting profitability, which ultimately supports increased productivity and better meet consumer needs. Similarly, Tarek and Rafik (2020) conducted a study to evaluate the impact of WCM on the performance of manufacturing firms listed on the Egyptian stock exchange. They concluded that managing WCM components efficiently can significantly improve a firm's financial performance and stock prices. Likewise, Ukaegbu (2014) studied manufacturing firms across Egypt, Kenya, Nigeria, and South Africa, noting that the level of financial system development directly influenced the efficiency of WCM and its impact on profitability. While these studies provide valuable insights into WCM in various emerging economies, Morocco represents a unique context that differs in several ways. Unlike the manufacturing sectors studied in Ghana, Nigeria, Kenya, Egypt and South Africa, this research focuses on the fisheries sector in Morocco, which is resource-dependent and subject to highly seasonal and unpredictable conditions. This industry faces distinct challenges, such as fluctuating fish availability, weak governance mechanisms, low liquidity, irregular cash flows, and the perishable nature of its product (Hanine et al., 2023; Rey-Ares et al., 2021; Sater, 2009). Moreover, Morocco's weak legal protection of corporate shareholders and creditors makes financing through credit more appealing to firms, adding further complexity to managing working capital efficiently (Hanine et al., 2023; Sater, 2009). Accordingly, this research aims to gather and consolidate data and information on small-scale fisheries in Morocco and to address the gap in understanding the WCM approaches in this industry.

The failure rate of SMEs remains high globally (Yang et al., 2018), and various determinants of success (Songling et al., 2018) and failure (Gupta & Gregoriou, 2018) have been discussed. Numerous internal and external factors hinder the growth of most SMEs, ultimately affecting their financial decisions and profitability (Justino, 2015). Profit depletion in small businesses is often the result of factors such as bureaucratic corruption, poor corporate governance, and lack of institutional support, which interfere with the working capital system, leading to cash flow shortages and a decline in sales (Nieman &

Nieuwenhuizen, 2009). The research posits that weak governance quality can boost the likelihood of corrupt practices among entrepreneurs, resulting in reducing business value maximizations (Gulzar & Haque, 2023); however, the existence of robust government support creates an environment conducive to sound financial decision-making, empowering businesses to implement effective working capital management practices, and therefore increasing their market shares. Previous studies have mainly focused on establishing a direct connection between WCM and profitability, and there has been no clear consensus on the potential interaction effect of factors such as corporate governance, bureaucratic corruption, and institutional support in this relationship.

In Morocco, the implementation of good corporate governance may significantly benefit the SME sector by introducing improved management procedures, enhanced internal audits, and increased prospects for development (Akomea-Frimpong et al., 2022). Despite these potential benefits, Morocco encounters a fragile corporate governance framework, which could undermine the efficiency of the cash conversion cycle. Moreover, within the fishing industry, there exists a notable absence of comprehensive benchmarks tailored to guide SMEs in governance practices, posing a challenge to their development and sustainability. This deficiency obstructs the capacity to evaluate and convey the extent of governance practices implemented, consequently restricting vital information accessible to shareholders, policy makers, and other stakeholders involved in the fishing sector. Additionally, the presence of bureaucratic corruption has substantial consequences for SMEs in Morocco (Denoeux, 2007). Research suggests that corruption often impedes the progress and advancement of SMEs (Amin & Motta, 2023), creating inconvenient obstacles and additional expenses. Moreover, the absence of a comprehensive index or measurement specifically tailored to evaluating bureaucratic corruption in small and medium fisheries results in a lack of comprehensive understanding and a shortage of policymaking based on solid evidence. The presence of institutional support is a factor that has significant consequences for the SME sector (Jayeola et al., 2022). Institutional support plays a crucial role in equipping SMEs with the essential resources, advice, and regulatory

structures needed for their success (Jayeola et al., 2022). Once again, the lack of a specialized index or measurement mechanism to assess the extent of institutional assistance provided to small- and medium-sized fisheries is a significant issue. Such an index would provide valuable analysis of the advantages and disadvantages of the support ecosystem, enabling stakeholders to make well-informed choices.

This study seeks to address this discrepancy in research by employing a sophisticated modelling technique through the construction of composite single indices corresponding to each separate moderating factor (bureaucratic corruption, institutional support, and corporate governance) to examine the interaction effect of these factors on the relationship between WCM and profitability of small- and medium-sized fisheries in the Moroccan setting.

1.1 Aim

The overarching aim of this research is to extend our understanding of the WCM and firm profitability relationship, while examining the moderating influence of firm-specific characteristics and contextual factors that contribute to decoding the mechanisms behind the relationship between WCM and profitability. Specifically, the study endeavours to determine the moderating role of bureaucratic corruption, institutional support, and corporate governance factors in the relationship between WCM and profitability of SMEs in Morocco's fishing industry.

1.2 Research objectives

To achieve this aim, the following objectives are established:

1. To evaluate how WCM components, such as days inventory outstanding, days payable outstanding, days sales outstanding, and cash conversion cycle, affect the profitability of SMEs in Morocco's fishing industry.

2. To investigate how moderating factors, such as corporate governance, bureaucratic corruption, and institutional support, interact with the cash conversion cycle and impact the profitability of fishing SMEs in Morocco.
3. To develop a comprehensive model that considers the influence of WCM and moderating factors on the profitability of SMEs in emerging economies, with a specific emphasis on the Moroccan fishing industry.

To achieve the study's objectives, a deductive positivist approach was adopted. This approach was chosen as the research aims to establish an empirically based theoretical framework that can examine the extent to which the components of WCM, moderating factors, and firm characteristics influence firm profitability. While various micro and macro-level variables assist in determining the link between WCM and profitability (Vlismas, 2024), it is crucial to collect primary data on institutional support, bureaucratic corruption, and corporate governance to capture the impact of moderating factors on the relationship between WCM and the profitability of fishing SMEs. Therefore, integrating primary data with financial firm-level data enables the conduct of more sophisticated analysis and modelling, leading to deeper insights and more reliable results (Wooldridge, 2010).

1.3 Research questions

The aforementioned research objectives give rise to pertinent inquiries that this study endeavours to address. The research questions are as follows:

1. What is the nature of the relationship between WCM components and the profitability of SMEs in Morocco's fishing industry?
2. To what extent do the multiple moderating factors associated with the cash conversion cycle impact the profitability of SMEs in Morocco's fishing industry?
3. What action can improve the WCM and profitability of SMEs in Morocco's fishing industry?

The first question focuses on the relationship between short-term financial indicators versus profitability to find a competitive differentiator. More specifically, this analysis examines whether WCM policies and practices affect the economic profitability of SMEs in Morocco's fishing industry. While learning about the interlinkage between WCM components and firm profitability, it proposes to gain a comprehensive understanding of how the individual WCM components shape the financial performance of SMEs in the Moroccan fishing sector. This exploration provides valuable guidance for the fishing sector, emphasizing the importance of effective WCM decisions, and advancing our understanding of managerial ability in financial decision-making.

The second question extends beyond the traditional relationship between WCM and firm profitability to examine the effect of environmental and firm-level factors on the effectiveness of WCM and firm profitability. While the fishing sector is a volatile industry of external and internal factors, the WCM can be challenging which may then affect the performance and long-term viability of fisheries. Thus, this analysis focuses on the impact of the cash conversion cycle, considered as the primary component of WCM, in conjunction with moderating factors such as bureaucratic corruption, institutional support, and corporate governance, on the profitability patterns of small-scale fisheries. This expanded analysis seeks to offer a more holistic view of how the cash conversion cycle interacts with external and internal factors to influence firm profitability.

The third question of this research project takes a more applied and solution-oriented approach, aiming to identify practical strategies that can help sustain profitability and improve the overall performance of SMEs operating in the fishing industry by developing a comprehensive set of practical strategies and interventions that they can implement to optimize their WCM practices, while leveraging contextual factors, such as bureaucratic corruption, institutional support, and corporate governance. This analysis is useful for providing policymakers and financial managers with a complete overview of the linkages

between contextual and firm-level effects to understand the context-driven relationship between financial management and profitability.

1.4 Knowledge gap

Previous studies have predominantly concentrated on the financial management practices of large corporations, neglecting empirical insights into WCM and profitability dynamics within small-scale enterprises, particularly in the fishing sector. While existing studies by scholars like Singhania and Mehta (2017), Anwar (2018), Wanguu and Kipkirui (2015), and Waema and Nasieku (2016) have explored WCM, their focus has been primarily on listed and manufacturing firms, overlooking the impact of WCM strategies on the profit performance of SMEs. This research responds to the call for more investigation into the impact of WCM on profitability in complex industries, as highlighted by Rey-Ares et al. (2021) and aims to explore the combined and interactive effects of various contextual factors and WCM on the profitability of SMEs in the Moroccan fishing industry.

1.5 Contributions and practical implications

This study contributes to the existing literature on WCM and profitability in three key ways. First, the primary emphasis is on the fishing sector, a food industry that has received limited attention in the literature on this topic despite the increase in studies on the WCM–profitability relationship since 2008 (Fernández-López et al., 2020; Singh & Kumar, 2014). However, several gaps remain in the existing research (Chaddad & Mondelli, 2013; García-Teruel & Martínez-Solano, 2007; Gill et al., 2010). The first of these is the use of a sample of listed firms, primarily in developed countries. However, WCM arguably is more relevant for SMEs in emerging economies, typically non-listed firms. Additionally, previous analyses have been conducted on companies from a range of industries, looking at the substantial differences in working capital investment and financing strategies across industries (Rey-Ares et al., 2021). This creates industry-specific benchmarks firms follow when setting their working capital investment policies (Hawawini et al., 1986). However, there is a conspicuous lack of research on WCM practices in SMEs in the fishing industry.

It is crucial to address this gap in the literature. This study will provide contextual knowledge by examining rarely studied contexts and contribute to research by providing new perspectives and insights into financial management practices and strategies that are specific to SMEs in emerging economies.

Second, this thesis expands upon the cash conversion cycle theory by showing its applicability and expanding its scope to explain better financial management practices in small- and medium-scale fisheries operating in emerging markets. It suggests that the characteristics of the Moroccan business environment, such as issues with bureaucratic corruption, institutional support, and corporate governance, influence WCM practices and strategies of SMEs in the fishing sector. This study's framework, which introduces firm-level and country-specific characteristics moderators, will serve as an essential guide to a wide range of individuals engaged in research, accounting, financial management, and policymaking in the fishing sector and predict how adverse factors such as these can impact the relationship between WCM and profitability in the fishing sector.

Third, this research's findings shed new insights into the working capital literature. The study adopts a comprehensive approach by examining firm and country-level factors that influence WCM practices. Thus, this multifaceted perspective has significant effects on various individuals. Specifically, the findings emphasise to financial managers and corporate decision-makers the strategic significance of harmonising working capital practices with internal financial strategies and the external institutional and regulatory landscape influencing the firm's operations. Thus, it will assist SMEs in implementing practical managerial strategies and provide valuable professional knowledge for efficient managerial operations. Furthermore, this research will assist in ameliorating poor bookkeeping and accounting practices in SMEs. Moreover, it will guide government institutions and organisations on efficient actions to enhance the growth and development of SMEs and support the key priorities of the Blue Economy (BE) programme, aiming to assist Morocco's institutional frameworks and improve the utilisation of resources in the

Moroccan fish and seafood processing value chain (World Bank, 2023). It will also substantiate the second-phase framework of the Industrial Acceleration Plan (2021–2025), a Moroccan industrial-reform policy planning to integrate SMEs in various industries.

Finally, this thesis has important implications for practitioners and regulators. The study provides valuable insights for small owner-managers in the fishing sector. It enables managers to identify the circumstances in which firms operate more effectively as decision-making groups and the factors that may enhance or hinder their ability to improve profitability through working capital investment. The research aims to encourage small business owners to adopt particular working capital strategies that consider their suppliers' and customers' varying levels of financial stability (Hofmann et al., 2022). Additionally, it intends to provide policy recommendations for government organisations and responsible authorities, which are critical in fostering the growth of small-scale enterprises, particularly in low-income settings (Songling et al., 2018). The timing of this study is particularly relevant, as the Moroccan government is currently investing resources to support the fishing sector's contribution to the country's economy. This research aligns with key strategies and instruments related to three programmes: the Industrial Acceleration Plan (2021–2025), the BE programme, and the Halieutis Plan.

1.6 Research context

Morocco, with a gross domestic product (GDP) of 101 billion US dollars in 2016, ranks as the sixth largest economy in Africa. The country's population of approximately 37 million people (2017) enjoys an average life expectancy of 74 years (2015). The unemployment rate, at just under 10%, remains a challenge for the country. Nevertheless, the government succeeded in reducing the poverty rate to 4.8% in 2014, and it claims to have eradicated extreme poverty. The country is viewed as a regional economic and financial hub with a well-diversified economy characterised by a dynamic banking and financial sector and a positive economic outlook. Micro SMEs (MSMEs) constitute a crucial component of the Moroccan economy, contributing over 50% to total employment, more than 20% to GDP,

and more than 30% to exports (World Bank, 2018). As of 2018, SMEs accounted for over 90% of Morocco's total operating businesses. More recently, MSMEs (both formal and informal) have been estimated to account for 35.7% of GDP and more than 73% of jobs in the kingdom (African Development Bank Group, 2021).

Morocco's coastline stretches for nearly 3,500 km, bordering both the Atlantic Ocean and the Mediterranean Sea, which places it among the top five regions globally with renewable fish production capacity. The country ranks 18th globally in fish production and leads the Arab world, with the fishing industry constituting 58% of food exports. In 2019, the maritime fisheries sector produced 1.46 million tons valued at nearly MAD (Moroccan dirham) 11.7 billion ($1.2 billion) and employed approximately three million people. The sector, including fishing and its processing facilities, is crucial for the economic and social growth of Morocco. (Bailey, 1998) notes that small-scale fisheries provide significant employment opportunities in coastal areas, including direct and indirect employment along the value chain, such as making and mending fishing gear and selling and processing fish. The unique operations of this sector result in a greater level of complexity in implementing WCM than other food industries, as noted by Rey-Ares et al. (2021). This increased complexity can be attributed to the following factors:

a. One of the main factors contributing to the increased complexity of implementing WCM in small-scale fisheries is the significant decoupling between the various processes involved in their daily operations. Although revenues and processing are consistent throughout the year, the supply of raw materials follows a seasonal pattern, occurring within short timeframes. As a result, there may be an increased need for financing during certain periods.

b. The second contributory factor to the complexity of WCM implementation in the sector is the heavy reliance on natural resources as raw materials, which makes it challenging to regulate their production volume and quality, except in the case of

aquaculture (Davis & Song, 2006). This creates a level of uncertainty in production. Additionally, the Moroccan fishing industry depends heavily on foreign demand for various fish products, and this can be impacted by macroeconomic factors such as inflation and supply chain disruptions (FAO, 2015). This further exacerbates the uncertainty surrounding the core business operations of companies in this sector.

c. Another contributory factor is the presence of well-established competitors in developed countries such as Spain, Italy, and the USA, who utilise modern technology in their production processes. In contrast, low-income countries rely on traditional, low-technology or passive fishing gear for their production activities (FAO, 2015).

d. Lastly, weak corporate governance, combined with the unanticipated impacts of bureaucratic regulations, increases the vulnerability of small-scale fisheries and reduces their ability to withstand external shocks, ultimately resulting in reduced liquidity and lengthy payment periods.

To sum up, the small-scale fisheries sector faces a number of challenges, which makes it crucial to explore the relationship between WCM and the profitability of these fisheries, especially given that the industry is primarily composed of SMEs, where effective WCM practices are particularly relevant.

1.7 Thesis structure

This thesis comprises seven chapters, which are as follows, to achieve the research objectives.

Chapter 1: Introduction

This first chapter serves as an introduction to the study and is where the background and justification for the research are presented. The gaps in existing literature are identified and explained, and the research questions, aims, and objectives are introduced. The chapter covers the study's contributions, such as theoretical insights, the knowledge gap, and

research implications. Lastly, the thesis structure is outlined, and a summary is provided of the contribution of each chapter towards achieving the objectives.

Chapter 2: Literature Review

The literature review chapter introduces the key concepts, portfolio components, and policies around WCM, and it extensively covers the gradual development of the WCM topic, with an emphasis on WCM in specific contexts from the 19th century to the present. It also comprehensively addresses the influencing factors of WCM practices and thoroughly explores the theoretical foundations proposed to describe the direct and indirect relationships between various elements of WCM and profitability. The theories discussed include the cash conversion cycle theory, the transaction cost theory, and the institutional theory. In summary, the literature review chapter aims to provide an in-depth analysis of the current research on the WCM–profitability link and the influence of moderating factors on this association.

Chapter 3: Hypotheses Development

This chapter offers a thorough examination of several components of WCM, including the cash conversion cycle, accounts receivable, accounts payable, and inventory management, and their relationship with profitability. It also examines how institutional support, bureaucratic corruption, and corporate governance interact with the cash conversion cycle and affect profitability. It concludes by providing the theoretical framework and hypothesis for the study.

Chapter 4: Research Methodology

The research methodology chapter comprehensively explains the research philosophy, research approach, and research design adopted in this thesis. It provides an overview of the sampling procedure employed for data collection, encompassing primary and secondary data. Additionally, the chapter introduces the procedures for quantitative analysis, including questionnaire analysis and multivariate analysis. In summary, the chapter aims to explain and support the research approach utilised for verifying and evaluating the designed conceptual model.

Chapter 5:Findings and Analysis

This chapter presents the analysis and empirical findings concerning the relationship between working capital management (WCM), moderating factors, and profitability. It begins with an examination of the survey data, including participant response rates, internal validity, and descriptive statistics, to establish the reliability of the dataset. Principal Component Analysis (PCA) is employed to construct indices for bureaucratic corruption, institutional support, and corporate governance, which are subsequently used in regression and correlation analyses. It then explores the direct impact of WCM components - days inventory outstanding (DIO), days payable outstanding (DPO), days sales outstanding (DSO), and the cash conversion cycle (CCC) - on profitability while controlling for variables identified in prior research. Additionally, the chapter provides an investigation of the moderating effects of corporate governance, institutional support, and bureaucratic corruption on the relationship between the CCC and profitability. Both static and dynamic models are utilised to provide a robust understanding of these relationships, with the dynamic system Generalized Method of Moments (GMM) panel analysis employed to address potential endogeneity and validate the findings through robustness checks.

Chapter 6: Discussion of Findings

This chapter provides a comprehensive discussion of the findings in Chapter 5. The chapter commences with the findings concerning research question 1, and discusses the implications of the findings, as well as comparing the findings with the extant working capital management literature. This is followed by a discussion of the findings concerning research question 2 in terms of the moderating effect of corporate governance, bureaucratic corruption, and institutional support in explaining the working capital management - profitability mechanism. The chapter concludes with a discussion of the working capital management and profitability framework.

Chapter 7: Conclusions

The chapter offers a summary of the study's key findings and implications. It then discusses the main research contributions and recommendations. Lastly, it outlines some limitations and proposes potential areas for future research.

Chapter 2

2. Literature Review

This chapter critically evaluates, analyses and synthesises various concepts related to working capital management (WCM). The review begins with an introduction of these key principles and concepts surrounding WCM, including its portfolio and policies, emphasising the importance of WCM on firm profitability. This is followed by a discussion on the evolution of WCM research and factors impacting WCM. Lastly, a review of several theoretical frameworks of WCM and profitability is presented, as proposed by prominent scholars, to understand their relevance in the context of small and medium fisheries operating in emerging economies.

2.1 The concept of working capital management

Although small businesses' performance levels have typically been linked to various managerial factors like production, advertising, and operations, it is important to recognise that WCM can significantly influence the survival and growth of small businesses (Sardo & Serrasqueiro, 2021). WCM is a crucial aspect of financial management, and the effective management of working capital can greatly influence a company's profitability and liquidity (Boisjoly, et al., 2020). Lack of adequate current assets can hinder a company's ability to sustain smooth operations and potentially raise the likelihood of bankruptcy (Baker et al., 2023). However, an abundance of liquidity can also adversely affect a business's profitability. The requirement to efficiently control the working capital of SMEs is crucial for maintaining their financial stability and ensuring their capacity to manage short-term obligations (Kasiran et al., 2016). Efficient WCM is a strategic approach that aims to optimize a firm's current assets and liabilities, such as inventory, accounts receivables, accounts payables, and short-term debt. Hence, a firm's profitability can be improved by both effective operations as well as using optimal WCM.

The objective of WCM is to ensure a seamless flow of capital through current assets and liabilities within a company. An elaborate illustration of the working capital cycle is

presented in Figure 2.1, showing cash flow movements within the company using arrows (Jaworski & Czerwonka, 2024). From a cash generation point of view the cash-absorbing elements of the Working Capital cycle are the Inventory (stocks, work-in-progress) and the Receivables (debtors), while the main sources of cash are the Payables (creditors), the Equity and the Loans. The figure indicates a constant cash flow to and from suppliers, creditors, customers, and debtors, emphasising the main goal of WCM, which is to synchronise the fluctuations of short-term assets and liabilities over a period. While the figure contributes to the understanding of the working capital, it has limitations when it comes to illustrating the intricate contextual factors influencing financial management decisions. Accordingly, it is essential to acknowledge that a considerable proportion of working capital policies can easily be hindered by firm level and business conditions (Anton & Nucu, 2022), which necessitates the importance of addressing these issues while determining and sustaining suitable working capital levels.

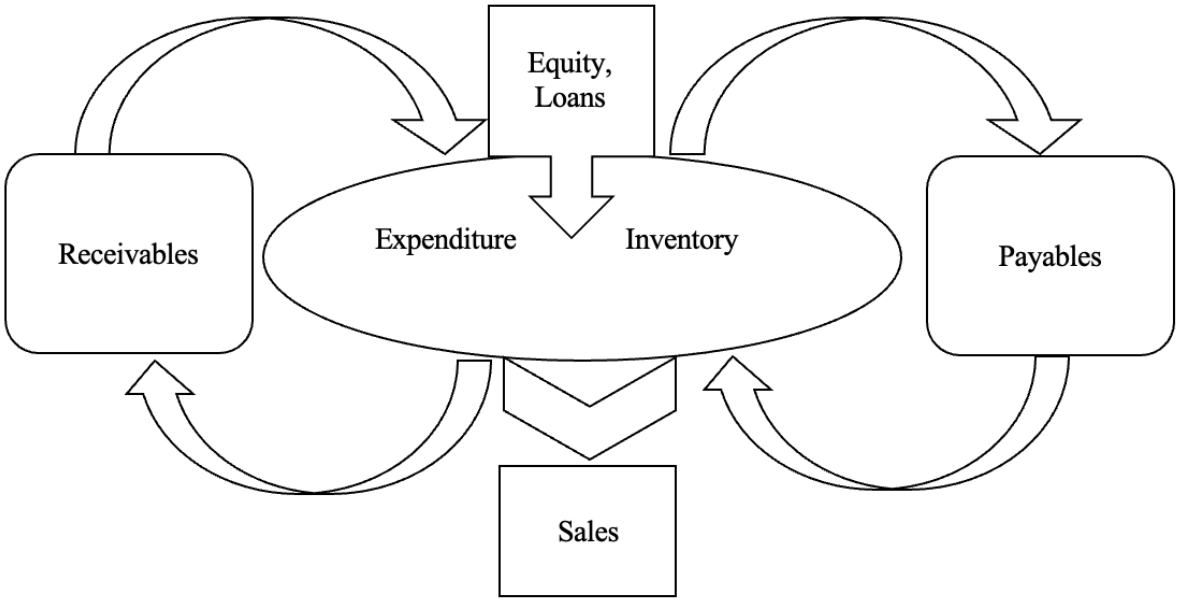

Figure 2.1 The working capital cycle

A compelling argument suggests that the varied investments in working capital can be ascribed to the moderating influences of different factors (Vlismas, 2024). Diverse environmental contexts and firm-specific characteristics may influence how a company

develops its value-creating profile and the corresponding working capital choices. Recent research by Baños-Caballero et al. (2020) indicates that countries with robust law enforcement and greater financial and economic development tend to have higher net working capital values. Moreover, corporate governance has been identified as a factor influencing efficiency in WCM (Gill & Biger, 2013). If these factors impact both long-and short-term capital structures, they may concurrently affect trade liabilities (and consequently trade receivables). This implies that the influence of these factors should be examined in the context of the association between profitability and WCM. In this regard, there is limited understanding regarding whether and how contextual factors elucidate observed disparities in working capital levels (Mättö & Niskanen, 2021), particularly within the SME sector.

While effective WCM is crucial for firms of all sizes competing in developed and developing nations, it holds particular significance for SMEs in emerging markets (Sensini & Vazquez, 2021). Typically, firms in emerging markets are small and need help accessing long-term capital markets. Consequently, they tend to depend more on business financing and short-term credit to fund their necessary investments in cash, accounts receivable, and inventory (Feversani et al., 2023). Nevertheless, the SME sector has a notably higher failure rate in comparison to larger enterprises. Ineffective management of working capital can significantly heighten the risk of financial liquidity shortages, which may compromise an SME's ability to meet its short-term obligations (Lazaridis & Tryfonidis, 2006; Golaś, 2020). Therefore, it is crucial for SMEs in emerging markets to ensure a proper synchronization of their assets and liabilities. While the significance of WCM for SMEs profitability in emerging markets is widely acknowledged, there remains to be more research in this area due to limited studies in developing economies. Consequently, there exists a gap in the literature regarding the impact of WCM on profitability (Singhania & Mehta, 2017).

Another aspect that should be considered in this study area is the need for more evidence concerning a specific industry (Musau, 2021). Most studies examine companies from various industries, disregarding their significant differences in working capital practices (Fernández-López et al., 2020). It is suggested that the fishing industry faces unique challenges in WCM due to the seasonal and unpredictable nature of fish supply, reliance on natural resources, and complex factors influencing energy use and emissions, which sets it apart from other food sectors (Hirsch & Gschwandtner, 2013; Rey-Ares et al., 2021). Therefore, understanding the financial dynamics of fisheries and how working capital influences broader issues becomes highly pertinent (Chaddad & Mondelli, 2013). Despite this, there needs to be more exploration of the relationship between WCM and profitability in the fishing industry (Rey-Ares et al., 2021), particularly within emerging markets.

2.2 Portfolio of working capital management

Efficient working capital management can be achieved by maintaining minimal levels of working capital, which helps reduce interest expenses and boost profitability (Jaworski & Czerwonka, 2024). This approach is essential for companies striving to enhance their financial performance and sustainability. Paying a special attention to the portfolio of cash, inventory, and trade credit policy is pivotal. Chakrabarty and Wang (2020) demonstrated that firms have adopted more aggressive working capital management strategies to reduce their investment in current assets. This approach, which certain firms adopt, may have an adverse effect on profitability. While maintaining a low level of current assets can reduce excess inventory and minimize holding costs, it may also lead to increased stockouts and liquidity constraints, posing significant challenges to the smooth functioning of business operations (Golaś, 2020). The primary objective of working capital management (WCM) is to achieve an optimal balance among its key components: accounts receivable, accounts payable, and inventory to ensure both operational efficiency and financial stability. To facilitate a reduction in financing cost and/or increase the funds available for the purpose of projects expansion of a firm, minimising the amount of investment engaged in current assets is required. Further to this, it is vital to recognize an optimal level of WCM cannot

be established without a balance between risk and efficiency. Thus, it demands consistent monitoring in order to achieve sustainability across various components of working capital including receivables and cash.

2.2.1 Cash management

Cash management is pivotal in working capital management, serving as a strategic tool to ensure the smooth functioning of day-to-day business operations (Dimitropoulos et al., 2020). Cash management policy is fundamentally shaped by two key decisions: determining the optimal level of investment in current assets and selecting the appropriate methods for financing these investments. The first decision involves balancing assets such as cash, accounts receivable, and inventory to ensure sufficient liquidity for day-to-day operations while avoiding the inefficiencies of overinvestment. The second decision focuses on whether to finance these assets through short-term liabilities, long-term debt, or equity, each of which carries varying implications for risk and cost (Kithinji et al., 2023)

The literature generally identifies three primary approaches to cash management: conservative, moderate, and aggressive strategies (Dimitropoulos et al., 2020; Kithinji et al., 2023). A conservative strategy involves maintaining relatively high cash balances and elevated levels of accounts receivable. By offering extended payment terms to customers, firms can boost sales and reduce manufacturing overhead through increased production volume. The availability of ample cash reserves under this approach ensures that the company can sustain liquidity and effectively navigate any unforeseen financial disruptions. However, this strategy also necessitates the acquisition of external financing to cover the expanded current assets. As a result, the firm may incur higher financing costs due to increased reliance on debt or other funding sources (Kolegowicz & Sierpińska, 2020). In contrast, moderate and aggressive strategies strike different balances between liquidity, risk, and profitability, with aggressive approaches focusing on minimising cash holdings to reduce idle resources but potentially increasing the firm’s exposure to liquidity risks.

2.2.2 Inventory management

Inventory management plays a critical role in organisational decision-making, guiding how inventory is handled through daily operations, policies, and procedures to maintain optimal stock levels at all times (Alam et al., 2024). Often described as the foundation of supply chain efficiency, it acts as the lifeblood that ensures smooth operations (Wild, 2017). For small and medium enterprises (SMEs), effective inventory control is particularly vital, as it directly influences production costs and serves as a key driver of competitive advantage in the market (Hasbullah et al., 2021).

The composition of inventory varies by industry, encompassing unprocessed products, work in progress, and completed items (Amponsah-Kwatiah & Asiamah, 2021). Broadly speaking, inventory management involves balancing inventory levels with committed capital. The way inventory is managed impacts the amount and structure of unprocessed products, work in progress, and completed items required to support efficient operations and sales. Inventory, being the least readily convertible into cash among current assets, should generate the most significant return to validate its investment (Hasbullah et al., 2021). Excessive and inadequate inventories are both undesirable, and the primary aim of inventory management should be to maintain an optimal inventory level between these two extremes. This balance is required to satisfy two conflicting needs: first, to maintain a large inventory for efficient and smooth production and sales operations; second, to minimize investment in inventory to lower ordering and carrying costs and maximize profitability. Kaen (1995) argues that different inventory types serve different purposes. For instance, a substantial inventory offsets ineffective management and reduces the negative impact of price changes. Nonetheless, excessive inventory incurs costs such as funds tied up in inventory, storage and insurance expenses, spoilage, damage, and loss of goods. Conversely, Mathuva (2014) contends maintaining a large inventory level can improve profitability by minimizing the potential hazards of stock storage and operational interruptions, while a low inventory level can minimize inventory costs. However,

insufficient inventory levels can lead to the inability to meet sudden demand surges, resulting in loss of revenue.

Additionally, appropriate inventory management is closely linked with the business cycle and incurs various stock-associated expenses, including costs for placing orders, processing, and dealing with stock-outs (Amponsah-Kwatiah & Asiamah, 2021). Ordering cost includes all expenses associated with placing orders and receiving materials into the warehouse while processing expense means the expenses of holding materials for a certain period of time, which increases with longer holding times. Stock-out cost refers to the expenses incurred when demand exceeds available stock, such as the cost of reordering materials and delivering inventories to the market. By tracking the movement of inventories from the storeroom to production and then to customers, unit and total costs can be calculated to determine the cost of production and cost of goods sold, respectively. Common methods of inventory costing include first-in-first-out, average cost, and last-in-first-out. While inventory can be valued at cost, it can also be valued at the lower of cost or market value, based on the principle of conservatism in accounting, which requires the selection of an approach that provides the lower value of an asset to avoid overstating the value of the firm.

In a business, conflicting views regarding investment in inventory are common among management (Alam et al., 2024). The marketing manager prefers to have an abundant quantity of finished goods available to avoid turning away customers due to a lack of inventory. Production managers prefer large quantities of raw materials and work in progress to spread costs over longer production runs and enable employees to focus on continuous production. Purchasing agents favor buying in bulk to benefit from quantity discounts, lower freight costs, and economies of scale. The finance manager must consider these differing perspectives and their associated risks and benefits when deciding on working capital investment and financing strategies.

Continuous evaluation, planning, and control are essential components of effective inventory management for companies, which must take into account both internal and external factors. To ensure proper inventory management, organizations often have inventory planners responsible for monitoring inventory levels and coordinating with manufacturing, procurement, and finance departments (Saleemi, 2013). To optimize inventory management, companies have increasingly adopted efficient systems such as just-in-time (JIT) and bundling. By reviewing safety stock levels, controlling inventory levels based on minimum and maximum values, implementing lean inventory policies like JIT, working with purchasing to ensure timely replenishment of supplies, and developing cost-effective procurement procedures, companies can minimize the amount of capital tied up in working capital (Vernimmen et al., 2022). Implementing effective inventory management systems also requires controlling the receipt, inspection, and recording of inventory locations and issues, to ensure efficient management of supplies. By adopting these strategies, companies can avoid excessive capital investment in inventory and improve their overall financial performance.

The credit management process involves two important activities. The first activity is ensuring that customers pay the full amount for goods and services within the agreed time frame. The second activity involves the company making timely payments to its suppliers. Delayed payments from customers can cause delays in the company's payments to its suppliers. Unfortunately, many small and medium-sized enterprises prioritize sales over credit policy and management, resulting in significant long-term losses and even bankruptcy. A credit sale can be viewed as a loan given to customers, and although the company does not earn interest on the loan, the profit margin is higher than that of a cash sale due to the higher risk involved.

2.2.3 Trade credit management

Trade credit management is the strategic process by which a business extends credit to customers while balancing the dual objectives of driving sales growth and mitigating

financial risk. It encompasses establishing clear credit policies, assessing customer creditworthiness through financial analysis or credit scoring, and defining terms such as payment periods (Kumaraswamy & George, 2019). Managing credit is a crucial element of any enterprise, as it ensures financial stability and longevity by efficiently overseeing customer receivables and reducing the number of bad debts. This involves creating and implementing strategies for handling credit sales and maintaining an optimal level of credit through effective management techniques. Financial management comprises several facets, such as credit management, credit rating, credit classification, credit analysis, and credit reporting. Managing credit is a pivotal element of any enterprise as it facilitates seamless credit transactions and reduces the likelihood of default. The extent of credit extended to customers is directly linked to the default risk and the expenses incurred in overseeing the system. The credit management process begins with the sale of goods and extends until the business receives complete payment. Credit payments hold immense significance in the sale of goods, and it is crucial to manage them proficiently (Alaoma et al., 2020).

A coherent credit management policy and its application are necessary for a firm to make consistent credit decisions that align with credit objectives and overall business goals. Typically, a credit policy comprises a set of policies that detail credit objectives and cover various activities. In addition, when formulating a credit policy, a company should consider factors such as the credit function's organizational structure, including whether it should be centralized, decentralized, or have a separate credit subsidiary. The policy should also take into account corporate contextual variables such as the age of the buyer firm, frequency of transactions, product quality, selling channel, and industry sector (see Ng et al., 1999). Trade credit management involves a series of steps. First, firms need to determine the sales terms for the goods they sell to their customers. Second, they should decide what evidence they need from their customers who owe payments. Third, they must analyze the creditworthiness of customers to determine which are risky and non-risky, a process known as credit analysis. Fourth, firms should establish a credit policy that specifies the extent to

which customers can pay their bills on credit. Finally, firms that make sales on credit often face challenges collecting payment when the bills become due, which is addressed through collection policy (Brealey & Myers, 2004).

The credit management process involves two important activities. The first activity is ensuring that customers pay the full amount for goods and services within the agreed time frame. The second activity involves the company making timely payments to its suppliers. Delayed payments from customers can cause delays in the company's payments to its suppliers. Unfortunately, many small and medium-sized enterprises prioritize sales over credit policy and management, resulting in significant long-term losses and even bankruptcy. A credit sale can be viewed as a loan given to customers, and although the company does not earn interest on the loan, the profit margin should be higher than that of a cash sale due to the higher risk involved.

The efficiency of credit management plays a crucial role in determining the viability of a business. While extending trade credit can increase a firm's sales and profitability, it carries also negative consequences, such as default risk and late payment, which can negatively impact firm profitability. Moreover, providing trade credit involves administrative and transaction costs related to granting and monitoring, as well as converting receivables into cash (Sartoris & Hill, 1981), which in turn it may have direct financing and opportunity costs that reduce the funds available for expansion projects. Thus, adequate credit management is vital for businesses to maintain their financial stability and remain competitive in their respective markets.

2.3 Working capital policies

Working capital policies refers to decisions made about current assets and their financing (Ross et al., 2002). A company's choice of working capital management strategy is influenced by how it relates to profitability (Juan García-Teruel & Martinez-Solano, 2007). There are two approaches firms can implement regarding WCM: conservative and

aggressive strategies (Nazir & Afza, 2009). These strategies are opposite in nature; the conservative approach involves investing more to increase profitability, while the aggressive approach suggests investing less in working capital to improve profitability.

2.3.1 Aggressive working capital policy

An aggressive working capital policy strategy, as outlined by Nazir and Afza (2009), entails embracing higher risk with the potential for elevated returns. This strategy involves maintaining minimal levels of current assets in relation to total assets and maximizing short-term liabilities. Some firms may opt for a lower proportion of current assets for investment or financing purposes, or they might lean heavily on a greater proportion of current liabilities compared to total liabilities.This strategy is most effective for companies operating in a stable market with established products generating a steady cash flow (Chang, 2022). Firms utilizing an aggressive working capital policy tend to invest minimally in current assets and rely heavily on current liabilities for financing (Al-Mawsheki, 2022). The adoption of an aggressive working capital policy demonstrates proactive management of current assets by a company (Nyabuti & Alala, 2014). Companies that embrace this policy take calculated risks by minimizing investments in current assets (Chang, 2022).

An aggressive strategy, referred to as the "risk taker," is utilized by firms to minimize inventory levels, credit sales, and accounts receivable, thereby reducing stockholding and overhead expenses and enhancing profitability (García-Teruel & Martinez-Solano, 2007). This approach involves maintaining fewer current assets relative to fixed assets, financing capitals through heightened current liabilities and decreased long-term debt (Afrifa, 2015). Consequently, it is anticipated that inventory and current assets will correlate negatively with profitability, whereas accounts payable will correlate positively. This perspective is reinforced by Nazir and Afza (2009), who suggest that reducing inventory levels via aggressive policies can potentially boost profitability by mitigating carrying and opportunity costs. To minimize these costs, Wang et al. (2004) suggest the implementation

of a "just in time" approach. To streamline production and minimize waste, firms typically schedule the procurement of materials for manufacturing at specific times, resulting in zero inventory balance. This approach decreases the cost of maintaining inventory, leading to higher profitability.

In general, current assets like short-term resources are financed by owner's equity, long-term liabilities, or current liabilities (Hovakimian et al., 2001). While long-term financing for current assets is not usually extensive, short-term obligations are frequently used to fund them (Padachi, 2006). This financing method provides multiple benefits, including the lower cost of short-term debt compared to long-term debt and the avoidance of lengthy contractual commitments. Financial institutions commonly offer financing through a credit line, which may exceed the commercial value of the collateral. According to Sogorb-Mira (2005), most lenders provide credit terms that enable customers to repay loans within the loan duration, potentially lowering interest expenses and increasing profitability. However, financial institutions impose a financial cost on the maximum amount borrowed, regardless of whether the customer utilizes the product. Moreover, Sufi (2007) highlights that lines of credit have a minimum compensating balance that cannot be utilized, and fees must be paid for it.

2.3.2 Conservative working capital policy

A conservative WCM policy involves maintaining a high level of current assets at a given volume of sales or output, which prepares the firm for any possible liquidity needs and provides the lowest liquidity risk position. However, this policy results in low profitability. Under this approach, long-term debt and equity capital are employed for funding all fixed assets and a certain portion of the short-term or fluctuating current assets, minimizing the risk of the firm being unable to reschedule its short-term debt. However, excessive use of long-term debt limits the firm's opportunity to earn a premium rate of return.

A conservative policy, characterized as a low-risk, low-return approach, is deemed suitable for companies navigating volatile markets with uncertain demand (Chang, 2022). Firms embracing this working capital management strategy allocate significant resources to current assets to mitigate stockouts and revenue loss (Bei & Wijewardana, 2012). This strategy is employed when the level of current assets is higher than current liabilities, resulting in a larger asset position that allows businesses to be safe under unforeseen circumstances. Therefore, such firms are often referred to as risk averse.

This strategy involves building up inventories and granting more liberal credits, resulting in larger balances on accounts receivables. These accounts are expected to have a positive correlation with profitability (Tauringana & Afrifa, 2013). On the other hand, accounts payable are expected to have a negative correlation with profitability. Companies using this approach generally use fewer current liabilities and more long-term debt to finance their current assets. However, having higher levels of current assets can result in increased opportunity costs and the cost of maintaining economic value. As inventory levels rise, so do associated carrying costs such as insurance, storage, and maintenance.

Increasing investment in working capital can encourage companies to adopt a conservative strategy for their receivables policy. Many companies use trade credit to enhance their operational flexibility and profitability (Emery, 1987). Similarly, Smith (1987) suggests that delayed payment allows customers to verify product quality before payment, reducing information asymmetry between buyers and sellers and facilitating exchange. Long et al. (1993) present empirical data to substantiate this assertion, indicating that smaller firms offering goods that require lengthier evaluation periods tend to provide more extended trade credit periods. This is because new buyers may possess little knowledge regarding the product's quality, and therefore, companies tend to offer more trade credit in order to establish trust with their new customers. Furthermore, providing trade credit can alleviate information asymmetries between buyers and sellers, leading to increased future sales and improved profitability for firms.

2.4 Evolution of working capital management research

The following section of the literature review examines the progression of research on WCM, tracing its evolution from the earliest awareness era (1900s–1940s) to the pre- and post-World War II era (1920s–1950s), followed by the optimization and simulation approaches during the industrialization era (1950s–1980s), and finally, the current emphasis on the effectiveness of WCM in the era of globalization (1990s–present). Each era is explored in depth, shedding light on the significant issues linked with the evolution of research during that time.

2.4.1 Working capital: awareness era (1900s-1940s)

The advancement of WCM research as a separate method of management was constrained from 1900s to 1940s due to a lack of research. During this period, the ABI Inform database shows that only 23 articles pertaining to working capital were published across different journals, and there was inconsistency in interpreting the meaning of "working capital." These discrepancies in defining and categorizing working capital indicate a stage of learning, where researchers were trying to comprehend the features of working capital and reconcile theoretical and practical perspectives. Working capital has been initially defined as "the amount of money or money equivalent required to conduct current operations of the utility" (Kayani et al., 2020). Net working capital (NWC) is another term for working capital, which represents the capital needed to keep a company running and maintain its liquidity. NWC is indicative of the company's operating cycles, financing options, and liabilities.

The American Institute of Accountants' Committee on Accounting Procedure released Accounting Research Bulletin (ARB) no. 30 in 1947, which defined working capital and categorized the operating cycle. The bulletin stated:

> *Working capital, sometimes called net working capital, is represented by the excess of current assets over current liabilities and identifies the relatively liquid portion*

> *of total enterprise capital which constitutes a margin or buffer for meeting obligations to be incurred and liquidated within the ordinary operating cycle of the business* (Committee on Accounting Procedure, 1947, p. 282).

The ARB defined the operating cycle of current assets and liabilities as twelve months, as most transactions occurred within this timeframe. However, the bulletin acknowledged that certain industries, such as wineries, lumber, and agriculture, had longer business cycles, and companies in those industries might use extended periods. This bulletin faced criticism from practitioners for being inconsistent with actual practices. The review concludes that two that two major challenges during this time were conflicts over the duration of working capital's operational cycles and the characteristics of current assets and liabilities.

The classification of items as current assets or liabilities in ARB no. 30 was a topic of dispute among practitioners. One issue was that the bulletin excluded from current assets deferred expenses or unallocated costs that would typically benefit companies in the long run from current assets. Accountants were required to use their own discretion and were provided with few instructions for distinguishing between delayed payments and prepaid costs on the balance sheet (Kayani et al., 2020).

2.4.2 Working capital in the Pre and Post World War II Era: liquidity & financing (1920s-1950s)

The period spanning from the 1920s to the 1950s, which includes both the pre- and post-World War II periods, had a significant impact on the study of working capital. The overlap between the awareness stage and this era stemmed from similarities in operational contexts and the emergence of evidence related to the evolution of working capital during the two periods. The primary discussions during this time focused on determining optimal levels of working capital and how to finance it. According to Benjamin (1939), having a positive net working capital would enhance a company's liquidity and, therefore, benefit the company. Companies that maintain high ratios of current assets such as cash, receivables, or inventories to current liabilities such as payables or prepaid expenses are described as

having a positive NWC. This implies that they are less dependent on bank loans or supplier credits to finance their working capital needs. Conversely, a low current ratio suggests that a company has low levels of current assets, such as minimized inventory levels or reduced cash, and higher current liabilities. These companies tend to rely more on financing, such as bank loans, to meet their working capital requirements.

Chandler (1994) states that during World War II, there was a substantial increase in industrial production, with more than 50% of American manufacturing output dedicated to the production of supplies for the military.This resulted in a substantial increase in the demand for working capital (Leng, 2016). Businesses that typically relied on issuing equity market securities or funding their own working capital activities faced challenges because of investor responses to the unpredictability's of war, as well as higher material and labor costs, and the need to construct new plants to satisfy the growing demand (Leng, 2016). Furthermore, Ketchum observed that companies faced cash shortages and turned to banks as an alternative source of funding for working capital. This suggests a shift from the positive NWC approach to a low-current ratio approach in managing working capital.

2.4.3 Working capital in the industrialisation era: optimization and simulation models (1950s-1980s)

During the industrialisation era between the 1950s and 1980s, there was a shift in focus in working capital research. This was due to the introduction of advanced technologies and machinery that allowed companies to benefit from economies of scale, leading to a reduction in operating expenses (Roffia et al., 2024). According to Chandler (1994) and Eeckhout et al. (2023), American corporations expanded and created many divisions to concentrate on different commercial activities. Nevertheless, senior managers did not possess the requisite knowledge and expertise to assess the effectiveness of various initiatives, prompting the use of computational models to bolster decision-making procedures. Consequently, researchers in the field of working capital throughout this time frame created diverse quantitative and simulation models to aid managers.

Numerous academics have acknowledged the capacity for mathematical resolutions to minimise the need for WCM by connecting its various components (Michalski, 2023). For instance, the credit discount policy determination can be influenced by inventory levels (Michalski, 2023), and equally, the duration of the credit term might also impact inventory levels. However, making decisions using mathematical and simulation models can be difficult in complex organisational settings, especially in a dynamic and challenging business environment. The inflexibility of optimisation and simulation models has led many chief financial officers (CFOs) of the Fortune 500 largest corporations and the Forbes 200 best small companies to be reluctant to adopt them (Purnamasari & Adriza, 2024). As a result, a new area of research in working capital has emerged, which seeks to evaluate the effectiveness of WCM.

2.4.4 Working capital management in the globalization era: effectiveness (1990s-Present)

Boisjoly et al., (2020) highlighted the significance of two key variables, profitability and liquidity, in effective WCM. Effective management of working capital components is crucial for enhancing organizational performance (Akgün & Memiş Karataş, 2020). As mentioned earlier, liquidity concerns a company's ability to meet its financial commitments on a daily basis (Moyer et al., 2009). Moreover, two distinct concepts were recognized during this time that were thought to contribute to the efficacy of WCM: the financial standpoint and the organizational setting.

WCM research suggests that an effective way to improve WCM from a financial perspective is by improving the cash conversion cycle. As previously mentioned, positive liquidity and enhanced profitability have been associated with reducing the cash conversion cycle, a process also known as “squeezing” WCM (Richards & Laughlin, 1980). Studies have consistently demonstrated a significant relationship between a reduced cash cycle and increased profitability. For example, research in countries such as Greece (Lazaridis & Tryfonidis, 2006), India (Vishnani & Shah, 2007), Kenya (Mathuva, 2010), and Malaysia (Mohamad & Mohd Saad, 2010) has confirmed this connection. García-Teruel and

Martinez-Solano (2007) also found comparable results for SMEs. In contrast, different situations were noticed in Belgium (Deloof, 2003) and Pakistan (Raheman & Nasr, 2007), which led to profitable companies choosing to make early or timely payments to suppliers in order to take advantage of discounts.. Managers aimed to achieve cost savings from early payments that could boost profit margins. Some studies propose that compressing WCM components is a substitute for maximizing profitability and that the effectiveness of WCM should be assessed solely through financial parameters. However, some companies may utilize cash discounts to enhance profitability.

Scholars have also suggested that effective management of working capital extends beyond finance and involves other disciplines within an organization, as highlighted by Brigham and Ehrhardt (2008). Managing working capital components is a crucial part of managing business operating cycles, which involves the participation of multiple people in the organization, according to Schilling (1996) and Moyer et al. (2009). An operational cycle generally comprises three primary operations: procurement of resources, manufacturing of goods, and sale of products, which generate cash flows that are not synchronized or instantaneous. As previously mentioned, businesses have to purchase materials in advance for production, and payables are usually settled before cash receipts from receivables. In large organizations, working capital transactions are intricate, and responsibility for managing the components of working capital is shared among various finance managers. Therefore, it is important to align the process of decision-making with the various elements of working capital in order to optimize profitability.

The realm of WCM research that focuses on organizational structures is presently deficient. However, academics have suggested alternative approaches based on organizational contexts to improve WCM, including the utilization of information technology to facilitate management (Fairchild, 2005), implementing the Six Sigma methodology to identify and address the fundamental origins of issues (Srivastava, 2004), adopting a horizontal organizational structure to develop responsiveness to customers preferences (Sehgal et al.,

2006), and employing the Just In Time (JIT) strategy to enhance supply chain management (Bartezzaghi et al., 1992). Therefore, strategically managing working capital in organizational contexts has the potential to serve as a valuable tool for managing working capital components.

2.5 Determinants affecting the management of working capital

The previous section emphasized the importance of WCM's effectiveness, which continues to be a prominent topic in the era of globalization. The managerial setting is regarded as a viable replacement methodology to enhancing WCM's effectiveness. In the face of volatile market dynamics, managers are advised to take various determinants into account when making decisions, as managing WCM components requires more resources and coordination than traditional financial activities. Therefore, seeks to review the literature and pinpoint the factors that have shaped present-day WCM practices.

Table 2.1 on page 37 presents a diverse array of factors that impact WCM operations. While many factors have a global and cross-industry impact on firms, some only affect businesses inside a particular sector or region. At a managerial level, a number of internal factors, including WCM, impact the entire company, in various ways based on their direction and relationships with one another. Thus, the capability to comprehend and adjust to changes in these environmental factors is a crucial management skill, including for those engaged in the formulation of decisions (Johnson & Soenen, 2003). The subsequent paragraphs discuss the determined factors and their levels of impact on WCM.

On reviewing the literature, it became apparent that five external factors can have a significant impact on WCM in a general sense: institutional support, economic growth, corporate governance, corruption, and inflation. However, the effect of these factors may differ based on industry and geographic location. For example, UK legislation addresses how small businesses charge interest on overdue invoices to protect them as they heavily rely on efficient working capital, whereas global economic uncertainties during recessions

have presented challenges for many companies in managing their working capital components (Claessens et al., 2000). Therefore, regulations may only have limited, localized effects, while economic conditions can impact many companies across various industries or countries, and some companies may be more vulnerable to environmental changes than others.

On examining the literature, four internal factors that may influence WCM were identified, including financial management practices, business cycle, integrated logistics and supply management, and moral employee ownership. Although these factors can affect the organization as a whole, some may have a more specific impact on working capital. For instance, effective financial management practices, such as precise budgeting and robust financial analysis, can directly enhance liquidity by optimizing cash flows and minimizing unnecessary expenditures. The business cycle also plays a critical role, as different phases (expansion, peak, contraction, and trough) demand varying levels of working capital to maintain operations and manage market fluctuations. Integrated logistics and supply management ensure timely procurement and efficient inventory control, which are vital for minimizing holding costs and reducing lead times, thereby freeing up capital. Lastly, moral employee ownership, which fosters a culture of responsibility and engagement, can lead to improved operational efficiencies and reduced wastage, positively affecting the organization's working capital position.

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Table 2.1 The internal and external factors affecting WCM

Factors	**Level of impact on WCM**	**References:**
External Factors	1. Institutional environment	(Kusnadi, 2019; Orlavo & Sun, 2018; Onjewu et al. 2023; Rita et al., 2024)
	2. Economic growth	(Nyeadi et al., 2018)

	3. Corporate governance	(Jiang et al., 2023 ; Dittmar & Mahrt-Smith, 2007 ; Bawuah, 2024)
	4. Corruption	(Asteriou et al., 2021 ; Yasar et al., 2011 ; Tran, 2020 ; Anton & Nucu, 2022)
	5. Inflation	(Jaworski & Czerwonka, 2019)
Internal Factors	1. Financial management practices	(Zada et al., 2021; Uwonda & Okello, 2015;)
	2. Business cycle	(Mielcarz et al., 2018)
	3. Integrated logistics and supply management.	(Agačević et al., 2019)
	4. Moral employee ownership	(Li et al., 2022)

The information derived from both firm-specific variables and external variables is often considered insufficient due to its failure to consider the contextual variability present in different factors. Consequently, it becomes challenging for business owners and researchers to identify the necessary measures and effectively manage the components of working capital. This limitation becomes apparent through the analysis presented in Table 2.1. The analysis shows a review of studies on the internal and external determinants of WCM and highlights the complexity of these interrelationships. Although these studies identify critical determinants such as institutional support, economic growth, corporate governance, corruption, and inflation, they often overlook the variability in how these factors function across industries, regions, and particularly within emerging market contexts like Morocco.

2.6 Working capital management and profitability

For companies, managing their working capital effectively is crucial as they invest heavily in current assets and rely on current liabilities to finance their operations (Nastiti et al., 2019; Deloof, 2003). This involves making decisions about managing current assets and liabilities, including determining the optimal levels of cash, receivables, inventory, and current liabilities, and their relationship with each other (Sensini & Vazquez, 2021). Since firms usually invest significant amounts of money in working capital, it is considered a critical function within the company (Boisjoly et al., 2020; Deloof, 2003; Gill et al., 2010; Enqvist et al., 2014). Effective WCM is necessary to meet short-term obligations imposed by current liabilities (Yazdanfar & Öhman, 2014). Hence, management must balance the trade-offs between opportunity cost and carrying cost when optimizing their working capital investments, as financial decision-making in firms often has a risk-return nature (Sharma & Kumar, 2011). The approach taken by firms to manage their working capital depends on their business nature and strategy (Yazdanfar & Öhman, 2014; Sawarni et al., 2020). Moreover, Filbeck et al. (2017) argue that effective WCM is crucial for enhancing growth and sustainability, and senior management should take responsibility for managing it.

WCM refers to the chosen strategy for managing the level of internal and external capital sources used by a company (Deloof, 2003; De Almeida & Eid, 2013). The aim of this strategy is to maximize the use of internal funds, which are typically less expensive than external funds (Sharma & Kumar, 2011). By evaluating different working capital investments, management can avoid over- or under-investing, which can lead to unnecessary costs (Yazdanfar & Öhman, 2014). Once a company has optimized its short-term WCM, it can develop a long-term financial strategy for growth, such as investing in long-term projects (Sharma & Kumar, 2011; Yazdanfar & Öhman, 2014). However, excessive investment in working capital can reduce shareholder value since larger investments require more financing, and firms need to consider the opportunity cost. Conversely, inadequate working capital levels can limit a company's ability to meet

financial obligations and seize new business opportunities. Furthermore, to support growth, additional investments in working capital may be necessary to support growth. However, excess funds tied up in working capital can reduce liquidity and lead to financial distress, highlighting the need for careful management of working capital levels. Companies must balance investing in working capital with ensuring that funds are not tied up unnecessarily. This requires a strategic approach that considers short-term and long-term financial needs, business objectives, and risk tolerance. Such an approach can help companies optimize their capital structure, free up internal funds, and establish a sustainable growth path that benefits shareholders.

According to various studies, including Al-Mawsheki (2022), and Nazir and Afza (2009), the relationship between WCM and profitability depends on the firm's chosen strategy. An aggressive WCM strategy involves reducing working capital investment by minimizing inventory and accounts receivable levels. This approach reduces inventory holding costs, warehouse storage costs, and insurance costs, which can ultimately increase profitability. In addition, minimizing accounts receivable levels can be profitable since it frees up funds that can be invested elsewhere or earn interest. An aggressive liquidity management policy can also lead to a shorter cash conversion cycle by reducing inventory and accounts receivable periods while extending accounts payable periods. Therefore, by managing their working capital levels strategically, firms can enhance their profitability and establish a sustainable growth path. An aggressive approach to asset management involves reducing the capital invested in current assets and increasing long-term investments to enhance profitability, but this increases liquidity risk. On the other hand, a conservative policy puts more capital in liquid assets, sacrificing some profitability. Aggressive financing policies rely on more short-term debt and less long-term capital to lower capital costs, but this increases the risk of short-term liquidity problems. Al-Mawsheki (2022) caution that firms must carefully consider the advantages and disadvantages of various asset and financing strategies to achieve an optimal balance between profitability, liquidity, and risk. In summary, the adoption of a specific asset or financing strategy should be guided by the

firm's financial goals, objectives, and risk tolerance, as well as market conditions and industry trends.

While some studies have shown a positive relationship between a longer trade credit period and higher profitability, other research has suggested that firms with a shorter cash conversion cycle tend to be more profitable. Deloof (2003) and Baños-Caballero et al. (2013) found that companies with a shorter cash conversion cycle are more profitable than those with a longer cycle. One reason for this is that firms with shorter cash conversion cycles can generate funds internally, reducing their reliance on external finance, which can be costly (Baños-Caballero et al., 2013). Luo et al. (2009) argue that firms with shorter cash conversion cycles can invest more funds in growth projects, freeing up more capital, and reducing their dependence on external financial markets. This can lead to lower financing costs and improved profit margins. Autukaite and Molay (2011) contend that effective WCM can reduce reliance on external financing and increase financial flexibility. They suggest that efficient WCM can improve the risk profile of firms, making them more attractive to both shareholders and lenders, who may offer cheaper funding options as a consequence.

According to Ganesan (2007), reducing working capital investment can decrease the need for capital financing. Therefore, companies that are highly efficient in their WCM tend to increase their cash reserves to hedge against risks associated with low inventory and accounts receivable, as well as to increase accounts payable. Deloof (2003) discovered a significant negative correlation between profitability, as measured by gross operating income, and the cash conversion cycle, as well as the number of days sales outstanding and inventories. Deloof (2003) suggested that more profitable firms tend to pay their bills faster, which enables them to take advantage of supplier discounts. By reducing the number of days sales outstanding and inventories to a reasonable minimum, managers can create value for their shareholders. This strategy not only improves cash flow but also reduces the

risk of stock obsolescence and accounts receivable defaults while freeing up funds for growth projects that can enhance long-term profitability.

While the field of WCM and profitability has received substantial attention, there remains a relative lack of exploration of this topic in emerging economies, particularly in the context of SMEs (Baños-Caballero et al., 2014). This gap in the literature is crucial to address, as WCM can be a major cause of SME failure in developing countries (Javid & Dalian, 2014; Braimah et al., 2021), particularly in economies with weaker financial structures and inadequate institutional support. SMEs may encounter difficulties in obtaining financing, necessitating their dependence on short-term financing options to survive (Biney, 2018). As a result, it is critical to conduct research on WCM and profitability in developing countries to better grasp the challenges and opportunities that exist in these environments.

2.7 Theories on working capital management and profitablity

This section examines different theoretical foundations that seek to establish a relationship between WCM, its moderating factors, and company profitability. The theoretical framework is crucial as it provides a comprehensive review of existing literature aiming to establish connections between various aspects of WCM and company profitability. This exploration goes beyond the evident and direct impacts of individual WCM components, considering the complex interaction of moderating variables that contribute to indirect effects. Its objective is to identify the essential factors for measurement and determine the statistical relationships to be investigated.

2.7.1 Cash Conversion Cycle theory

The theory of cash conversion cycle was initially developed in the 1980s as a framework for effective WCM, enabling firms to optimize their financial operations (George et al., 2021). The cash conversion cycle theory provides a theoretical and financial approach to understanding the time it takes for an organization to convert its current assets, such as accounts receivable, into cash. It focuses on measuring the duration and frequency required

for an institution to convert its liquid assets and cash equivalents into cash to meet operational costs and obligations. In essence, the theory examines the time taken by an organization to collect accounts receivable and fulfill its obligations without incurring penalties, such as delayed vendor payments (Chang, 2022).

The cash conversion cycle theory is based on four fundamental assumptions. Firstly, it assumes that managers can enhance a firm's profitability and value by reducing the cash conversion cycle through efficient management of inventory, accounts receivable, and accounts payable, as well as adopting appropriate working capital policies (Chang, 2022). For example, strategic collaboration with suppliers can help managers decrease the average accounts receivable period (Kroes & Manikas, 2014). Additionally, managers have the flexibility to optimize the cash conversion cycle by adopting either an aggressive or conservative working capital policy that aligns with the firm's operational and market requirements (Al-Mawsheki, 2022). Secondly, the cash conversion cycle theory assumes that an optimal level of WCM and working capital policy exists for all firms, enabling them to strike a balance between risk and return by manipulating the components of WCM (Chang, 2022). Deviating from the optimal cash conversion cycle may indicate the managers' ability or inability to swiftly convert cash outflows into cash inflows (Richards & Laughlin, 1980). It may also reflect the effectiveness or ineffectiveness of managers in formulating and implementing appropriate policies (Al-Mawsheki, 2022). The third assumption is that WCM and working capital policy have complementary effects on firm profitability (Bei & Wijewardana, 2012; Gill & Biger, 2013; Mathuva, 2014). Effective WCM and working capital policies are essential for profit maximization, as highlighted by researchers such as Sabri (2012) and Yazdanfar and Öhman (2014). Lastly, the cash conversion cycle theory assumes that business leaders can influence organizational factors such as trade credits and inventory policies that can impact WCM and working capital policy (Talonpoika et al., 2014).

However, it is crucial to acknowledge that the aforementioned assumptions have their limitations. For instance, reducing credit terms for customers may diminish the attractiveness of the product from the customer's standpoint, potentially resulting in decreased sales volume and revenue. Likewise, delaying payments to suppliers is unlikely to be well-received and may lead to increased costs of goods supplied (Banomyong, 2005). Additionally, the assumptions overlook the potential impact of external factors beyond managerial control, such as changes in interest rates, exchange rates, and market demand fluctuations. Therefore, while the cash conversion cycle theory provides a valuable framework for understanding and optimizing WCM, it is essential for managers to critically evaluate its applicability to their specific business environment and adapt their strategies accordingly.

2.7.2 Transaction Cost theory

Transaction cost theory revolves around the concept of a transaction as the fundamental unit of evaluation and asserts that understanding how to reduce transaction costs is crucial when studying companies. Transaction costs can be incurred both before (ex- ante) and after (ex post) the transaction takes place. According to North (1994), transaction costs encompass the expenses associated with specifying the terms of the exchange and enforcing the resulting agreements. Ex ante costs involve activities such as information search, contract drafting, and price negotiation, while ex post costs pertain to executing, monitoring, and enforcing the agreed-upon terms. Transaction costs are typically not shared equally among the parties involved in a policy implementation, as some stakeholders may bear a disproportionate burden due to differences in resources, bargaining power, or regulatory obligations (Coggan et al., 2013). Moreover, these costs are not static, they fluctuate throughout the policy's life cycle, increasing during the initial stages due to negotiation and setup expenses, stabilizing during implementation, and potentially declining or shifting as the policy matures and adapts to changing conditions (Shahab et al., 2018).

This theoretical framework endeavors to elucidate the underlying rationale behind the provision of trade credit, which is to augment the operational proficiencies within an organization. According to Emery (1987), The motivation behind granting trade credit stems from the aspiration to enhance operational agility, ultimately resulting in increased profitability. The theory conceptualizes trade credit as a means of facilitating the exchange of goods, with the focus of analysis on the exchange activity itself. Trade credit serves as a payment or contractual alternative to immediate cash usage. When trade credit is utilized, two separate transactions (goods for a loan, loan for money) are required to achieve what essentially constitutes a single exchange (goods for money). This perspective suggests an intermediary role for trade credit, similar to how money economizes trading costs by eliminating the need for the double coincidence of wants in barter exchange. Trade credit may function as a way to mitigate exchange rate risk along supply chains by separating the transfer of physical goods from the transfer of monetary funds.

In the absence of trade credit arrangements, businesses would be obligated to render payments promptly upon the reception of merchandise and rendered services. Through consenting to payment terms, a company can Can decouple its procurement timeline from its financial settlement timeline. This arrangement circumvents situations where companies have to arrange immediate payment for every purchase, which can be costly in frequent transactions. Through the decoupling of procurement operations from payments and by establishing predetermined payment durations, an organization can effectively strategize and administer its monetary resources in a more streamlined manner (Schwartz, 1974). Without trade credit, companies might need to maintain substantial monetary reserves as a precautionary to facilitate prompt settlements in the event of unanticipated or abrupt product demand surges. Stowe and Gehr (1985) contend that disassociating payment obligations from delivery processes mitigates the risk of monetary theft and consequently improves profitability. This allows them to reduce storage costs by avoiding excessive inventories, while providing buyers with sufficient inventories to maintain smooth production processes (García-Teruel & Martínez-Solano, 2010). Similarly, generous trade

credit terms can be offered to stimulate purchases during periods of weak demand (Emery, 1984). By offering trade credit, firms can increase the volume of trade per transaction, which can lead to cost reductions, such as lower transportation expenses (Kihanga et al., 2010).

However, there are certain limitations to the transaction cost theory. While it provides an economic rationale for actions, it overlooks the significance of social relationships and trust, assuming that actors solely aim to minimize transaction costs (Martinez & Dacin, 1999). Thus, ignoring these aspects may lead to a narrow understanding of the factors driving organizational behavior. Another criticism is that the theory takes a static perspective when explaining firm behavior, disregarding the dynamic nature of business operations (Dietrich, 1994). This static viewpoint implies that firms' survival indicates their success in reducing transaction costs, leading to a self-selecting sample in transaction cost research. Moreover, this self-selection notion suggests that firms have achieved a stable status quo without ongoing competition (Douma & Schreuder, 2008). If the theory indeed adopts a static approach, it aligns closely with the cross-sectional nature of the data collection in this study. However, the collected data also indicate that high transaction costs may hinder the performance and growth of affected firms, rather than introducing a survivorship bias. The data further suggest that firms go through stages of inception, maturation, and decline, with ongoing competition, indicating a dynamic rather than a stable situation.

2.7.3 Institutional theory

Institutional theory directs attention to the influence of social, political, and economic systems on the operations and legitimacy of companies. According to Scott (1987), institutions establish the rules that govern the business environment and shape the available avenues of operation, either by discouraging, constraining, or encouraging certain patterns of behavior. Similarly, Faghih and Samadi (2021), defined institutions as the rules of the game or human-created constraints within societies, influence human interactions and

establish incentives for exchanges across economic, social, and political spheres. Institutions significantly impact the decision-making process by providing guidance on what actions are considered acceptable or unacceptable, and they shape individuals' socialization into the norms and behaviors prevalent in a particular society. According to institutional theory, organizations adopt certain business practices to enhance their legitimacy (DiMaggio & Powell, 1983). This theory offers valuable insights into the adoption of working capital management practices.

The underlying concept of institutional theory is that various forces or institutions within a society exert influence on social behavior, leading to increasing similarities in business activities over time. These forces differ across countries, capturing the relative differences between societies. The institutional theory examines the processes through which structures, including schemas, rules, norms, and routines, become established as authoritative guidelines for social behaviour (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). Meyer and Rowan (1977) argued that institutional environments impose structural uniformity on all organizations in modern society. DiMaggio and Powell (1983) introduced the concept of coercive, mimetic, and normative isomorphism, explaining how highly structured organizational fields create a context where individual efforts to navigate uncertainty and constraints often result in homogeneity in structure, culture, and output.

Expanding on the framework proposed by DiMaggio and Powell (1983), Scott (2008) distinguishes three distinct yet interconnected factors that form the basis of institutional order: normative, regulative, and cultural-cognitive elements. Normative elements introduce a dimension of prescriptions, evaluations, and obligations into social life (Scott, 2008). Regulative elements emphasize activities related to rule-setting, monitoring, and enforcing (Scott, 2008). Cultural-cognitive elements highlight shared conceptions that shape social reality and the frameworks through which meaning is constructed (Scott, 2008). Scott highlights the interdependent relationship among these three elements of institutional order, which vary in the types of institutional order they support. Each element

differs in the bases of order, motives for compliance, logics of action, mechanisms, and indicators employed. They offer distinct justifications for claiming legitimacy, whether through legal sanctions, moral authorization, or cultural support (Scott, 2008) It is crucial to recognize that each institutional dimension operates concurrently, influencing the formation of structures and beliefs. Relying excessively on a single element leads to incomplete understandings of institutional phenomena (Scott, 2008).

2.8 Conclusion

Existing research on WCM underscores the critical role of working capital in shaping the financial performance and sustainability of firms. Although its (WCM) essence is well-documented when it comes to developed economies, research on its application and implications in emerging markets remains limited. This oversight in research is particularly pronounced in the context of SMEs of the developing world, that frequently face financial constraints and institutional challenges such as restricted access to credit and reliance on short-term financing. These challenges highlight the need for a more in-depth understanding of how WCM influences profitability in resource-constrained environments, where effective financial management can have a profound impact on business outcomes (Javid, 2014; Braimah et al., 2021).

Furthermore, extant research frequently adopts a broad, cross-industry framework that inadequately encompasses the distinctive characteristics intrinsic to specific sectors. For instance, in the fisheries sector, elements such as seasonal variability in resource availability, dependence on natural ecosystems, and complex energy and environmental considerations present unique challenges that markedly differ from those encountered in other industries. An overly generalised perspective neglects these sector-specific complexities, thereby constraining the relevance of findings to industries characterised by high levels of dynamism and resource dependency. Despite the critical importance of the fisheries industry to the economies of many emerging markets (March & Failler, 2022),

the interplay between WCM practices and profitability in this industry has yet to be comprehensively explored.

Chapter 3

3. Hypotheses development

Having considered in section 2.7 the different theoretical frameworks to be followed in determining the effect of WCM on profitability, the study now proceeds to develop a framework that is specific to SMEs operating in emerging economies. In doing this, the study develops twelve hypotheses that are firmly grounded in the existing literature on WCM, providing a robust foundation to guide the research and aiming to test the effect of WCM components, its moderating factors and control variables on profitability. The first four determine the relationship between WCM components and profitability. In the second part of the section, three hypotheses are developed to determine the interaction effect of multiple moderating factors on the relationship between cash conversion cycle and profitability. Then, the last five hypotheses are developed to estimate the impact of other variables found relevant by previous studies to influence the relationship between working capital management and profitability. Lastly, a theoretical framework is proposed and used as a foundational structure to guide the research.

3.1 Working capital management components

Working capital management (WCM) is a strategic financial practice that focuses on optimizing a company's short-term assets and liabilities to ensure operational efficiency and liquidity (Baños-Caballero et al., 2010). At its core, WCM aims to balance the timing of cash inflows and outflows, enabling businesses to meet their obligations while minimising idle resources. One of the most critical frameworks for evaluating the effectiveness of WCM is the cash conversion cycle (CCC), which quantifies the time it takes for a firm to convert its investments in inventory and other resources into cash flows from sales. The CCC serves as a diagnostic tool, linking the operational efficiency of key working capital components: Days sales outstanding (DSO), Days inventory outstanding (DIO), and Days payable outstanding (DPO). Together, these metrics reveal how well a company manages its accounts receivables, inventory, and accounts payables (Maness & Zietlow, 2005:38). Therefore, to study the effect of WCM on a firm's profitability, each

individual component of WCM will be analyzed. The following discussion covers the developed hypotheses in relation to WCM components and their impact on profitability.

3.1.1 Cash conversion cycle and profitability

The CCC is a key metric for evaluating working capital management efficiency and is noted for its influence on corporate profitability. According to Peel et al. (2000) and Ebben and Johnson (2011), effective management of the cash conversion cycle allows managers to exert better control over a company's short-term investments, which can impact risk, profitability, and overall firm value. A shorter CCC is often viewed as an indicator of effective management, reflecting the ability to optimize liquidity while minimizing capital tied up in operational processes (Deloof, 2003). The effectiveness of the cash conversion cycle theory has been evaluated in different economic contexts through empirical studies, and the literature examining the relationship between the cash conversion cycle and corporate profitability has identified three main streams. These streams comprise studies that demonstrate a 1) positive relationship between cash conversion cycle and profitability, 2) concave relationship between cash conversion cycle and profitability, and 3) negative relationship between cash conversion cycle and profitability.

Research, similar to those conducted by Ng et al. (2017) and Javid and Dalian (2014) have revealed a positive correlation between cash conversion cycle and profitability. For example, Lyroudi and Lazaridis (2000) investigated the relationship between liquidity, profitability, and leverage ratios of 82 firms in the food industry listed on the Athens Stock Exchange in 1997. Their findings showed a positive link between cash conversion cycle and ROA. Additionally, the authors analyzed the impact of cash conversion cycle on factors such as profitability, indebtedness, and firm size. After conducting regression and correlation analyses, it was found that there exists a significant positive correlation between the cash conversion cycle and traditional liquidity measures such as current and quick ratios. Furthermore, the cash conversion cycle was found to have a positive correlation

with the return on assets and net profit margin, while no linear relationship was found with leverage ratios. Similar findings were reported by Sharma and Kumar (2011), who analyzed a sample of 263 non-financial firms in India from 2000 to 2008. This implies that more profitable firms may be less motivated to manage their working capital. In addition, Rimo and Panbunyuen (2010) conducted a quantitative study on the working capital management of listed Swedish companies by examining the impact of company characteristics. They selected 40 companies in the large capital investment segment listed on the NASDAQ OMX Stockholm Exchange with financial data for 2007 and 2008 and analyzed their findings using regression analysis. Their study found a significant positive correlation between profitability and the cash conversion cycle. However, in terms of the components of the cash conversion cycle, the regression analysis revealed a significant positive relationship between the number of days inventory and profitability, which contradicts previous studies by Deloof (2003), Raheman and Nasr (2007), and Lazaridis and Tryfonidis (2006).

Baños-Caballero et al. (2013) suggest that a longer cash conversion cycle can result in increased economic profitability by preventing disruptions and associated costs within the supply chain, while simultaneously attracting a more substantial customer base. However, this positive effect is not limitless since a longer days sales outstanding period could attract less creditworthy customers, leading to defaults, while a longer days inventory outstanding period could result in high maintenance costs due to non-moving inventory. These negative effects could offset the positive effects of a longer cash conversion cycle, resulting in reduced profitability or even bankruptcy in extreme cases (Chowdhury et al., 2018).

Secondly, some studies have found a U-shaped or inverted U-shaped relationship between the CCC and firm profitability (Baños-Caballero et al, 2014; Wetzel & Hofmann, 2019). This suggests that there exists an optimal level of cash conversion cycle. When the cash conversion cycle is low, companies may increase their profitability by extending their days sales outstanding period to drive sales growth. Similarly, increasing days inventory

outstanding period may help firms maintain a safety stock, leading to efficient operations. Moreover, decreasing days payable outstanding period can improve a firm's profitability, as it would help firms meet their obligations and maintain smoother supplier relations. However, if the cash conversion cycle exceeds a certain threshold level (due to high levels of receivables or inventory or low levels of accounts payable), firms may face increased cash risks and potentially face bankruptcy, even if they have good financial performance.

Lastly, several studies have highlighted a negative relationship between the CCC and profitability. Rezazadeh and Heidarian (2010) conducted a study to examine the impact of WCM on the profitability of Iranian companies. The study utilised data from 1356 Iranian listed companies on the Tehran Stock Exchange from 1997 to 2007. The findings revealed that companies could enhance their value by decreasing inventory levels and reducing the number of days sales outstanding period. Additionally, shortening the cash conversion cycle was found to have a positive effect on profitability, stock prices, and the cash flow of the firm, which is consistent with the findings of Zeidan and Shapir (2017).

Chang (2022) discovered that reducing the cash conversion cycle of a firm was linked to a rise in its profitability, though this correlation disappeared or reversed for firms with low cash conversion cycle levels. The study controlled for factors such as macroeconomic environments, economic development, financial crises, corporate governance, and financial constraints. Similarly, Napompech (2012) examined the impact of WCM on profitability using regression analysis of a panel sample of 255 companies listed on the Stock Exchange of Thailand from 2007 to 2009. The findings showed that there was a negative relationship between gross operating profits and the days inventory outstanding period and the days sales outstanding period. Therefore, the study suggests that managers can enhance their firm's profitability by reducing the cash conversion cycle, days inventory outstanding period, and days sales outstanding period. However, they cannot achieve this by extending the days payables outstanding period.

Firms with a shorter cash conversion cycle are anticipated to enhance operating profit margins by enabling faster cash recovery and more efficient reinvestment of working capital. In the fisheries sector, where cash flows are highly volatile and inventory is perishable, a shortened cash conversion cycle facilitates quicker access to liquidity, allowing fisheries to seize growth opportunities and sustain operations (Rey-Ares et al., 2021). This rapid reinvestment of cash not only strengthens firm growth but also supports operating profit margins, enabling fisheries to improve profitability while maintaining competitiveness in volatile markets. Furthermore, a shorter cash conversion cycle helps them mitigate risks associated with delayed receivables or excessive inventory, preserving liquidity and ensuring smoother financial operations. Based on this analysis, we propose the following hypothesis:

H1: There is a negative relationship between cash conversion cycle and profitability of Moroccan small and medium fisheries.

3.1.2 Accounts receivable and profitability

One way to view accounts receivable is as a type of short-term loan that suppliers grant to their customers, representing an investment in the working capital of the supplier (Rey-Ares et al., 2021). For buyers, it functions as a financing mechanism, allowing them to defer payment for a certain period of time. By extending credit, suppliers effectively take on the role of financial institutions (Jain, 2001), since the time lapse between the purchase of goods or services and payment serves as a source of financing for customers (Lazaridis & Tryfonidis, 2006).

The policy a firm adopts regarding its accounts receivable has a significant impact on its profitability. A high accounts receivable balance indicates that the business is slow in collecting payments from customers, while a low balance suggests that payments are collected more quickly. Increasing the level of accounts receivable can potentially boost sales by providing customers with extended credit, encouraging them to purchase more

(García-Teruel & Martinez-Solano, 2010). Moreover, maintaining a high level of accounts receivable can enhance profitability by acting as a quality guarantee for customers, suggesting that the company's products offer better value for money (Afrifa, 2015). In the fisheries sector, extended credit terms may reassure buyers about the reliability of the supplier and the freshness of their inventory, particularly in regions like Morocco, where trust plays a vital role in business relationships. Offering trade credit can also enable smaller buyers, such as independent fishmongers or local distributors, to purchase larger quantities, supporting the growth of both the buyer and the supplier. Empirical research conducted by Haresh (2012) has found a positive correlation between the collection period, also known as days sales outstanding, and economic profitability. Companies are inclined to extend more trade credit to customers when they experience lower sales growth (García-Teruel & Martinez-Solano, 2010). By allowing customers to delay payment, they can use this period to assess the quality of the products or services before paying, which increases their confidence in making a purchase. Customers can also return products that fail to meet their expectations without incurring any costs. However, the process of returning products and obtaining a refund has become more challenging and expensive (García-Teruel & Martinez-Solano, 2010). Allowing customers more time to pay can also contribute to a company's profitability by establishing long-term relationships with customers (Ng et al., 1999). Maintaining these relationships ensures customers will continue to do business with the company, resulting in future opportunities for maximizing profitability.

In contrast to extending trade credit policy, shortening the collection period enables companies to decrease the risk of late payments associated with facilitating trade financing. Small and medium fisheries in emerging markets, which are heavily influenced by seasonal cash flow patterns and a high dependency on natural resources, face significant financial risks when collection practices are excessively lenient (Hirsch & Gschwandtner, 2013). The perishable nature of fish inventory adds urgency to timely cash recovery, as delays in cash inflows caused by extended payment terms can result in inventory spoilage, financial losses, and operational inefficiencies (Rey-Ares et al., 2021). In such cases, capital tied up

in receivables restricts firms' ability to reinvest in new inventory, respond to market fluctuations, or meet short-term financial obligations. In the context of emerging markets, these challenges are further compounded by systemic constraints, including limited access to affordable credit and underdeveloped institutional frameworks for debt enforcement (Hanine et al., 2023). Small and medium fisheries often rely on high-cost external financing to bridge liquidity gaps during periods of delayed receivables collection, thereby increasing their financial burden and reducing overall profitability (Golaś, 2020). Moreover, extending credit in volatile markets heightens the risk of bad debt, particularly when buyers encounter their own financial difficulties or operate under unpredictable market conditions. The absence of robust legal protections for debt recovery in emerging markets exacerbates these risks, rendering firms more vulnerable to prolonged cash flow disruptions. Therefore, it can be hypothesised that:

H2: There is a negative relationship between days sales outstanding and profitability of Moroccan small and medium fisheries.

3.1.3 Accounts payable and profitability

Accounts payable serve as a crucial means of obtaining short-term funds for the majority of firms (García-Teruel & Martinez-Solano, 2010). It forms a substantial part of a company's current assets that can be used as a source of short-term financing (García-Teruel & Martinez-Solano, 2010). The literature examining the relationship between accounts payables and profitability indicates a significant association. Various studies indicate that firms with longer DPO periods tend to take more time to settle their bills compared to those with shorter payable periods (Ng et al., 1999; Ukaegbu, 2014; Tarek & Rafik, 2020; Amponsah-Kwatiah & Asiamah, 2021). This delay can result in the loss of early payment discounts, which negatively impacts profitability. Additionally, firms that extend their payment terms face high opportunity costs due to the loss of discounts and the inherent costs associated with longer credit periods. As a result, the decision to accept or

request a credit period carries an inherent cost that can reduce profitability. García-Teruel and Martinez-Solano (2010) suggested that firms risk losing profitability if they invest too much in accounts payable due to the high cost of investment in current assets and the risk of accepting late-paying customers. Furthermore, if the cash discount and credit period offered by a firm are not competitive compared to others in the same industry, this can have negative effects on the firm's value. In a separate study, García-Teruel and Martinez-Solano (2007) used a panel of small to medium-sized enterprises in Spain to demonstrate a significant negative relationship between an SME's profitability and the number of days sales outstanding and inventory. They recommended that managers could increase value by reducing the number of days their accounts are outstanding.

In contrast to a negative relationship between days payable outstanding and profitability, several studies suggest that extending the days payable outstanding period can lead to increased profitability. For instance, Raheman et al. (2010) found that lengthening the payment period allowed firms in Pakistan's manufacturing sector to manage cash flow more efficiently, control the quality of goods purchased, and reduce information asymmetry between the buyer and seller. This extended payment period enables firms to retain liquidity longer, which in turn can be invested in other areas like inventory or accounts receivable, ultimately increasing profitability (Mathuva, 2010).

The fisheries sector in Morocco often lacks access to affordable credit facilities due to underdeveloped financial markets and stringent lending requirements that make extended DPO periods strategically beneficial. Small-scale fisheries are heavily reliant on natural resources, and their cash flows are subject to significant seasonal fluctuations ((Rey-Ares et al., 2021). The ability to extend payment terms allows fisheries to manage cash flow more effectively, especially during periods of low demand. Moreover, longer payment periods provide fisheries with the flexibility to maintain liquidity, helping them to secure necessary resources for future operations and maintain financial stability during periods of low demand. The ability to extend payment periods plays a pivotal role in helping

Moroccan small-scale fisheries manage their cash flow, sustain operations during challenging periods, and reduce reliance on external financing (Hanine et al. 2023). This strategy aligns with the broader necessity of liquidity management in emerging market contexts, where economic uncertainty and financial constraints pose significant challenges to the sustainability and profitability of small enterprises. Based on these arguments, it can be hypothesized that:

H3: There is a positive relationship between days payable outstanding and profitability of Moroccan small and medium fisheries.

3.1.4 Inventory management and profitability

The profitability of firms is greatly influenced by the management of inventory as a component of WCM (Koumanakos, 2008). Studies conducted by Gill et al. (2010) and Ching et al. (2011) have also shown that the amount of inventory held affects a firm's profitability. Firms that hold lower inventory are able to sell their products quickly, while higher inventory levels indicate slower turnover. According to Deloof (2003), inventory management involves balancing sales and costs. Firms must strategically manage inventory to achieve this balance. Holding excessive inventory can lead to high holding costs, while inadequate inventory can cause stockouts and revenue loss. As a result, effective inventory management is essential for operational efficiency and maintaining a competitive edge. Firms must take a strategic approach to inventory management to achieve the optimal balance between these variables. According to Gill et al. (2010), holding high inventory levels can increase a firm's sales. Furthermore, maintaining adequate inventory levels can avoid stock-outs, which may result in the loss of client business (Mathuva, 2010; Deloof, 2003; Gill et al., 2010; Falope & Ajilore, 2009).

Maintaining a high level of inventory can prevent trading interruptions, which contributes to profit maximization for firms (Gill et al., 2010). Additionally, it helps prevent emergency buying which is usually more expensive. A high level of inventory can also prevent stock-

out situations that can negatively affect profitability by damaging the company's reputation and causing current and potential customers to go elsewhere (Gill et al., 2010). Furthermore, stock-outs can result in increased production costs due to idle time, leading to increased costs of goods and reduced profit margins, ultimately reducing profitability. Therefore, maintaining an optimal inventory level is crucial for businesses to avoid these negative impacts and maximize profitability. According to Chowdhury and Amin (2007), low inventory levels can disrupt the regular business activities and hurt the profitability of a company. Moreover, a high inventory level can protect a company from fluctuations in prices, as stated by Blinder and Maccini (1991). With inflation leading to an increase in prices, maintaining inventory can help companies save money and potentially boost profitability. Previous studies conducted by Mathuva (2010), Lazaridis and Tryfonidis (2006), and Nobanee (2009) have all reported a positive correlation between inventory holding period and profitability.

Conversely, maintaining high inventory levels can be detrimental to a company's profitability, particularly in resource-dependent industries like fisheries in emerging markets, where financial flexibility is essential for sustainability. This challenge is underscored by Drury (2000), who argues that excessive inventory ties up working capital, restricting a firm's ability to allocate resources toward income-generating activities or invest in more profitable ventures. This can lead to sub-optimal allocation of financial resources, as the tied-up capital could have been invested in a more profitable project to improve profitability. Additionally, keeping high inventory levels may require the company to seek short-term financing, which can increase financing costs and reduce profitability. As pointed out by Falope and Ajilore (2009), firms that allocate a significant portion of their resources to inventory management may experience a decrease in profitability.

For small-scale fisheries, the implications of inventory management are even more pronounced due to the perishable nature of their products and the seasonal variability of

fish supply. Fisheries in emerging markets often operate with limited access to modern storage facilities, which exacerbates the risk of spoilage and wastage (Hanine et al., 2023). The need to manage inventory carefully becomes critical, as excess stock not only increases operational inefficiencies but also undermines the financial sustainability of these enterprises. When inventory levels are poorly aligned with market demand, fisheries may incur higher costs for storage and labour while failing to capitalize on profitable sales opportunities (Taconet et al., 2002). Studies have shown that poor inventory management can lead to significant financial losses in resource-dependent industries, especially in the absence of robust cold-chain infrastructure (Hanine et al., 2023).

Additionally, small-scale fisheries often face systemic challenges such as limited access to credit and financing, which further complicates inventory management (Rey-Ares et al., 2021). With restricted financial resources, fisheries may struggle to invest in modern storage infrastructure or adopt advanced inventory management systems. This financial strain makes it difficult for these enterprises to optimise inventory levels, resulting in a cycle of inefficiency and financial instability. Moreover, the fish supply's seasonal nature, unpredictable weather patterns, and environmental changes introduce additional uncertainty in inventory planning (Hanine et al., 2023). Fisheries must strike a delicate balance between maintaining sufficient stock to meet market demands and minimizing the risks of overstocking, which could lead to spoilage and increased operational costs. In emerging markets like Morocco, addressing these inventory management challenges is crucial to supporting the sustainability and profitability of small-scale fisheries, which play a vital role in local economies and food security (Hanine et al., 2023). Given these challenges, it is evident that longer inventory periods can negatively impact profitability by tying up working capital, increasing spoilage risks, and elevating operational costs (Rey-Ares et al., 2021). Therefore, it can be hypothesized that:

H4: There is a negative relationship between days inventory outstanding and profitability of Moroccan small and medium fisheries.

3.2 Moderating variables

Although existing research have recognised and provided evidence that WCM affects firm profitability, there is a debate on the extent to which this relationship is influenced by external and internal factors (Anton & Nucu, 2022). It has been argued that the presence of moderating variables explains the inconsistent empirical findings on the relationship between WCM and profitability (Singh et al., 2016; Vlismas, 2024). This study uses corporate governance, institutional support, and bureaucratic corruption as the main moderating variables. The following discussion covers the developed hypotheses in relation to the interacting effect of these moderating variables on the relationship between cash conversion cycle and profitability.

3.2.1 Moderating role of corporate governance

Corporate governance is regarded as a structure that enhances board effectiveness and reduces agency problems (Bawuah, 2024). Implying the corporate governance principles can bring benefits for the owners and managers. At the same time, it will enhance transparency and disclosure of the information. This makes the enterprises easily access more capital and attract the partners and investors. In addition, it will also contribute the enterprises to survive and sustain in an increasing competitive situation by mergers, acquisitions, and partnerships (Rachagan & Satkunasingam, 2009). Corporate governance mechanisms are critical in ensuring a firm's competitiveness and long-term sustainability (Ngatno & Youlianto, 2021). Firms that prioritise robust corporate governance practices often demonstrate greater shareholder value, attributed to enhanced cash flows and/or lower capital costs. Conversely, companies with weak governance frameworks fail to ensure sustainable wealth creation for shareholders, as inadequate oversight mechanisms leave executives unaccountable for their managerial decisions (Ngatno & Youlianto, 2021). In the absence of adequate corporate governance systems, external investors tend to allocate their equity investments to firms with stronger governance frameworks, which are better positioned to protect and grow shareholder wealth (Ngatno & Youlianto, 2021).

While Maximizing firm value is the ultimate goal of shareholders, corporate governance sets mechanisms to ensure that companies safeguard the interests of shareholders. However, according to agency theory, there are often conflicts of interest between firm managers and shareholders (Ngatno & Youlianto, 2021). Other conflicts of interest also arise between top controlling shareholders and minority shareholders, arguing that large shareholders can directly or indirectly exploit minority shareholders as well as employee rights, causing enormous agency problems. In emerging economies, governance mechanisms are frequently fragmented or poorly enforced due to informal business practices, regulatory gaps, and limited stakeholder oversight (Meagher, 2013). This institutional weakness amplifies the risks of prolonged CCCs in sectors like small and medium-scale fisheries, where operational and market uncertainties are already high. Seasonal demand fluctuations and perishable inventory in fisheries add complexity; without governance frameworks to enforce contingency planning, small-scale fisheries cannot mitigate CCC volatility, leading to profit margin erosion during market downturns. Agency problems further exacerbate this issue; without mechanisms to align managerial incentives with long-term profitability may prioritize short-term sales growth over sustainable CCC optimisation. This misalignment worsens liquidity strains, directly eroding profitability (Ngatno & Youlianto, 2021).

Contrary to the destabilising effects of weak governance frameworks, Claessens and Fan (2002) posit that well-structured corporate governance systems unlock significant advantages for firms, including improved access to financing, reduced capital costs, heightened operational performance, and equitable stakeholder treatment. This framework also helps ensure that corporate finance providers achieve a return on their investment, as noted by Shleifer and Vishny (1997). Integral to this success are disciplined board procedures and internal audit control, which enforce accountability and procedural rigor, as well as transparent disclosures that minimize information asymmetry. These components, as argued by Nsour and Al-Rjoub (2022), Black et al. (2012), and Ararat et al. (2017), collectively foster an environment where transparency and oversight counteract

the financial mismanagement and opacity endemic to weak governance systems, thereby driving long-term resilience and value. Numerous studies, including Brown and Caylor (2006, 2009), Dittmar and Mahrt-Smith (2007), and Gompers, Ishii and Metrick (2003), have shown that good corporate governance has a positive impact on both firm performance and market value. However, most of these studies have focused on corporate governance within developed markets, particularly in the US equity markets.

The literature on the importance and effect of corporate governance is vast, but literature on constructing a comprehensive corporate governance index is limited. The work of Ararat et al. (2017), Black et al. (2019), Black et al. (2012), Balasubramanian et al. (2011), Cheung et al. (2010), Cheung et al. (2007), Beiner et al. (2006), Black et al., (2006), Bebchuk and Cohen (2005), and Gompers et al. (2003), is some of the main works in this area. Black et al. (2019) find that well-constructed, country-specific "corporate governance indices" can predict higher firm values in emerging markets. They investigated four major emerging markets (Brazil, India, Korea, and Turkey) and built an overall country-specific governance index. The overall index includes five subindices: disclosure, board structure, ownership structure, shareholder rights, board procedure, and control of related party transactions. The main findings are: (i) disclosure (especially financial disclosure) predicts higher market value across all selected countries, (ii) board structure (principally board independence) has a positive coefficient in all selected countries and only significant in two countries, (iii) ownership structure, shareholder rights, board procedure and control of related party transactions indices do not predict firm value.

Ararat et al. (2017) study the effect of corporate governance on firm value and profitability in Turkey from 2006 to 2012, relying on hand-collected data covering the vast majority of listed firms. They build a Turkey Corporate Governance Index (TCGI), composed of five subindices for board structure, board procedure, disclosure, ownership, and shareholder rights. Ararat et al.(2017) main findings are that TCGI predicts higher market value (with firm fixed effects) and higher firm-level profitability with firm random effects. The

disclosure sub-index is the principal sub-index that predicts higher market value and profitability and drives the Index results. Sarkar et al. (2012) constructs a corporate governance index for the largest 500 listed firms in the Indian corporate sector from 2003 to 2008. They use the information on four crucial corporate governance mechanisms: the board of directors, ownership structure, audit committee, and the external auditor. They document an increasing trend in the governance index of Indian companies. They further examine the relationship between the Corporate Governance Index and companies' market performance and find a strong relationship between the two with companies with stronger corporate governance structures earning up normal returns. Balasubramanian et al. (2011) provide a detailed "case study" of firm-level governance practices in India, based on an extensive survey in 2006 of 506 Indian public companies' firms. They build a broad overall Indian Corporate Governance Index (ICGI) and find a positive association between ICGI and firm market value with a stronger association between ICGI and smaller firms.

Based on the above-discussed arguments, the interplay between corporate governance practices and profitability in Moroccan small and medium-scale fisheries may be shaped by contextual complexities that constrain the anticipated benefits of governance mechanisms. With the above in mind, the following relationship is assumed:

H5: Corporate governance index has a negative moderating effect on the link between cash conversion cycle and profitability of Moroccan small and medium fisheries.

3.2.2 Moderating role of Institutional support

The firm profitability is usually explained at a micro level by considering its individual qualities, assets, and competitive advantages, (Yazdanfar, 2013). However, certain determinants of firm profitability should also be explained within contexts and institutional frameworks (Kafouros & Aliyev, 2015; Aftab et al. 2022). Such contexts include the industry or country's political, economic, and cultural arrangements (Williams et al., 2016). With this argument, the institutional theory emphasizes the role of institutions in

the effective functioning of markets (North, 1994). According to Li and Atuahene-Gima (2001), institutional support is "the extent to which administrative institutions provide [backing] for firms" (p. 1125). From an entrepreneurial perspective, institutional support refers to "policies, practices, and policing activities aimed at creating a munificent business environment, characterized by attractive opportunities for new market participants" (Hunt, 2015, p. 6).

Research acknowledges that institutional support is a complex and multidimensional construct that requires careful and precise measurement (Islam et al., 2020). Elsewhere scholarly research identifies the measurement of institutional support using diverse frameworks and methodologies, often incorporating various dimensions such as government financial support for SMEs, business development support, networking and partnerships, and legislative policies (Ismail & Othman, 2014; Jayeola et al., 2020; Rahman & Ramos, 2014; Jiang, 2014; Nieuwenhuizen, 2019). The growth of SMEs largely relies on government assistance to enable them to consistently expand, navigate crises, and survive in the competitive globalised business environment (Iweka et al. 2016). To foster the growth of SMEs, it may be essential to provide government financial support aimed at encouraging entrepreneurship and aiding SMEs to survive and maintain efficient working capital, particularly in emerging economies (Jayeola et al., 2020; Dittmar & Mahrt-Smith, 2007; Kusnadi, 2019; Orlova & Sun, 2018; Pinkowitz et al., 2006; Faruq & Weidner, 2018; Fidrmuc & Xia., 2017; Ghoul et al., 2017; Joo & Suh, 2017). Al-Tamimi et al. (2014) assessed the relationship between government support and the profitability of Iraqi SMEs, concluding that a positive relationship exists. Furthermore, they determined that government support significantly explained the profitability and competitiveness of SMEs. Research conducted by Ismail and Othman (2014) in Malaysia investigated the impact of various government support programmes on SMEs in the manufacturing and service sectors. Their findings indicated that government financial assistance was a crucial factor in the growth of SMEs. However, government financial support, if not administered transparently, can lead to market distortions by favouring certain firms over others.

Preferential treatment, such as selective subsidies or tax breaks, can create unfair competitive advantages for some SMEs, while others struggle to compete without similar support.

In addition to the government financial support, there is a need to business development services. Business development services may be defined as those services and products offered to entrepreneurs at various stages of their business development journey, from business idea development all the way to the growth and maturity of the business (UNDP, 2004). Several studies have examined the effects of government business development services on SMEs. For instance, Rahman and Ramos (2014) evaluated the impact of a financial management training programme implemented by the Bangladeshi government on SMEs. The study revealed that the training programme had a positive effect on the financial management practices of SMEs, such as bookkeeping and financial planning. In a study conducted by Tambwe (2015), the impact of entrepreneurship training on the performance of micro and small enterprises (MSEs) was assessed. A sample of 60 food vendors from Ilala District was used to test the hypothesis before and after the training. The results indicated that proper entrepreneurship training is positively associated with the successful performance of SMEs. Additionally, the findings revealed a positive relationship between government entrepreneurship training and the successful performance of MSEs. The study recommended that both the government and business development service providers should make efforts to ensure that these training programmes are readily available to all MSEs in the country to foster sustainable economic growth. Conversely, the absence of institutional development services could negatively influence the value of cash holdings (Anton & Nucu, 2022) and reduce the firm's ability to enhance its performance (Amankwah-Amoah & Debrah, 2017).

In light of the critical importance of institutional support, it becomes evident that the interplay of external factors holds a pivotal role in the growth and development of SMEs. Notably, the entrepreneurial network because of the role it plays in growth and

development of the SMEs by providing easy access to resources in the external environment (Das & Goswami, 2019; Casson & Giusta, 2007; Chell & Baines, 2000; Elfring & Hulsink, 2003; Havnes & Senneseth, 2001; Hoang & Antoncic, 2003). The entrepreneurial network refers to the collaborative formal/informal relationships between the owners/managers of SMEs with their social, business, and institutional contacts to access resources (Centeno, 2014). Bantham et al. (2003), Johnson and Sohi (2003), Rothaermel and Deeds (2006), Shan et al. (1994), and Wernerfelt (1995) believed that entrepreneurial network of SMEs is essential for providing the needed resources and enhances owners/managers competencies to acquire and use the resources from the external environment. The competencies of the owners/ managers would allow for easy and straightforward evaluating, spotting, tapping and utilisation of resources. According to Jarillo (1989) and Zhao and Aram (1995), entrepreneurial network aids the SMEs in accessing and using resources that are external to them by maintaining interrelationships among its members. They further maintained that interrelationships also support the SMEs to acquire knowledge and skills that enable them to accomplish competitive advantages and to achieve high performance. Similarly, the entrepreneurial network of the SMEs also minimises transaction costs and the risk of failure (Das & Goswami, 2019). Similarly, Oparaocha (2015) is of the view that an entrepreneurial network makes available to the SMEs resources which they do not have, or they have but are inadequate. They further maintained that the entrepreneurial network helps the SMEs to develop strategies of dealing with obstacles that might hold back or obstruct the performance of their businesses. In the same way, Dollinger (2003) also maintained that entrepreneurial networks provide the SMEs with appropriate and essential information relating to the ever-changing external business environment. It assists in evolving a fit relationship, developing a reputation and trustworthiness among members. Furthermore, Yamada (2004) pointed out that entrepreneurs, SMEs, institutions, and interrelationship always serve as resources to one another. According to Mustafa and Chen (2010) and Inkpen and Tsang (2005), the entrepreneurial network is helping the SMEs with precise usage of knowledge, resources, markets, and technologies. Some SMEs according to Johannisson (2000) develop market

advantage, market intelligence, and penetrate the market using the EN to strategically position their products/services, break entrepreneurial barriers and be able to compete with competitors.

Furthermore, through legislative policies, SMEs can benefit from direct and indirect advantages. As a direct benefit, SMEs can secure business operations, lessen unfair competition, enhance productivity, and invest in research and development and human resources. Indirect benefits for SMEs and the economy as a whole include the realisation of SMEs' economic potential; a better business environment that benefits the entire business population regardless of size; improved skills for the working population; and better policies and practices at national, regional and local levels. Despite the significant role of legislative policies in the development of SMEs, the legal framework in other regions, such as emerging ones, still suffers from overlapping, complexity, contractions, slow implementation, ineffective mechanisms for commercial dispute resolution, burdensome administrative procedures, and, above all, poor rule of law (Edmore, 2017). Nieuwenhuizen (2019) emphasizes that while regulations are designed to ensure market fairness and protect economic stability, in many developing economies, they inadvertently contribute to operational inefficiencies and financial mismanagement. The lack of a transparent, streamlined, and supportive regulatory environment hampers effective financial decision-making, increasing the likelihood of cash flow disruptions, inefficient working capital cycles, and ultimately financial distress.

Despite both direct and indirect government support, small and medium enterprises (SMEs) in emerging markets remain disproportionately vulnerable to systemic risks, including financial distress and liquidation (Chakabva et al., 2021). This vulnerability stems from a weak institutional framework that fails to provide consistent regulatory safeguards, reliable access to credit, or effective mechanisms to mitigate resource misallocation (Jayasekara et al., 2020), thereby exacerbating financial instability. Furthermore, weak institutional environments can undermine the effectiveness of even the

most well-structured working capital management (WCM) strategies. Although firms may adopt best practices in managing inventories, receivables, and payables, the external constraints imposed by inadequate institutional quality can significantly limit the potential benefits of these practices. Anton and Nucu (2022) indicated that institutional variables negatively impact a firm's cash ratio. This suggests that in environments with lower institutional quality, firms are often pressured to maintain higher levels of cash reserves as a buffer against systemic risks, rather than allocating these resources productively to enhance profitability. The necessity of holding excess cash underscores institutional inefficiencies that prevent firms from fully capitalising on effective working capital management strategies. This further illustrates how inadequate institutional conditions can impede the operational and financial performance of SMEs, even when internal management practices are optimised. The hypothesis that is formulated on this base is as follows:

H6: Institutional support index has a negative moderating effect on the link between cash conversion cycle and profitability of Moroccan small and medium fisheries.

3.2.3 Moderating role of bureaucratic corruption

In a country, institutions play a crucial role in allocating entrepreneurial resources (Boudreaux, 2014; Grossman & Kim, 1995), while entrepreneurs also actively respond to the institutional environment and help shape it (Henrekson & Sanandaji, 2011). In environments with weak institutions, corruption can thrive, and entrepreneurs are compelled to manage the associated uncertainties (McMullen & Shepherd, 2006; Tonoyan et al., 2010). In developing economies, bureaucrats such as government officials, civil servants, and bank managers may demand bribes to perform basic government functions, which is known as corruption (Shleifer & Vishny, 1997; Van Vu et al., 2018). This creates challenges for entrepreneurs in operating their businesses; since cash reserves face a heightened risk of being misappropriated for illicit activities, thereby squandering valuable resources and eroding firm value (Chen, 2011). This contrasts with environments characterised by robust governance and ethical norms, where cash holdings are more likely

to be deployed judiciously to maximise shareholder wealth. Scholars suggest that corruption has a negative impact on future firm growth and financial performance and diverts the benefits from society to corrupt individuals (Dutta & Sobel, 2016; Asteriou et al., 2021; Le & Doan, 2020). Companies operating in a highly corrupt environment often experience reduced financial performance and increased financial risk (Le & Doan, 2020). Increased corruption at the microeconomic level is linked to an elevated cost of doing business (Asteriou et al., 2021), resulting in a decrease in sales and income, and then leading to a limited availability of financial resources for funding working capital obligations. Conversely, an environment characterised by freedom from corruption can alleviate the burdens faced by businesses (Yasar et al., 2011), manifested in lower production costs and transaction costs associated with activities such as identifying trading partners, negotiating terms, or enforcing contractual obligations (Asteriou et al., 2021). This favourable climate fosters an ecosystem conducive to sustainable growth and value creation for firms.

While some scholars argue that corruption has a detrimental impact on entrepreneurial activities, others suggest that it has a positive effect (Dreher & Gassebner, 2013; Van Vu et al., 2018). For example, Van Vu et al. (2018) found in their study on SMEs in Vietnam's private manufacturing sector that different types of corruption have varying impacts on firms' financial performance. They discovered that certain forms of bribe do not affect firm performance, but bribes paid to obtain government contracts and licenses adversely affect it. On the contrary, companies that offer bribes for public services might experience better performance compared to those that do not. Similarly, corruption can facilitate the entrepreneurial process and prevent excessive delays in acquiring necessary approvals and resources (Bardhan, 1997; Dreher & Gassebner, 2013). Engaging in corrupt activities could lead to entrepreneurs receiving preferential treatment, such as bank loans, permit approvals, direct contracts, and regulatory advantages (Acquaah, 2007; Dheer, 2017; Wellalage et al., 2019a, 2019b).

Entrepreneurs in developing countries often face limited economic opportunities and institutional constraints, making it difficult to sustain and grow their businesses (Ahsan et al., 2020). In such environments, bureaucratic corruption becomes a common strategy for firms seeking to navigate inefficient bureaucracies and burdensome administrative processes (Della Porta & Vannucci, 1999). This is particularly relevant in Moroccan small and medium-sized fisheries, where complex regulatory requirements, unpredictable licensing processes, and financial constraints can create significant barriers to efficient business operations (Hanine et al., 2023). In small-scale fisheries, securing access to fishing permits, distribution channels, and government support often involves navigating opaque regulatory structures, where unofficial payments may expedite decision-making (Quynh et al., 2017).

Furthermore, when firms perceive corruption to be widespread, they are more likely to engage in bribery as a defensive strategy, fearing that refusal may jeopardize their operations (Gorsira et al., 2018; Rose-Ackerman, 2001; Tonoyan et al., 2010). In fisheries, where cash flows are highly dependent on seasonal factors, government quotas, and unpredictable supply chain disruptions, excessive bureaucratic red tape can increase operational costs and prolong the cash conversion cycle (Hanine et al., 2023). In response, firms may resort to bribing officials to expedite licensing, bypass regulatory hurdles, or secure favorable credit terms, thereby improving their short-term liquidity and profitability (Quynh et al., 2017). When laws are poorly defined, and regulations are unclear, it can increase the cost of doing business. Entrepreneurs may feel motivated to bribe bureaucrats to bypass the burdensome process and maintain their firms' competitiveness. While corruption can facilitate entrepreneurship in weak institutional environments, it can also promote opportunistic behaviors that firms must guard against. Based on these arguments, the following hypothesis is proposed:

H7: The bureaucratic corruption index has a positive moderating effect on the link between the cash conversion cycle and the profitability of Moroccan small and medium fisheries.

3.3 Control variables

This thesis considers additional variables that might impact the relationship between WCM and profitability, including company size, financial leverage, liquidity ratio, gross working capital efficiency, and working capital requirement. These variables were included in the analysis to assess their potential influence on the profitability of companies.

3.3.1 Firm size

Firm size is considered to be one of the most important determinants of profitability (Irawan et al., 2022). There are several reasons why size and profitability are related. One reason is the presence of economies of scale, which have been shown to have a positive impact on profitability (Singh & Whittington, 1975). By achieving economies of scale, such as reduced operating and innovation costs, larger corporations are more inclined to reap the advantages of economies of scale in comparison to smaller businesses due to their higher average production volume, resulting in a reduction in the cost per unit, which leads to increased profitability. Furthermore, Shepherd (1986) asserts that bargaining power is an additional factor that impacts firm profitability. The profitability of a company can be positively affected by its bargaining power, which refers to its ability to influence its trading relationship with customers and suppliers. A corporation that possesses more leverage over its clients has the potential to determine various aspects, including the extent of credit provided, payment terms, product quality, and delivery methods, all of which can impact profitability. Similarly, a company with greater bargaining power over its suppliers can dictate factors such as the amount of credit granted, payment terms, and supplier product quality, which can also improve profitability. The size of a company can be a significant factor in determining its bargaining power over suppliers and customers and, thus its potential for profitability. As a result, larger companies are likely to have greater bargaining power than smaller ones, which can contribute to their higher levels of profitability.

While larger firms benefit from greater bargaining power, which enhances their ability to negotiate favourable terms with suppliers and customers, small and medium enterprises mitigate these disparities through enhanced adaptability and operational efficiency. Research has highlighted that SMEs, despite encountering acute market uncertainties and significant capital constraints, demonstrate greater adaptability to shifting market conditions and operational efficiency, which facilitates their resilience and competitive success (Dhawan, 2001). According to Yang and Chen (2009), small companies with non-hierarchical structures have greater adaptability to changing business environments, which enables them to swiftly adopt new processes, marketing channels, and other improvements that can enhance profitability. The previous studies conducted by Robinson (1934), Coase (1937), Penrose (1955), and Williamson (1975) have all contended that the expansion of a corporation leads to inefficiency, thereby establishing the existence of growth limitations. According to their perspective, as companies expand in size, they may experience diseconomies of scale. This means that a company might reach a point when the advantage gained from the most recent internal transaction is outweighed by managerial failure or other internal or external factors.

Additionally, Symeou (2010) has argued that small companies possess certain characteristics that can offset the disadvantages of their small size. For instance, small companies generally have fewer agency issues than larger companies, as demonstrated by studies conducted by Pi and Timme (1993) and Goddard et al. (2005). This is because their owners or close family members usually run small companies. In contrast to larger companies, small companies have a close relationship between their owners and management, which means that management may not prioritise their interests over those of the owners (Symeou, 2010). This alignment of interests between owners and management can lead to higher profitability because there is less misappropriation of funds. This structure provides a critical advantage in Morocco, where many fisheries are family-owned SMEs (Atmani, 2003). Family-run fisheries operate with streamlined decision-making processes and inherent trust among stakeholders, reducing the risk of resource

misallocation or opportunistic behaviour common in larger, more bureaucratised firms. For example, profits are more likely to be reinvested directly into the business or used to sustain livelihoods rather than diverted for non-essential purposes. This efficiency directly supports profitability, as fewer financial resources are lost to internal conflicts or oversight mechanisms.

Furthermore, the family-centric model prevalent in Moroccan fisheries avoids the diseconomies of scale that often accompany corporate growth. As firms expand, introducing non-family managers or complex hierarchies can dilute the alignment of interests, reintroducing agency problems (Symeou, 2010). The operational scale of larger fisheries often incurs elevated costs linked to employee oversight, internal conflict resolution, and regulatory compliance obligations, which may erode profit margins relative to smaller enterprises (Hansen & Wernerfelt, 1989; Symeou, 2010; Tingbani, 2015; Yadav et al., 2022) suggest a negative relationship between company size and profitability. Therefore, one can conclude that the prominence of family-owned SMEs in this sector reinforces a negative relationship between firm size and profitability. Thus, the following hypothesis is proposed:

H8: There is a negative relationship between firm size and profitability Moroccan small and medium fisheries.

3.3.2 Financial leverage

According to several studies (Ruland & Zhou, 2005; Onaolapo & Kajola, 2010; Akinlo & Asaolu, 2012; Ojo, 2012), financial leverage has a significant impact on a firm's profitability. The main argument in favor of financial leverage for maximizing company profitability is that bondholders receive a fixed interest rate, and investing the debt in a profitable venture that generates a return higher than the cost of debt will increase the company's profitability. This can result in net gains for the company after paying the amount due to debt holders. However, since the interest rate is fixed, any future adverse

changes in the expected return on investment could lead to a reduction in profitability. An additional reason supporting the notion that there is a positive correlation between financial leverage and profitability is that having debt in the capital structure increases the managerial accountability to deliver results (Weill 2003; Akintoye 2008; Boodhoo 2009).

Managers are incentivised to perform better when the company has debt because they will be under pressure to ensure that the company generates enough income to service the debt. If they fail to do so, debt holders may force the company to shut down, and managers may lose their jobs. This pressure to perform encourages managers to avoid bankruptcy, which can have personal costs for them. Additionally, debt financing can help eliminate moral hazard behavior among managers because it reduces the amount of free cash flow available to them, according to Jensen (1986). The tax shield advantage of debt financing is another way it can enhance a company's profitability, according to Modigliani and Miller (1963). In many countries, particularly in the UK, interest payments on debt financing are tax-deductible, which lowers a company's taxable income and results in tax savings that can increase profitability. This has led some researchers, such as Bothwell et al. (1984) to propose a positive correlation between financial leverage and profitability.

Despite the previously mentioned benefits of debt financing, some studies have found a negative correlation between debt and a firm's profitability. For example, research conducted by Chen et al. (2010) in Taiwan and Akinlo and Egbetunde (2010) in Nigeria found a negative relationship between a firm's debt-to-equity ratio and its profitability or return on assets. This suggests that higher levels of debt may have a detrimental effect on a company's profitability. Additionally, Weill (2003) suggested that the presence of debt exacerbates the agency cost problem in firms by introducing a new dimension to the principal agency relationship. In the Moroccan fisheries sector, where informal management practices and limited corporate governance structures are common, these agency conflicts can become more pronounced, further eroding profitability (Benoit & Comeau, 2012). Small and medium fisheries in emerging markets often function without

formal oversight mechanisms, making it challenging to monitor how debt is utilised. Consequently, a high debt ratio can result in the mismanagement of borrowed funds, heightening the risk of financial distress. The lack of robust governance structures implies that managers may lack the incentives or oversight needed to use debt strategically, which can lead to resource misallocation and diminished profitability. Previous research has also suggested a negative relationship between profitability and debt-to-asset ratios (Wald, 1999; Sheel, 1994). Based on the findings of previous studies that suggest a negative relationship between financial leverage and profitability, we can formulate the following hypothesis:

H9: There is a significant negative relationship between financial leverage and profitability of Moroccan small and medium fisheries.

3.3.3 Liquidity ratio

Boermans and Wiilbrands (2011) suggest that a firm's level of liquidity significantly impacts its profitability since having access to liquidity enables the firm to fulfill its short-term obligations and invest in profitable opportunities. Conversely, high levels of liquidity may impede a company's profitability (Hvide & Moen, 2007; Ng & Baek, 2007). Tauringana and Afrifa (2013) found that there is a negative relationship between liquidity and profitability. Additionally, having high levels of liquidity may lead to managers misusing the company's funds. Jensen (1986) contends that managers have a motivation to increase the free cash flow of their companies because it is one of the few assets they can control freely. Similarly, Damodaran (2005) suggests that managers have their own interests to pursue, and cash gives them the resources to fund their pursuits. Therefore, it can be argued that although high liquidity may reduce profitability, the lack of it could be more harmful to companies.

Debt can adversely affect a company's profitability due to various factors. One reason is that it increases agency costs for companies, which changes the principal-agency dynamics.

Aside from the agency problem that arises between directors and investors, debt financing also gives rise to an agency problem between owners and debt holders. The rise in agency cost can adversely impact profitability. Another reason is that debt financing involves future cash flow commitments, including periodic interest payments and eventual repayment of the loaned initial amount. This obligation elevates both the direct as well as indirect expenses associated with bankruptcy, which can have a detrimental effect on profitability. Several studies, such as those by Kortweg (2004) and Dimitrov and Jain (2005), have uncovered an adverse relationship between financial leverage and profitability. For SMEs, the heightened expenses of acquiring external funding and the limitations enforced by external lenders may further amplify the negative impact of debt on performance. This is particularly relevant to Moroccan small and medium fisheries, where access to affordable credit is often limited, and borrowing costs are relatively high due to underdeveloped financial markets and weak institutional frameworks. Additionally, the fisheries sector in Morocco is characterised by seasonality in revenue generation, which may lead to cash flow instability and greater reliance on short-term debt to cover operational expenses. Overall, while debt financing can be used strategically to boost profitability if the borrowed funds are invested in profitable projects or assets, the negative effects of debt on agency costs and bankruptcy costs must be considered when making financing decisions. The above discussion leads to the formulation of the following hypothesis:

H10: There is a negative relationship between liquidity ratio and profitability of Moroccan small and medium fisheries.

3.3.4 Gross working capital efficiency

The focus of WCM is to manage current assets, and therefore, gross working capital efficiency is used to measure a firm's operational efficiency. This means that the more effectively a company uses its current assets to generate sales, the less it needs to rely on short-term financing to meet working capital needs. In other words, gross working capital

efficiency calculates the amount of investment made in current assets to generate sales. The opportunity cost of money tied up is affected by the amount of investment made in current assets, which can impact company profitability. These investments come in two forms: investment in inventories and investment in customers. Investment in inventories occurs when a company purchases a large quantity of stock in anticipation of meeting sales demand. This type of investment can result in various costs, such as warehousing costs (e.g., rent, security, lighting, and heating), obsolescence, and theft, among others (Koumanakos 2008). These costs can negatively impact a company's profitability. Moreover, investing in customers can take different forms such as trade discounts, cash discounts, or credit periods. These types of offers to customers may cause a decrease in the profit margin of companies, resulting in a reduction in overall profitability. For instance, if a company offers a cash discount to customers, it means that the company will sell its products at a lower price, which will lead to a decrease in the profit margin. Similarly, granting credit period to customers may cause a delay in cash flow for the company, as the payment is received at a later date. All these investments made in current assets may require the company to resort to short-term financing, which can result in interest payments. These interest payments can further reduce the profitability of the company.

Investment in current assets can have a positive impact on company profitability. This is because such investments can boost sales, which in turn increases profitability. For example, offering discounts to customers may help a company to differentiate its products from those of competitors, as lower prices set a company apart from others. Similarly, offering trade credit may entice customers to buy more, leading to increased profitability. Investment in inventories can also lead to higher profitability because readily available goods and services are more likely to encourage repeat purchases, thereby improving sales. Ahmad and Zabri (2018) argue that maintaining sufficient inventory levels is crucial for meeting customer demands in a timely manner. This is particularly important for SMEs, which often have difficulty obtaining external financing. Padachi (2006) notes that working

capital investments can be significant relative to total assets, making it essential to use these investments efficiently and effectively.

In the context of the fisheries sector, maintaining adequate working capital is essential due to the industry's reliance on perishable goods and seasonal fluctuations in supply and demand (Rey-Ares et al., 2021). Therefore, offering trade credit to local retailers and restaurants can strengthen business relationships and enhance sales volumes, particularly in markets where liquidity constraints impact purchasing behaviour. Although many small and medium-sized fisheries in Morocco face financial limitations, effective management of working capital enables them to operate more efficiently and remain competitive. Consequently, it can be concluded that efficient utilisation of current assets to generate sales can lead to improved business performance. Thus, the following hypothesis is proposed:

H11: There is a positive relationship between gross working capital efficiency and profitability of Moroccan small and medium fisheries.

3.3.5 Working capital requirement.

According to Padachi et al. (2010), the working capital requirement is the amount of money needed to finance the investment in current assets, and as the investment amount increases, the working capital requirement increases correspondingly. The level of investment made in customers and inventories have a direct impact on the working capital requirement of firms, as stated by Padachi et al. (2010). An escalation in investment in customers and inventories will cause a rise in the need for short-term borrowing and credit from suppliers. The extent of working capital requirement is a crucial factor in determining a company's profitability as it reflects the level of investment made in customers and inventories, which in turn influences sales and profitability. If there is no or less working capital requirement, it means that the company has made no investment in current assets (Padachi et al. 2010). A company that has a lower or no investment in current assets can avoid the need to seek

external financing, which could improve its profitability by avoiding interest payments. Additionally, a low working capital requirement suggests that the company is able to obtain more credit from suppliers than it extends to customers or invests in inventories. According to McCosker (2000), when a company has more cash sales, fewer debtors, lower levels of inventory, and most purchases are made on credit, it is less likely to face cash flow issues. This is because having more cash sales means that the company has immediate access to cash, while fewer debtors mean less outstanding debt that may cause cash flow problems. Low levels of inventory mean that less money is tied up in current assets, which can be invested in other areas to generate income. Most purchases being made on credit also means that the company has more time to pay for its purchases, which can help improve cash flow management. Overall, these factors can help a company avoid cash flow issues and improve its profitability.

In contrast, if a company has no working capital requirement, it indicates that it is not making any investment in current assets such as customers and inventories (Padachi et al., 2010). This lack of investment in inventories can potentially lead to decreased sales and lower profitability. For instance, not investing in inventories could cause the company to face out-of-stock situations, as noted by Deloof (2003), Falope and Ajilore (2009), Gill et al. (2010), and Mathuva (2010). Not having enough inventory can have negative consequences for a company. It can result in a decrease in both current and future sales because customers may not be able to find what they are looking for. This can also lead to a tarnished reputation, which may lead to the loss of future business deals. Additionally, not having enough inventory can lead to idle time, which can negatively affect profitability. Without investing in current assets, such as customers, sales may also decline. If small and medium-sized fisheries do not provide incentives for customers to purchase more, such as trade credit or discounts, this could lead to a reduction in sales, ultimately harming profitability. Overall, a lack of investment in inventories and customer incentives can negatively impact the performance and profitability of fisheries businesses. Customers may choose to engage with competitors if a fisheries company does not offer favourable

purchasing terms, resulting in decreased sales. A study by Alam et al. (2011) demonstrated a positive correlation between working capital requirements and profitability. Therefore, it is suggested that for SMEs, a lower or nonexistent working capital requirement could enhance performance due to the substantial costs of borrowing. Thus, the following hypothesis is proposed:

H12: There is a negative relationship between working capital requirement and profitability of Moroccan small and medium fisheries.

3.4 Theoretical framework

The objective of this section is to develop a theoretical framework for this research by integrating working capital management components, moderating variables, control variables and company profitability. It has been identified from the previous literature that working capital management components, including days inventory outstanding, days payable outstanding, days sales outstanding and cash conversion cycle, are associated with the profitability of businesses either positively or negatively. In addition to the direct effects of WCM components on profitability, the previous literature has explored the indirect effects of multiple moderating factors on the relationship between cash conversion cycle and profitability such as corporate governance, institutional support, and bureaucratic corruption. The thesis has also included control variables including company size, financial leverage, liquidity ratio, gross working capital efficiency, and working capital requirement that might impact profitability.

Building on the theoretical perspectives presented in Chapter 2, and the twelve hypotheses proposed above, an integrated theoretical framework of working capital management components and control variables influencing business profitability as well as moderating variables impacting cash conversion cycle – profitability relationship, has been developed and is proposed in Figure 3.1 below.

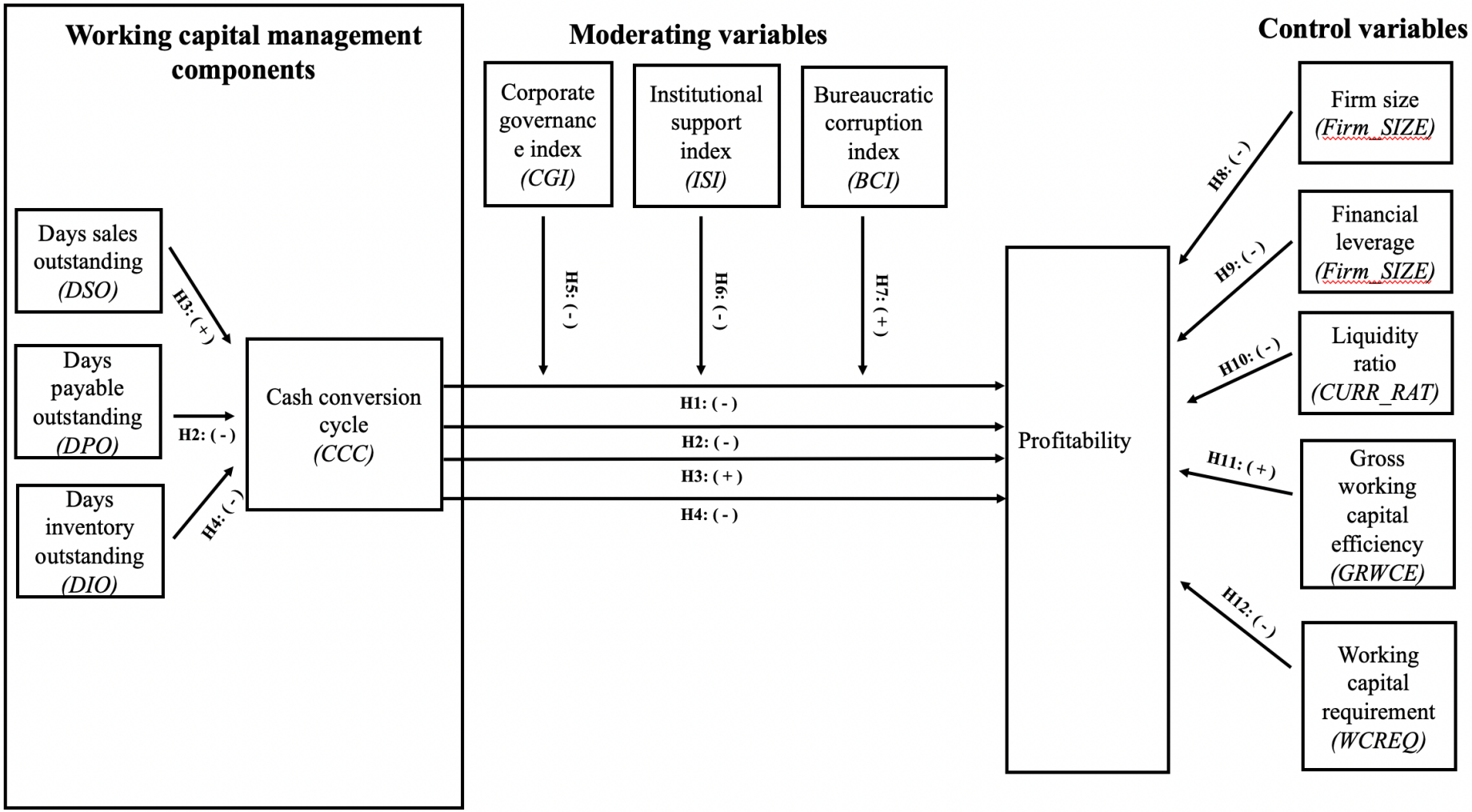

Figure 3.1 Theoretical framework

Chapter 4

4. Research Methodology

This chapter will go through the research design and methodology of the study. Considering the nature of this research, which mainly aims to identify causal relationships among variables, the research design and methodology of this research is predominantly quantitative. This chapter will present and justify the methodology utilized in this research for testing and validating the proposed theoretical framework. More specifically, this chapter will start by providing a discussion on the research philosophy and approach. Next, a discussion regarding research design employed in this study and a justification behind that choice will be provided. Furthermore, it then presents the data and sample followed by a discussion on the data collection methods and a description of variables used in the study. Lastly, the quantitative analysis procedures, including questionnaire analysis and multivariate analysis, will be discussed.

4.1 Research philosophy and approach

Research philosophy is concerned with the process of knowledge development (Saunders et al., 2009). There are two main philosophical underpinnings to a research philosophy: epistemology and ontology. While epistemology refers to the study of knowledge, ontology concerns the nature of reality (Saunders, Lewis, & Thornhill, 2019). Both are essential because the understanding of reality (ontology) is conditioned by the ability to develop knowledge (epistemology). In working capital management research, the ontological debate is dominated by positivism, although numerous alternatives exist, such as critical realism, interpretivism, postmodernism, and pragmatism, among others. In light of the purpose and research questions identified in the current research study, a positivist paradigm is adopted for the following reasons. First, the study explains the current working capital management practices of small and medium fisheries in Morocco. It seeks to examine the status quo, not to critique and change practice. As a result, the study does not seek personal experience or insights. Rather, it attempts to determine the status of WCM practices in the context of fishing sector, in Morocco. Second, the study examines the

extent of WCM and trends over time. Hence, WCM trends must be measured and quantified in order to find patterns and summarise and describe the collected data for fisheries. Finally, the study examines the relationship between WCM and its moderating factors on firm profitability. Therefore, the alignment of working capital management mechanisms with profitability is a rational initiative aimed at achieving optimal outcomes both for corporations and society. Furthermore, profitability is based on scientific evidence proving the interconnectedness between the microeconomy, the environment, and society. Thus, it is in the interest of businesses to implement effective working capital management strategies oriented towards all stakeholders to ensure their long-term viability. In this regard, a positivist philosophy can be appropriate to attain a comprehensive understanding of the multifaceted impact of WCM on profitability while considering the moderating effects of various factors within the Moroccan fishing industry.

Research philosophies provide the foundational framework for selecting an appropriate research approach, facilitating the development of theoretical frameworks and the achievement of research objectives. Consequently, this thesis adopts a deductive approach to theory development, beginning with an analysis of various theories within the academic literature, followed by the design of a research strategy to test these theories (Saunders, Lewis, & Thornhill, 2019). This study is structured as an explanatory investigation that seeks to understand and clarify how specific working capital management practices affect fisheries' profitability. It utilises a quantitative research design to systematically examine the relationship between working capital management practices and profitability. Ultimately, this research allows for an evaluation of the effectiveness of financial management practices at the organisational level, contributing significantly to the long-term sustainability of business operations in the fisheries sector.

4.2 Research design

To achieve the aim and objectives of this research, a quantitative method approach has been adopted, which seeks to obtain a comprehensive understanding of WCM in the context of Morocco's fishing sector. Another reason is regarding the nature of data. The

explanatory nature of the study is evident from the research questions, which necessitate the use of data collected from a large population that can undergo rigorous statistical analysis to generate results representative of the sample from the fishing sector. The quantitative data collection used in this research refers to a mixed-methods strategy, which involves initially collecting primary data through a questionnaire survey to quantify attributes, attitudes, behaviours, and other defined variables. Subsequently, the collection of secondary data complements the initial quantitative findings, allowing for a more comprehensive analysis of the research topic. Moreover, this study has proposed hypotheses in Chapter 2 and aims to test them in the chosen context. Therefore, a statistical analysis is employed to investigate the patterns of WCM components (Saunders et al., 2009), but also goes beyond by providing plausible explanations for observed profitability patterns, considering multiple moderating factors such as bureaucratic corruption, institutional support, and corporate governance. Finally, the current research is conducted with a linear research path which follows a clear step-by-step route and, therefore, appropriate for quantitative research.

4.3 Data and sample

The study's population consists of data from the National Fisheries Office (ONP) for the period between 2015 and 2020. The selection of this time frame was influenced by the implementation of the "Halieutis Plan," a strategic initiative launched by the Moroccan Department of Maritime Fisheries (DPM) in 2009. The plan aimed to enhance the performance of small-scale fisheries and ensure the long-term sustainability of fishing products. In 2015, the fisheries sector's export value was $1.59 billion (EUR 1.29 billion), and it was projected to reach $3.1 billion by 2020 (Oxford Business Group, 2022). The plan's second phase, covering the period up to 2030, was launched in 2020. Therefore, the chosen study period aligns with the national fisheries development strategy and facilitates the assessment and understanding of the working capital system employed by fisheries in Morocco.

A dataset containing 300 active companies was originally gathered through a search process. However, in order to ensure data consistency and exclude unreliable information resulting from company misreports, the dataset underwent refinement. Therefore, the final sample selection followed two conditions. First, all companies were required to meet the definition of SMEs as outlined by the government of Morocco Law 53-00, Article 1 of the Official Bulletin No. 5036 of 27 Jumada II 1423, which defines SMEs as enterprises that employ no more than 200 permanent staff members and have an annual turnover not exceeding 75 million Moroccan Dirhams (MAD), excluding taxes, during the last two financial years (Bank Al-Maghrib, 2022). Second, companies had to have their financial statements available for the entire period under consideration, which was from January 1, 2015, to December 31, 2020, inclusive. Additionally, observations that met any of the following criteria were excluded: the value of current assets is equal to total assets; days sales outstanding or days payable outstanding greater than 365 days; a negative value for fixed assets or a value greater than non-current assets; accounts receivable greater than current assets; a current ratio (i.e., current assets/current liabilities) lower than the acid test; or accounts payables greater than current liabilities. Following the refinement process, an initial sample of 120 small and medium fisheries was generated, from where the researcher intends to collect data. The data generation process commenced with the distribution of a questionnaire to these fisheries, marking the primary stage of data collection. Subsequently, secondary data collection methods were employed. However, of the 120 questionnaires distributed, responses were received from only 100 participants. Consequently, the final sample consists of 100 small and medium fisheries observed over the period of 2015-2020.

4.4 Data collection methods

In this study, a mixed-methods research approach that combines both longitudinal and cross-sectional data collection methods have been employed. The primary source of quantitative data for this research involves collecting information through a questionnare on WCM practices applied by small and medium, as well as gathering insights on

moderating factors like bureaucratic corruption, institutional support, and corporate governance. Secondly, the longitudinal approach involved the collection of financial firm level data from the Moroccan Office of industrial and Commercial Property (OMPIC) database over a six-year period, spanning from 2015 to 2020. This longitudinal dataset allows for a temporal analysis of how WCM components have evolved and affected the profitability of small and medium fisheries in Morocco.

The integration of these two approaches provides a multifaceted perspective on the relationship between WCM components and profitability. While the longitudinal data enables the examination of trends and changes over time, the cross-sectional questionnaire captures an immediate measurement of the current conditions more particularly the moderating factors (bureaucratic corruption, institutional support, and corporate governance) thus enhancing the comprehensiveness and depth of the study. The data collection procedures employed in this research is detailed in Figure 4.1 and the following sections, provide a detailed description of each data collection method.

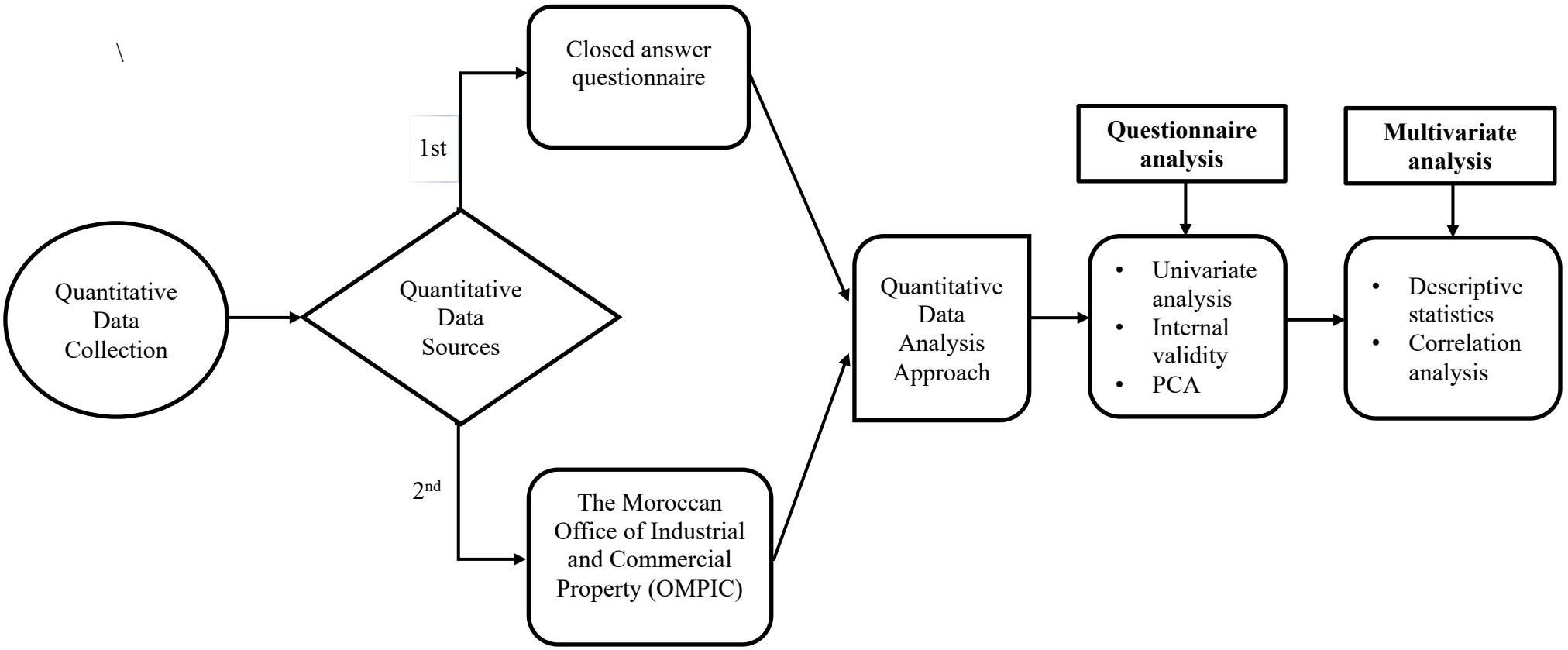

Figure 4.1 Visual illustration of Data Collection Procedure Used

4.4.1 Questionnaire design method

According to Bryman and Bell (2015), the survey strategy is an effective approach for collecting data from a large number of respondents in a cost and time-efficient manner. Saunders and Townsend (2016) also highlight that surveys are commonly used in business and management research. In this research, up to 120 copies of the questionnaire were distributed to small fisheries to represent data from our population. Consequently, 100 participants responded, contributing substantially to the sampled data. The questionnaire survey enabled the researcher to gather insights into how WCM strategies and practices impact the profitability of Moroccan small and medium fisheries. Also, it aims to collect data on multiple adverse moderating factors, such as institutional support, bureaucratic corruption, and corporate governance. The following section discusses the process of structuring the survey and ethical considerations.

Structure of the questionnaire

The questionnaire, which consisted of 12 variables, was emailed to the 100 selected fisheries between June and August 2021 to determine their level of agreement. It yielded a response rate of 83%. Table 4.1 describes the variables employed in the study.

The structure of questions used in the questionnaire and their purpose are divided into sections as follows:

A. **Company information:** examining demographic characteristics of the participants, including professional roles, work experiences, educational levels, and number of employees.
B. **Working capital management practices:** assessing the extent, priority, importance to profitability, target level, and strategy of different components related to working capital management.
C. **Corporate governance, bureaucratic corruption, and institutional support in the fishing sector:** evaluating the impact of moderating factors including corporate

governance, institutional support, and bureaucratic corruption on the working capital management – profitability relationship.

Table 4.1 Description of questionnaire variables

Variables	Description
Professional role	Professional roles of respondents divided into three groups: owner-manager, administrator, accountants.
Work experience	The number of years of experience in the current position divided into five groups: 0-5 years, 6- 10 years, 11-15 years, 16-20 years, 21-25 years.
Education level	Qualifications of respondents divided into five groups: illiterate, primary school, secondary school, high school, higher education.
Number of employees	Number of employees of respondents divided into four groups: 0-9 employees, 10-19 employees, 20-29 employees, 30-49 employees.
Extent of WCM	The extent of WCM in small and medium fisheries in Morocco. The question was rated in scales as: 'To a high extent'; 'To some extent'; 'Not at all'; and 'Do not know'.
Priority of WCM components	Whether small and medium fisheries prioritize and optimize each particular WCM component
WCM components and profitability	Whether the management of each WCM component impact the company's profitability
WCM components and target level	Whether companies set a specific target for each component of WCM
WCM components and strategy	Whether companies pursue a specific strategy for each component of WCM
Bureaucratic corruption	Bureaucratic corruption constraint to WCM and impact the company's profitability
Institutional support	Institutional support constraint to WCM and impact the company's profitability
Corporate governance	Corporate governance constraint to WCM and impact the company's profitability.

The survey instrument consisted of closed-ended inquiries and was administered employing a five-point Likert scale to gauge and quantify the responses obtained, where

the value of 1 is given to “strongly disagree” and 5 to “strongly agree.” The five-point Likert scale gave the participants a chance to choose between different options and to obtain respondents’ opinions and feelings (Zakari, 2014).

The design of the final version of the questionnaire passed through several stages. A pilot study was conducted to assess the clarity, understanding of questions, and communication between the researcher and participants in the questionnaire. According to Bryman and Bell (2011), pre-testing a questionnaire allows the researcher to evaluate the effectiveness of participant instructions. However, Ismail et al. (2018) points out that the reliability of findings in a pilot study is limited due to the small number of participants involved. In this particular study, a pilot sample of 10 owner-managers of small and medium fisheries in Morocco was selected due to time constraints. Although the sample size was small, it provided an opportunity to assess the clarity and comprehensibility of the questionnaire structure. All 10 participants completed the pilot questionnaire and returned it, representing a 100% response rate. The participants were provided with the data collection instrument and asked to provide responses and indicate whether any of the constructs was not clearly stated. In response to suggestions from the pilot study participants, the instrument was amended, with the wording of some questions being made clearer and the formatting being improved. Scaling was modified in certain questions and additional spaces inserted for feedback. The participants also recommended that the answers on the Likert scale should be numerically coded. Based on their feedback, the final English version of the questionnaire was revised before being distributed to participants (see Appendix A). The pilot exercise was valuable in validating the main survey and enhancing its potential as an instrument for collecting useful data.

The questionnaire form was originally written in English and then translated into Arabic and French (see Appendices B and C) to ensure that they would be easily understood by the respondents. The accuracy of this translation was then checked by translating them back into English. The translation of the questionnaire had to be done carefully to ensure

that the questions had the same meaning for all respondents and would yield useful data (Saunders et al., 2009). Bradley (2013) argues that translation should be carried out by someone who is both fluent in the languages concerned and who understands the purpose of the questionnaire and the intention underlying the design of each item. In this case, the researcher's own translations were reviewed by a professional translator, a Moroccan Arabic and French native speaker with a PhD in English Literature from a UK university and more than fifteen years experience. As a Moroccan national, the translator was familiar with the target country and the local dialect used by respondents.

Ethical considerations

Ethical concerns in research arise from the participation of human subjects in the process (Jackson, 2014). These concerns are important since they guide the planning, implementation, and evaluation of the research. They are designed to highlight the sources of risk, as well as determine ways through which such risks can be avoided or minimised. The participation of small and medium fisheries' owners and managers in this study is limited to the data collection process within the quantitative methodology. The researcher followed the ethical guidelines for research students at Nottingham Trent University to ensure adherence to ethical standards. Additionally, the participants were provided with comprehensive information about the study through information sheets, which outlined the research purpose, the nature of participation, the potential benefits of the study, and the intended use of the data.

During the selection procedure, participants were thoroughly briefed on their rights, using a participant information sheet and a declaration of consent (Appendices D and E). It is important to mention that participation in this study was voluntary, and participants were informed that they could withdraw from the research at any time. It was clearly communicated that all collected data would be destroyed and erased if participants chose not to continue. To protect privacy, the data was anonymized through a coding process,

preventing the identification of participants or their organizations and was stored strictly in accordance with Data Protection Act.

4.4.2 Secondary data method

In this research, the researcher made use of the Moroccan Office of Industrial and Commercial Property (OMPIC) database, to access financial statements and annual reports of the selected 100 small and medium fisheries and to assemble firm-level financial data. The OMPIC is an organization in charge of industrial property protection (trademarks, patents, industrial designs) and maintaining of the central trade register in Morocco. Its role is to be an effective and efficient accompanying vector in the cycle of creating the enterprise and protecting the Industrial Property Rights. It also manages the annual financial statements for some of the organized businesses.

4.5 Variables description

This section presents a comprehensive understanding of the continuous variables utilized in this research. It discusses the dependent, independent, moderating, and control variables used in this study. It begins by explaining the dependent variable, followed by the independent variables, then moderating variables, and control variables.

4.5.1 Dependent variable

Firms' profitability, as defined by Murthy and Al-Muharrami (2014), encompasses the ability of a firm to effectively use its resources and strategic operations to achieve financial stability and sustainable earnings. A highly profitable business can yield significantly more return on investment for its shareholders. Previous studies have focused on numerous indicators that are conceptually associated with profitability. This encompasses return on assets (Afrifa & Tingbani, 2018); net operating profit (Mandipa & Sibindi, 2022); gross operating profit (Lazaridis & Tryfonidis, 2006); return on equity (Nguyen & Nguyen, 2020).

Form the above literature review, it is found that different authors used different indicators to measure the firms' profitability. Furthermore, it is important to note that industry dynamics can significantly impact profitability metrics such as return on assets. In this regard, different industries exhibit distinct characteristics and operational structures, leading to varying impacts on financial performance measures. In this study, ROA is used as a dependent variable measuring profitability as it refers to the performance of management with regard to the given resources. Its significance lies in its ability to eliminate size effects, enabling comparisons across different industries (Afrifa, 2015). Additionally, ROA offers more favourable distributional properties than other accounting metrics such as return on equity. Moreover, using ROA facilitates convenient comparison with related research (e.g., Deloof, 2003; Tauringana & Afrifa, 2013). Lastly, it is calculated as profit before Tax (PBT) over total assets.

4.5.2 Independent variables

The set of independent variables refers to the components of WCM. They are those periods associated with the major accounting items of working capital such as the days sales outstanding (DSO), the days payables outstanding (DPO), the days inventory outstanding (DIO), and the cash conversion cycle (CCC). The CCC represents the average time difference between a firm's payment to suppliers and the duration required to recover the invested amount in debtors and inventory. It can be calculated as the sum of days inventory outstanding, days sales outstanding, and days payables outstanding. DSO indicates the average number of days the firm takes to collect receivables from customers. It is computed by dividing accounts receivables by sales and multiplying by 365 days. DPO measures the average number of days it takes a firm to settle payments to trade creditors. This is calculated by dividing accounts payables by cost of sales and multiplying by 365 days. Lastly, DIO assesses the average duration for which a company holds its inventory. It is determined by dividing inventory by cost of sales and multiplying by 365 days.

4.5.3 Moderating variables

In this study, corporate governance, institutional support, and bureaucratic corruption were utilised as moderating variables. Each moderating variable in this in Chapter 2, each moderating variable is complex and intricate. Corporate governance is analysed through five key dimensions: board structure, board procedure, internal audit control, disclosure, and managerial equity ownership. These components have been widely recognised in corporate governance research for their impact on business operations, transparency, and accountability (Nsour & Al-Rjoub, 2022; Black et al., 2019; Ararat et al., 2017). Similarly, institutional support is conceptualised through four fundamental areas: government financial support for SMEs, business development support, networking and partnerships, and legislative policies. These elements illustrate the ways in which institutions provide financial and non-financial assistance to businesses, particularly in regions with weak regulatory environments or underdeveloped financial markets. The selection of these components is supported by previous studies that have examined the role of institutions in business performance and economic development, including research by Ismail and Othman (2014), Jayeola et al. (2020), Rahman and Ramos (2014), Jiang (2014), Nieuwenhuizen (2019), and Cuevas and Fischer (2006). Likewise, bureaucratic corruption is examined through five dimensions: bribery and extortion, misappropriation of fisheries resources, transparency in fisheries management, the legal and regulatory framework for fisheries, and corruption reporting channels. These elements align with scholarly perspectives (e.g., Hara, 2008; Donchev & Ujhelyi, 2014; White, 2020; Asteriou et al., 2021; Sánchez-Vidal, Ramón-Llorens, & La Rocca, 2024) that conceptualise bureaucratic corruption as a multidimensional force that affects business performance, resource allocation, and governance effectiveness. Studies by Hara (2008), White (2020), and Asteriou et al. (2021) highlight the detrimental impact of bureaucratic corruption on institutional trust, economic growth, and sustainable business practices.

Considering the complexity and multidimensional nature of moderating variables, it is important to develop a comprehensive and coherent approach for assessing and capturing

their influences within the research model. To solve this problem, the study uses Principal Component Analysis (PCA) with the aim of grouping highly correlated variables into principal components, which simplifies the analysis (Olawale & Garwe, 2010). Applying PCA with varimax rotation allows the generation of uncorrelated factors. The technique will be used also to generate single composite indices for each moderating variable. These indices were named: Corporate Governance Index (CGI), Bureaucratic Corruption Index (BCI) and Institutional Support Index (ISI).

4.5.4 Control variables

The study incorporates additional variables to account for potential factors that could influence the relationship between WCM and companies' profitability. Including these variables helps mitigate the risk of omitted bias. One such variable is firm size (FIRM_SIZE), which is a determinant of profitability. In this study firm size has been measured as the natural log of firm's turnover at the end of the financial year. Furthermore, financial leverage (DEBT_RAT) has been significantly used in WCM literature (Ruland & Zhou, 2005), and it is calculated by dividing total debt by capital at the end of the financial year. The presence of debt in a company's capital structure increases the pressure on managers to perform (Akintoye, 2008). Moreover, the degree of liquidity within a corporation can have significant effects on its profitability. A company with higher liquidity may be able to offer more credit to its customers. Liquidity ratio (CURR_RAT) is measured as current assets divided by current liabilities at the end of the financial year. Consistent with previous research (Alam et al., 2011), the study has included working capital requirement (WCREQ), which is measured by the ratio of current assets to total assets at the end of the financial year. Similarly, gross working capital efficiency (GRWCE) is calculated by the ratio of sales divided by current assets at the end of the financial year. Definitions of all continuous variables adopted for the study are found in table 4.2.

Table 4.2 Definitions of all continuous variables adopted for the study.

	Data			
Variable name	Acronym	Data Sources	Measurement	Expected Sign
Dependent Variable				
Return on Assets	ROA	OMPIC	Profit before interest and tax divided by its total assets at the end of the financial year.	
Independent Variables				
Days Sales Outstanding	DSO	OMPIC	Accounts receivable multiplied by 365 and divided by the turnover at the end of the financial period	{-}
Days Payable Outstanding	DPO	OMPIC	Accounts payable receivable multiplied by 365 and divided by the amount of cost of goods sold at the end of the financial period.	{+}
Days Inventory Outstanding	DIO	OMPIC	Inventory multiplied by 365 and divided by the amount of cost of goods sold at the end of the financial period.	{-}
Cash Conversion Cycle	CCC	OMPIC	Days sales outstanding plus days inventory outstanding minus days payable outstanding	{-}
Moderating Variables				
Corporate Governance Index	CGI	Closed answer Questionnaire	The use of PCA to combine multiple corporate governance	{-}

			items in a single composite index	
Bureaucratic Corruption Index	BCI	Closed answer Questionnaire	The use of PCA to combine multiple bureaucratic corruption items in a single composite index	{+}
Institutional Support Index	ISI	Closed answer Questionnaire	The use of PCA to combine multiple institutional support items in a single composite index	{-}
Control Variables				
Firm Size	FIRM_SIZE	OMPIC	The natural log of firm's turnover at the end of the financial year	{-}
Financial Leverage	DEBT_RAT	OMPIC	Ratio of total debt divided by current liabilities at the end of the financial year	{-}
Liquidity Ratio	CURR_RAT	OMPIC	Current assets divided by current liabilities at the end of the financial year	{-}
Working Capital Requirement	WCREQ	OMPIC	Ratio of current assets to total assets at the end of the financial year.	{-}
Gross Working Capital Efficiency	GRWCE	OMPIC	The ratio of sales divided by currents assets at the end of the financial year	{+}

4.6 Quantitative analysis

The current study necessitates a methodical approach to analysing variables and utilizing statistical methods to evaluate their connections. Quantitative research is deemed most appropriate for this purpose. This approach enables to determine the nature of the relationship between the variables under review and to establish a framework for WCM and profitability within the study region. In analysing the quantitative data, it is important to mention that the analysis will take place on two levels, starting from the questionnaire analysis and then moving on to the multivariate analysis.

The analysis was performed with the STATA software version 17. The STATA software is a multi-purpose statistical analysis tool for analysing, managing and producing graphics (Cameron & Trivedi, 2010). The researcher selected STATA over other statistical software because it is fast and users friendly, very powerful with great features such as intelligent data management facilities, robust matrix programming language, a wide array of current statistical techniques, and the ability to handle large datasets and produces high-quality graphical charts and diagrams (Asteriou, & Hall, 2015).

4.6.1 Questionnaire analysis

The questionnaire data for sections A and B are analysed using univariate analysis through descriptive statistics. Furthermore, the constructs of the questionnaire are assessed for reliability using Cronbach's Alpha test. Finally, the PCA method is applied to the data obtained from section C of the questionnaire. The selection of these techniques is based on their alignment with the research aims and objectives, as well as the characteristics of the data and the properties of the statistical methods (Malhotra & Birks, 1999). The methodological considerations and assumptions associated with each technique are discussed in the following sections.

Univariate analysis

Univariate analysis involves analyzing a single variable without considering its relationship with other variables (Afrifa, 2013). In this study, univariate descriptive

statistics were employed to provide a description of the demographic characteristics of participants included in section A of the questionnaire and to provide an assessment of working capital management requirements in section B.

Internal validity (Reliability) test

The assessment of the conclusions drawn from a research study primarily relies on the criteria of validity and reliability (Shrestha, 2021). In this study, it was important to ensure that the research was transparent and easily understandable by other researchers. Consequently, calculating the Cronbach's alpha coefficient was essential to evaluate the internal consistency reliability. Cronbach's alpha is a widely utilized measure for assessing internal reliability (Schrepp, 2020). It provides an efficient means of evaluating the extent to which a set of items or variables accurately measures the construct under study. On the other hand, internal validity pertains to the degree to which a conclusion involving a causal relationship between two or more variables can be supported (Bryman & Bell, 2007). The formula for calculating the Cronbach's alpha coefficient for internal consistency reliability is as follows:

$$\alpha = \frac{\mathrm{n}\bar{r}}{1 + \bar{r}(n-1)}$$

Where: n denotes the number of items, and $\bar{r}$ stands for the average correlation among the items.

The main aim of testing the reliability of the questionnaire data through Cronbach's coefficient alpha is to achieve high scores, which indicate a significant strength of consistency. Studies underscore the reliability of data when Cronbach's alpha exceeds 0.7, a generally accepted threshold. Further, high alpha values suggest a strong correlation among the items (Shrestha, 2021).

Principal components analysis (PCA)

Principal components analysis (PCA) is an extraction method that aims to "reduce the number of variables by creating linear combinations that retain as much as the originally measured variance as possible" (Conway & Huffcutt, 2003:150), whilst the goal of common factor analysis is finding and analysing underlying dimensions or latent variables in data sets (Netemeyer et al., 2003). In literature, many authors favour the use of typical factor analysis (such as principal axis or maximum likelihood factoring) over the PCA (Hair et al., 2010; Netemeyer et al., 2003; Hinkin, 1998), while others argued the growing use of PCA over standard factor analysis (Conway & Huffcutt, 2003). This research employs PCA as the factor extraction method as it is a preferred method when building a single index from many items. The purpose of implementing PCA in this study is to develop and use a novel index of corporate governance, bureaucratic corruption, and institutional support, which combines multiple items in a single composite index. The purpose of PCA is to take the scores on a large set of observed variables and reduce them to score on a small set of composite variables, which retains as much information as possible from the original measured variables (Sheskin, 2011). The basic idea of the modern PCA dated back to Pearson (1901) but was further developed by Hotelling (1933). PCA transforms a set of correlated variables into a set of uncorrelated using covariance or correlation matrix. The newly transformed variables are linear combination of the original variables which are sorted in descending order according to amount of variance explained by each variable. The components are arranged in such a way that the first component explains the most variation in the initial variables. The variance that is not considered by the first component is accounted for by the second component, which is wholly uncorrelated with the first component. The third makes up for the remaining amount of variance that the first and second do not cover, and so on.

<u>Number of factors extracted.</u>

The number of factors extracted is decided based on several criteria. First, the most widely used criteria are the eigenvalue rule. The eigenvalue presents the amount of variance for

each factor (Netemeyer et al., 2003). The factors with an eigenvalue more significant than one can be retained for further analysis as they can be considered significant (Hair et al., 2010). Also, According to Kaiser (1960), the components with eigenvalues of 1 or higher are to be retained because such components explained more variance than the simple original variables, while the components with the less than 1 eigenvalue are to be dropped because they explained less variance than the single original variables. The screen test is another criterion used for deciding the number of factors extracted. A scree test is a graphic method that presents the plotting of eigenvalue and the shape of the resulting curve in which the number of factors extracted is based. More specifically, it detects the point at which the curve begins to straighten (the 'elbow') and this is the number of factors to be retained (Hair et al., 2010). The third method is explained variance. According to Hair et al. (2010), the number of factors extracted should account for at least 60% of the total variance. To achieve the best results, researchers should consider several criteria when determining how many factors should be extracted (Netemeyer et al., 2003).

Varimax rotation used

Factor rotation is a technique used in principal component analysis and factor analysis to improve the interpretation of variables. Unrotated factors can be ambiguous and difficult to interpret (Osborne, 2015). Thus, the aim of factor rotation is to achieve a simple structure where each variable loads on as few factors as possible while maximizing the number of high loadings on each variable(Watkins, 2022). The interpretation of factors is improved through rotation, which maximizes the loading of each variable on one of the factors extracted while minimizing the loading on all other factors. There are two types of rotations: orthogonal and oblique. While Orthogonal rotations produce factors that are uncorrelated, the oblique rotation allows for correlated factors. Osborne (2015) noted that researchers favoured the usage of orthogonal rotation because of its simplicity of interpretation. The most used orthogonal rotation is the varimax rotation. Varimax rotation by Kaiser (1958) is a rotation strategy or technique that minimizes the complexity of each factor by maximizing the loading values on variables that are strongly associated with that

factor and minimizing the loading values on irrelevant variables. In other words, it scales the factor loading or correlation between the variables and their variances making the loading to be neither too small nor large without altering the variance explaining properties of the components. It makes the pattern of loading on each factor to be as diverse as possible. The consequence of doing rotations is that it makes the factors more easily interpretable, which is the goal of factor analysis. This study will use the Varimax rotation for the PCA rotation.

4.6.2 Multivariate analysis

Multivariate analysis is a statistical method that allows for the simultaneous examination of numerous measurements pertaining to individuals or objects under scrutiny. This approach promotes the adoption of multi-item measures of latent constructs to enhance the accuracy of measurements (McQuitty, 2018). While bivariate correlation results may illuminate relationships between individual variables, they neglect to consider each variable's correlation with all other explanatory factors. Multivariate analysis is adopted due to the inherently multidimensional character of dependent variable(s). Consequently, the primary analysis of this study will stem from fitting suitable multivariate models, as estimated through econometric analysis. Econometric analysis is the predominant method for examining the influence of working capital management on profitability. The rationale for utilizing econometric analysis can be outlined as follows. Firstly, it assesses whether the independent variables account for a significant portion of the variation in the dependent variable. Secondly, it quantifies the extent to which the variation in the dependent variable is explained by the independent variables. Thirdly, it controls for additional independent variables when assessing the impact of a specific variable or set of variables. Lastly, it enables the prediction of the dependent variable's values.

4.6.2.1 Descriptive statistics

Descriptive statistics serves as an initial step in statistical analysis, providing valuable insights into the collected data by identifying any anomalies or patterns. Quartey (2003)

highlights the significance of descriptive analysis, emphasizing its comprehensive nature in providing preliminary but meaningful characteristics of the data. Chapter five of this research will present a descriptive analysis, encompassing calculations of measures such as mean, standard deviation, maximum, and minimum values.

4.6.2.2 Bivariate analysis

To investigate the relationships among variables, this study employs bivariate analysis (Perinetti, 2019). According to Awalluddin et al. (2022), bivariate analyses deal with the causes or relationships of variables. Measures of association, on the other hand, refer to values that represent the co-variation between variables. The study utilises Pearson's correlation coefficient to assess the association between individual variables, as it accounts for the joint variation between two measures (Perinetti, 2019). More specifically, the test measures the strength of association between two variables. The value of the correlation coefficients range between -1 and +1. A variable with coefficients near –1 or +1 indicates a stronger association, whether negative or positive, while a correlation coefficient of zero signifies no relationship between the variables. The study uses a correlation matrix to ensure that including various independent variables in the models does not cause multicollinearity issues. The results of this analysis are presented in Chapter five.

4.6.2.3 Econometric analysis

To explore the main research inquiries regarding the association between working capital, its moderating variables, and profitability, the study employs panel data analysis. This analytical approach involves observing and tracking a group of entities, such as firms, individuals, or countries, over multiple time periods. By combining both time series and cross-sectional dimensions, panel data analysis offers valuable insights into the dataset. Compared to conventional time series or cross-sectional studies, panel data analysis provides several advantages.

To begin with, panel data analysis offers the advantage of controlling for individual heterogeneity, which mitigates the risk of biased results that can arise in time-series and cross-sectional techniques (Baltagi, 2008). Furthermore, the utilization of panel data offers several advantages compared to time-series studies. Panel data provides more informative and varied data, leading to enhanced variability, reduced collinearity, increased degrees of freedom, and improved efficiency, as highlighted by Baltagi (2008). Time-series studies frequently encounter issues related to multicollinearity, it is often argued that unreliable empirical evidence is inevitable as near-multicollinearity is endemic in most economic data, and, in particular, time series; (Johnston, 1984).In contrast, panel data, which combines both cross-sectional and time series dimensions, provides the advantage of more observations and greater variation among individuals or entities. This diversity across cross-sectional units can reduce multicollinearity issues, as it is less likely for all entities to exhibit the same patterns or relationships, thereby mitigating such collinearity concerns. Notably, the data variation can be decomposed into differences between states with varying sizes and characteristics and differences within states, with the former variation typically being more significant. Consequently, panel data analysis allows for more reliable findings. Thirdly, panel data is better suited to detect and measure effects that may not be observable in pure cross-sectional data (Hsiao, 2003). Panel data analysis offers valuable insights into the dynamics of adjustment over time within a dataset, allowing for a better understanding of evolving patterns and relationships. Additionally, panel data can yield consistent estimators under certain assumptions, even in the presence of omitted variables. These omitted or unobservable variables are typically encompassed within the error term when using cross-sectional data, as pointed out by Wooldridge (2002). The correlation between these omitted variables and the dependent variables may lead to biased estimates when employing ordinary least squares (OLS) estimation. This issue poses a persistent challenge for researchers who only have access to cross-sectional data. However, employing panel data, which includes observations on individuals over time, can help address this problem and offer potential solutions.

While panel data analysis offers several advantages, it is important to acknowledge certain limitations associated with its use. Firstly, the design, implementation, and management of panel surveys can be expensive and challenging. Collecting and maintaining panel data requires substantial resources and careful planning. Secondly, measurement errors may occur due to various factors such as unclear survey questions, memory lapses, intentional misrepresentation of responses, reliance on unreliable informants, misreporting, and potential interviewer effects. These measurement errors can introduce inaccuracies into the data. Thirdly, selectivity issues, including self-selectivity, non-response, and attrition, may arise in panel data. This means that certain individuals or groups may choose not to participate or may drop out over time, leading to potential biases in the sample composition and affecting the representativeness of the data. However, it is important to note that these limitations are more prevalent in survey-based panel data. In the case of this study, where secondary data is utilized, these limitations are expected to have a less significant impact on the validity of the findings.

The following is a classical panel data regression model:

$$y_{it} = \alpha + \beta_1 X_{it1} + \beta_2 X_{it2} + \cdots \beta_k X_{itk} + s_{it} \quad (3.1)$$

The above equation (3.1) can be written in matrix form as:

$$y_{it} = \beta_k X'_{it} + \quad s_{it} \quad (3.2)$$

Where y_{it} is dependent variable of the observation. The subscript i denotes the nth company (i = 1....100), which represents the cross-section dimension, whereas the subscript t denotes the t^{th} year (t=1,…..6), which also represents the time-series dimension. s_{it} denotes the error term and β_1, β_2 and β_k are vectors of the parameters to be estimated.

One-way error component regression model

Panel data regression stands apart from traditional time-series or cross-sectional regression due to its ability to account for unobserved heterogeneity that remains consistent over time. Unlike Ordinary Least Squares (OLS) regression, panel data regression adopts a one-way error component model that includes the individual-specific disturbance term. Going back to the linear panel regression specified in equation (3.2), the error term in the model (s_{it}) will be decomposed as:

$$s_{it} = \lambda_i + v_{it} \qquad (3.3)$$

In the model, λ_i represents the unobserved company effects (fixed effects), and v_{it} denotes the idiosyncratic error terms. Considering that the two components of s_{it} are assumed to be independent, and λ_i varies across individual companies but remains constant over time, a two-way error component model will be utilized in this study. This model takes into account both the individual effect and the time effect during estimation. The two-way error component model is as follows:

$$s_{it} = \lambda_i + \mu_t + v_{it} \qquad (3.4)$$

Where μ_t, λ_i and v_{it} represent specific time effects, individual-unit specific effects and idiosyncratic error terms.

The error component model can be estimated using either the fixed-effect or the random effect method, depending on the assumption about the error component (i.e s_{it}). The fixed effect will be preferred if the error component s_{it} is assumed to be non-stochastic while the random effect will be preferred if the error component is treated as random. In the typical OLS, it is assumed that the mean or the expected value of the error term (s_{it}) is zero. It is further important that λ_i and X_{it} are uncorrelated, that is, the firm-specific error term is not correlated with the regressors. This is the assumption of exogeneity.

$$E(s_{it}) = 0$$

$$E(v_i / X_{it}) = 0$$

Fixed effects (FE)

The Fixed Effects (FE) model formulation posits that differences among individual units can be explained by variations in the constant term (Greene, 2003). In the FE model, the slope coefficients are assumed to remain constant across all firms, while the intercept varies across firms. In the case of fixed effect estimate, the α term in equation (3.1), is considered a group-specific constant term with fixed parameters to be estimated. The FE specification acknowledges the correlation between the individual effects of λ_i and the regressors. The fixed effect can be presented as:

$$y_{it} = \alpha_i + \beta_k X'_{it} + s_{it} \qquad (3.5)$$

Assuming a two-way error component, the s_{it} in (3.5) is presented as:

$s_{it} = \lambda_i + \mu_t + v_{it}$

The conventional OLS assumption posits that the error term s_{it} is assumed to have zero mean $E(s_{it}) = 0$. Furthermore, it assumes the model's homogeneity. That is, the correlation between the error term and the regressors should be zero: $E(s_{it} \mid X_{it}) = 0$. However, when the α_i, which affects y_{it} in equation (3.5), is permitted to correlate with X_{it} (i.e. $E(y_t / X_{it}) \neq 0$), there is likely to be an issue of endogeneity. This will result in a biased estimate. However, the fixed effect can eliminate this bias by employing the within transformation to demean the data. Therefore, equation (3.2) can be rewritten as follows:

$$E(y_{it}|X_{it}) = \beta_k X'_{it} + E(y_i |X_{it}) + E(s_{it} |X_{it}) \qquad (3.6)$$

Where $E(y_{it}|X_{it})$ represents the expected values of the independent variable give the regressors, the $\beta_k X'_{it}$ represents the direct effect of regressors on the independent variable,

$E(y_i | X_{it})$ represents the individual effect, which does not change with time, and $E(s_{it} | X_{it})$ is the random term which affects the independent variable but is not explained by X_{it}.
Since $E(s_{it} | X_{it}) = 0$, equation (3.6) simplifies to

$$E(y_{it}|X_{it}) = \beta_k X'_{it} + E(y_i | X_{it}) \quad (3.7)$$

Given that, $E(y_{it} / X_{it}) \neq 0$

$$E(y_{it}|X_{it}) \neq \beta_k X'_{it} \quad (3.8)$$

Thus, this implies that X_{it} are correlated with the unobserved individual specific factors affecting the y_{it}. Hence, the assumption of exogeneity for OLS is violated. Furthermore, the random effect assumption of randomness of the error term is also violated. Therefore, this clearly indicates that both OLS and the Random Effect estimator are inconsistent and biased in this scenario. To solve this problem and eliminate the endogeneity bias, we can take the time average of equation (3.5) for all individual i. This is presented as:

$$\bar{y}_i = \beta' \bar{X}_i + \alpha_i + \bar{v}_i \quad (3.9)$$

Using the transformed within-group model of fixed effects, this is achieved by subtracting the mean equation (3.9) from the original equation (3.5). This is presented as above:

$$y_{it} - \bar{y}_i = (X_{it} - \bar{X}_i)\beta' + (v_{it} - \bar{v_i}) \quad (3.10)$$

One advantage of the FE model is that it allows for the correlation between the unobserved individual effects and the included variables. However, a limitation of the FE model is that it cannot estimate the effect of any time-invariant variable, such as location, as it gets eliminated through the deviations from means transformation. Moreover, the FE model experiences a notable loss of degrees of freedom due to estimating (N-1) additional parameters.

Random effects (RE)

In contrast to the FE model, which draws inferences based on the specific cross-sectional units sampled, an alternative approach is the random effects (RE) model. The RE model is considered more efficient than the FE estimator when assuming that firm effects α_i are randomly distributed across firms. According to Baltagi (2008), the loss of degrees of freedom can be avoided by assuming randomization of α_i. Under the RE assumptions, the individual effect α_i and the idiosyncratic error term v_{it} are uncorrelated with the explanatory variables X_{it}.

$$E(\alpha_i \mid X_{it}) = 0, E(v_{it} \mid X_{it}) = 0$$

As a result, the generalized least squares (GLS) estimator proposed by Balestra and Nerlove (1966) can be applied to efficiently estimate the parameters.

System generalised method of moments

The system Generalized Method of Moments (GMM) model has gained widespread acceptance among researchers conducting studies utilising panel data. Introduced in 1991 by Manuel Arellano and Stephen Bond, this model was designed to address specific endogeneity issues that arise in panel data analysis. As Baltagi et al (2023) elucidates, the Arellano–Bond estimator is a GMM estimator employed to estimate dynamic panel data models. To assess the robustness of the empirical relationships among the selected variables, this thesis has employed the two-step system GMM approach proposed by Arellano and Bover (1995) and Blundell and Bond (1998). The primary objective behind the application of system GMM is twofold: first, to control for potential biases and inconsistencies arising from the omission of unobserved time-invariant individual effects (Naseem & Guang, 2021); and second, to leverage the consistent and efficient estimation techniques offered by system GMM models in regression analysis, which also facilitate the assessment of robustness and the realization of errors that may be correlated between past and present observations. A typical characteristic of such dynamic panel data is a large N, small T scenario, where N represents the number of observed individuals (in this case, firms), and T represents the number of time periods. This characteristic arises due to the

fact that the bias inherent in dynamic panel models tends to diminish as T increases. In the context of this thesis, the observed individuals are firms.

The system GMM approach will be employed to mitigate potential endogeneity issues that may arise within the data. The dependent variable, firm profitability, could potentially serve as a driving force for several independent variables incorporated into the models, such as WCM variables, financial leverage, or company size. This reciprocal relationship between the dependent and independent variables can lead to endogeneity concerns. Furthermore, the WCM variables and firm characteristics themselves may exhibit endogenous effects, and there exists an individual effect that cannot be adequately captured by fixed effects models. Consequently, static panel data models, such as fixed-effect or random-effect estimators, are ineffective in controlling for endogeneity bias in this context. To address this issue, the use of an instrumental variable estimator like the system GMM proposed by Blundell and Bond (1998) facilitates the consideration of endogeneity for all time-varying explanatory variables. The system GMM approach provides a robust framework to account for the potential endogeneity of the regressors, thereby enhancing the reliability and consistency of the parameter estimates.

A dynamic panel data model is written as follows:

$$y_{it} = \alpha y_{it-1} + \beta X'_{it} + s_{it} \quad (3.11)$$

$$s_{it} = \lambda_i + \nu_{it} \quad (3.12)$$

Where i is the individual firms, t is the time periods respectively. X' represents a vector of independent variables. Where the error terms s_{it} contain two components, the fixed effect λ_i and idiosyncratic error terms ν_{it}.

In general, there are two main econometric problems for the dynamic panel model which are as follows:

(1) The causality problem. The effects between independent variables and dependent variables might happen in both directions, for example from WCM components to firm profitability and vice versa. These independent variables might be correlated with the error term.

(2) The fixed effects problem. The time-invariant moderating variables (fixed effects contained in the error term in equation (3.10) may be correlated with the independent variables.

According to Arellano and Bond (1991), the system GMM requires that there is first \order serial correlation, but no second-order serial correlation in the residuals. In other words, the null hypothesis must be rejected in the Moving Average (MA) of order 1 test but not rejected in the Moving Average (MA) of order (2) test. The Sargan test (Sargan, 1958) and Hansen test (Hansen, 1982) can be used to test for the joint validity of the identifying restrictions when the model is over-identified. These tests the validity of instruments. The Sargan test is inconsistent if heteroscedasticity is present in the sample (Roodman, 2009), therefore, the Hansen test is considered to be more reliable. Baum (2006) also stated that the most commonly used diagnostic for system GMM to investigate the suitability of model specification is the Hansen J-statistics test. The validity of the instruments is, therefore, tested using Hansen's J statistics test of overidentifying restrictions in this thesis. The Hansen J-test (p value) does not reject the null at significance level of 5% or 10%, which implies that the instruments are valid. It is also suggested by Roodman (2009) that a p value needs to be at least as high as 0.25.

The system GMM includes one-step and two-step estimators. The two-step procedure is more efficient and robust regardless of heteroscedasticity or autocorrelation. This method uses an estimated weighting matrix based on the residuals from the one-step model but generates downward biased standard errors. Windmeijer (2005) provided a finite-sample correction for the two-step covariance matrix, thus rendering the two-step estimates

preferable to one-step cluster-robust estimates. Therefore, the two-step system GMM is chosen for this thesis.

Empirical studies

Based on the arguments mentioned above, the study employs the following panel data models to assess the connection between working capital management components and profitability.

$$PROFITABILITY_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 Z_{it} + \lambda_i + \nu_{it} \qquad (3.13)$$

Where: $PROFITABILITY_{it}$ is the dependent variable which is measured using return on assets (ROA); X variables include cash conversion cycle (CCC), days payables outstanding (DPO), days sales outstanding (DSO), days inventory outstanding (DIO). Z represents control variables that may influence companies' profitability. These variables are: firm size (FIRM_SIZE), financial leverage (DEBT_RAT), liquidity ratio (CURR_RAT), working capital requirement (WCREQ), and gross working capital efficiency (GRWCE). λ_i is the unobserved company effects (fixed effects) and ν_{it} is the idiosyncratic error terms. β_1 and β_2 are vectors of the parameters to be estimated. The subscript i denotes the nth company (i= 1... 100), and the subscript t denotes the t^{th} year (t=1 …6).

Hausman test

The Hausman test examines whether there is a significant relationship between the unobserved individual-specific random effects and the regressors, indicating whether the unobserved heterogeneity is related to the regressors. If there is a correlation, the FE estimator remains consistent while the RE estimator becomes inconsistent. Conversely, if there is no correlation, both estimators are consistent, with the FE estimator being more efficient.

In an error component regression model, it is crucial that $E(\ y_t\ |X_{it}) = 0$. This assumption is important because the disturbance term includes an unobserved individual effect (λ_i) that is correlated with X_{it}. When $E(\ y_t\ /\ X_{it}) \neq 0$, the ordinary least squares (OLS) estimator becomes inconsistent and biased for β. However, by applying the within transformation, the disturbance term, which incorporates the individual effect (λ_i), is eliminated, resulting in the within estimator being consistent and unbiased for β.

The estimation of the Hausman test is given by

$$H = (\beta_{\text{within}} - \beta_{between})'[Var(\beta_{\text{within}} - \beta_{between})]^{-1}(\beta_{\text{within}} - \beta_{between})$$

Where:

β_{within}: Fixed effect estimatior

$\beta_{between}$: Random effect estimator

$Var(\beta_{\text{within}} - \beta_{between})$: variance of the difference between the two estimators

The test follows a chi-square χ_k^2 distribution with k degrees of freedom, where k is the number of explanatory variables. If H is large, we reject the null hypothesis that RE is consistent, implying that the FE model is preferred. However, If H is small, we fail to reject the null, meaning RE is an efficient and consistent estimator.

Considering the given context, the study conducted the Hausman test to examine the relationship between the regressors and the unobserved heterogeneity. The results of the test indicate that there is no significant correlation between the regressors and the unobserved heterogeneity across all models. This implies that there is no substantial difference between the RE estimator and the FE estimator. Based on these favourable test results, the FE estimator was selected for analysis using the STATA statistical software.

Sensitivity analysis

To mitigate the potential influence of biased estimators stemming from multicollinearity, heteroscedasticity, and serial correlation, the research conducted a sensitivity analysis of the regression models. This analysis involved the utilization of a correlation matrix to examine all continuous variables, assessing the possibility of multicollinearity. As the data utilized in this study constitutes a cross-sectional sample of firms, it necessitates the consideration of two critical assumptions related to the disturbance term within the error component model. Consequently, in the context of a classical linear regression model, it is assumed that the disturbance term follows a normal distribution with a mean of zero and a constant variance, represented by σ^2.

$$E(\mu_t) = 0$$

$$\text{var}(\mu_t) = \sigma^2 < \infty$$

When the assumptions of a classical linear regression model are violated, the estimates of regression coefficients may remain unbiased and consistent but lose efficiency due to heteroscedasticity (Baltagi, 2008). In simpler terms, heteroscedasticity occurs when errors exhibit varying variances, often observed in scenarios with a wide range of independent variables (X) or when dealing with grouped data. Baltagi (2008) suggests that one approach to identify heteroscedasticity involves modelling these variances and/or correlations. However, this can be challenging, especially with limited time periods, which is common in panel data analysis.

In panel data analysis, it is important to consider the presence of heteroskedasticity and/or individual autocorrelation while estimating models. In such cases, it is recommended to use robust standard errors, which can control for both heteroscedasticity and serial correlation (Lei, 2006). This study utilizes robust standard errors in all models to account for heteroscedasticity and serial correlation.

Chapter 5

5. Findings and Analysis

This chapter analyses quantitative data and presents empirical findings on the relationship between working capital management, moderating factors, and profitability. The analysis begins with questionnaire data, assessing response rates and reliability, followed by Principal Component Analysis (PCA) to construct indices for bureaucratic corruption, institutional support, and corporate governance. Descriptive statistics and correlation analysis are then conducted to identify preliminary patterns and relationships within the data, providing a foundation for multivariate analysis. Fixed-effects models, selected based on the Hausman test, are employed to examine the direct effects of working capital components on profitability. Furthermore, the analysis investigates the moderating roles of bureaucratic corruption, corporate governance, and institutional support, offering deeper insights into their influence on profitability. Finally, a robustness analysis is conducted to validate the findings, ensuring the reliability and generalizability of the results.

5.1 Questionnaire analysis

5.1.1 Response rate

The questionnaire was created using Google Forms and consisted of 12 variables. The link to the questionnaire was distributed via email. Out of 120 selected small and medium fisheries, 100 participants responded to the questionnaire, representing an 83.33% response rate. This sample size was comparable to similar studies involving questionnaire surveys of SMEs conducted by Afrifa (2013), Javid (2014), and Mohamad et al. (2017), with a sample size of 72, 54, and 103 SMEs respectively.

5.1.2 Internal validity (Reliability test)

The reliability test is required as stated in Cortina (1993), to ascertain the consistency of the participants in their responses to the questions on a specific topic. A small variation in the response of the standalone participants is expected. On the other hand, any such test

anticipates higher variation among the responses of the individuals to the questions, assuming samples are based on random selection. Therefore, these two sets of variations are compared to establish the reliability of any test. Based on this principle, a popular test for reliability offered in most statistical software is referred to as Cronbach Alpha, varying between zero and one. Indeed, the closer the value of Alpha to one, the more reliable the data, with the lowest acceptance level being 0.70 (George & Mallery, 2019; Watkins, 2021).

To test for the consistency of the answers to the questions, Cronbach Alpha has been applied to all constructs and their associated items. The results of the Cronbach test are presented in Table 5.1. According to this table, and in consideration of the rule, all the constructs exhibit alpha values above 0.7, with a highest of 0.8193 related to bureaucratic corruption, this indicates the respondents' consistency across all the questions in the questionnaire and it also reveals that the instruments used were valid and of a high degree of reliability. In addition, since there is only one item under professional role, work experience, qualification, number of employees and extent of WCM, then there is no alpha value for these variables. This suggests that the instruments used were valid and of a high degree of reliability.

Table 5.1 Test for Consistency – Alpha Measures

Variables	**Items used**	**Alpha**
Professional role	A1	--
Work experience	A2	--
Education level	A3	--
Number of employees	A4	--
Extent of WCM	B1	--
Priority of WCM components	B2a-B2b-B2c-B2d-B2e-B3a-B3b-B3c-B3d	0.7008
WCM components and profitability	B4a-B4b-B4c-B4d	0.7192

WCM components and target level	B5a-B5b-B5c-B5d	0.7801
WCM components and strategy	B6a-B6b-B6c-B6d	0.8080
Bureaucratic corruption	BC1-BC2-BC3-BC4-BC5	0.8193
Institutional support	IS1-IS2-IS3-IS4	0.7636
Corporate governance	CG1-CG2-CG3-CG4-CG5	0.7316

Section A – Company Information -

Demographic characteristics of participants

This section describes respondents' demographics, including professional roles, work experience, education level and number of employees (see section A questions A1, A2, A3 and A4 in Appendix A). The results of the demographic characteristics of respondents are presented in Table 5.2. The study revealed that the majority of respondents (60.24%) were owner-managers, followed by accountants (20.48%) and company administrators (19.28%). This trend is consistent with earlier research, such as Solanki's (2009) study. According to Solanki, owner-managers are usually accountable for managing working capital in SMEs, which is due to the unique organizational structure and decision-making processes of SMEs (Deloof, 2003). The respondents' work experience was categorized into five groups: 0-5, 6-10, 11-15, 16-20, and 21+ years. Notably, respondents with work experience falling within the 11–15-year range exhibited the highest proportion at 57.83%, followed by those in the 16–20 year bracket at 13.25%. Subsequently, individuals with work experience spanning 0-5 years constituted the third largest group at 14.46%. Meanwhile, respondents with work experience of 6-10 years and 16-20 years accounted for 13.25% and 13.25% equivalently. Then, individuals with work experience of 21+ years accounted for 1.20%. These results indicate a notably low turnover rate of managers in small and medium fisheries, as a significant majority have remained employed by their respective companies for a minimum of 11 years. In terms of education level, the respondents exhibited a diverse range of attainment levels, with primary school education

being the most common at 66.42%, followed by secondary school at 25.30%, and high school at 13.25%. Finally, 6.02% of respondents achieved a higher education level. This distribution highlights a predominant educational background in primary and secondary education among the participants. In terms of the number of employees, the highest group comprises fisheries with 0-9 employees, representing 84.34% of the total. Followed by fisheries, with 10-19 employees accounting for 12.05%. The smallest group consists of fisheries with 20-29 employees, making up 3.61% of the total. This breakdown illustrates that the majority of fisheries have a smaller workforce, with the highest percentage falling within the 0-9 employee range, followed by those employing slightly larger teams in the 10-19 employee category, and a smaller proportion in the 20-29 employee range.

Table 5.2 Demographic characteristics of the respondents

		Percentage (%)
Professional role	Owner-manager	60.24%
	Accountant	20.48%
	Administrator	19.28%
Work experience	0-5	14.46%
	6-10	13.25%
	11-15	57.83%
	16-20	13.25%
	21 over	1.20%
Education level		
	Primary school	66.42%
	Secondary school	25.30%
	High school	13.25%
	Higher education	6.02%
Number of employees	0-9	84.34%
	10-19	12.05%
	20-29	3.61%

Similarly, the demographic characteristics of participants were presented graphically. It is also evident from the pie charts as shown in Figure 5.1 that the participants were mostly owner-managers. The fisheries with employees between 10 and 19 were visually smaller than the small and medium fisheries with employees between 0 and 9. Also. The pie charts visually illustrate the highest education level of respondents. The largest slice in the pie chart shows the primary school level. Therefore, most respondents had educational levels of primary school. The pie charts show that the majority of participants had between 11 and 15 years of work experience (57.83%). Only 1.20% had more than 21 years of experience.

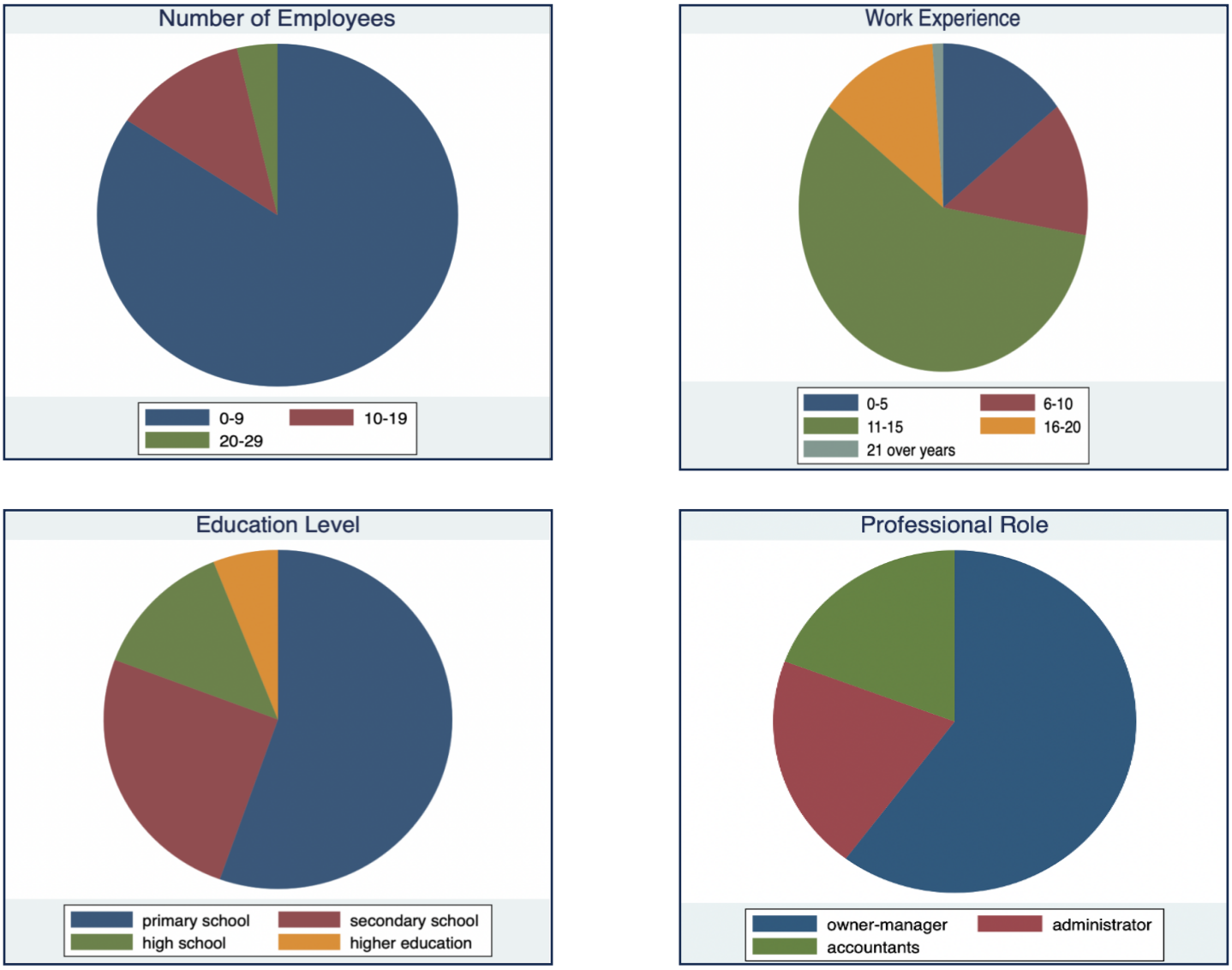

Figure 5.1 Graphical illustrations of participant's demographic characteristics

Section B – The practices of working capital management -

The requirements of working capital management in small and medium fisheries

As explained in the literature review (chapter two), WCM is crucial for small businesses (Afrifa & Tauringana, 2013; Baños-Caballero et al., 2014; Mun & Jang, 2015; Atseye et al., 2015; Zariyawati et al., 2017; Louw et al., 2019). These studies collectively highlight that effective management of working capital is pivotal to ensuring the financial health, operational efficiency, and sustained viability of small businesses. Fisheries require an optimal level of working capital (Rey-Ares et al., 2021). Efficient WCM contributes to the overall financial health and sustainability of fishing businesses. It ensures they can meet their short-term obligations, adapt to changes, and invest in long-term growth. The food manufacturing industry deals with intricate supply chains, diverse product lines, and varying demand patterns. Managing working capital investment involves decisions about procurement, production scheduling, inventory levels, and raw material sourcing. Balancing these variables while optimizing working capital investment is complex and requires strategic foresight. Inefficiencies in working capital investment could lead to excessive inventory carrying costs, production delays, and cash flow constraints. Rey-Ares et al. (2021) confirmed the importance of inventory management and accounts payable management in the fishing sector. An opposing point of consideration is that accounts receivable and accounts payable were most important, and inventory was not important for SMEs (Afrifa & Tauringana, 2013). In the opinion of García-Teruel and Martinez-Solano (2010), firms opt for higher levels of accounts payable to overcome financial constraints (Schwartz, 1974), especially when credit from financial institutions is not available (Elliehausen & Wolken, 1993), or in countries with a poorly developed financial sector (Ge & Qiu 2007). The conflicting findings relating to the requirements of WCM in SMEs, including small and medium fisheries, suggest that there is a requirement for further research. Based on the existing literature, the following sections analyse the extent of WCM and its components, the priority of WCM and its components, the importance of WCM and its components to profitability, the target level of WCM and its components,

and the strategy of WCM and its components in the context of small and medium fisheries in Morocco.

Extent of working capital management

This section analyses the question in relation to the extent of WCM in small and medium fisheries in Morocco. The primary objective of the question is to explore how small and medium fishing handle and manage WCM components. The question was rated on scales as: 'To a great extent', 'To some extent'; 'Not at all', and 'Do not know'. The descriptive analysis displayed in Table 5.3 provides a statistical analysis related to the extent of WCM.

Table 5.3 Descriptive analysis related to the extent of WCM

Variable	**Response (n=83)**					**Mean**
a) Extent of WCM	***Scale***	***To a high extent***	***To some extent***	***Not at all***	***Do not know***	
To what extent does your small and medium fishery manages working capital	Frequency	12	53	6	12	
	%	14.46	63.86	7.23	14.46	**2.78**

The survey question sought to evaluate the degree of WCM in small and medium fisheries. The results revealed that 14.46% of respondents acknowledged a high level of WCM within their fisheries, consistent with scholarly literature emphasizing the critical role of efficient working capital practices in ensuring sustainable financial performance. Furthermore, the majority of participants, comprising 63.86%, indicated that their fisheries engage in WCM to a certain extent, reflecting joint efforts by businesses to optimise working capital efficiency. In contrast, a minority of 7.23% expressed a lack of focus on WCM, suggesting potential areas for enhancement in financial management strategies.

Notably, 14.46% of respondents expressed uncertainty regarding the extent of WCM in their enterprises, highlighting the importance of further education and awareness regarding the benefits of effective working capital management practices. These findings indicate the growing significance of WCM in the fishing sector, as it is essential in ensuring sustainable financial performance (Rey-Ares, 2021). The mean score of 2.78 indicates a balanced view towards the current state of WCM within fisheries. While the score reflects a level of competency in managing working capital, there is still potential for further enhancement in optimising these practices. This insight underscores the importance of continuous improvement in WCM to drive better financial performance and operational efficiency within small and medium fisheries.

Priority of working capital management components

This section analyses the priority of WCM components in small and medium. The question aims to assess the significance and emphasis placed on individual components of WCM within small and medium fisheries in Morocco, and it was rated on scales as: 'High priority', 'Moderate priority', 'Do not know', 'Low priority'; 'Not a priority'. Table 5.4 displays the descriptive analysis of the priority attributed to WCM components.

Table 5.4 Descriptive analysis related to the priority of WCM components

Variables	WCM components	*Scale*	Percent	Mean
b) WCM components priority	**Inventory management**	High priority	17%	**3.96**
		Moderate priority	53%	
		Do not know	6%	
		Low priority	7%	
	Accounts receivable	High priority	4.82%	**3.63**
		Moderate priority	71.08%	
		Do not know	7.23%	
		Low priority	16.87%	

Accounts payable	High priority	25.30%	**3.40**
	Moderate priority	38.55%	
	Do not know	24.10%	
	Low priority	12.05%	
Cash conversion cycle	High priority	21.69%	**0.89**
	Moderate priority	50.69%	
	Do not know	16.87%	
	Low priority	10.84%	
All the above	High priority	37.35%	**4.06**
	Moderate priority	46.99%	
	Low priority	15.66%	

The descriptive analysis table shows that 17% of respondents agreed that inventory management is the highest priority component, 53% of respondents give moderate priority to the management of inventory in their small and medium fisheries, and only 7% of respondents rated inventory management as 'low priority' and 6% as 'do not know'. Likewise, 4.82% of respondents agreed that accounts receivable management is the highest priority component, with 71.08% prioritising moderately, 16.87% prioritising this component at a low level, and 7.23% as 'do not know'. Similarly, 25.30% of respondents give high priority to the management of accounts payable. In comparison, 38.55% agreed that accounts payable management is the moderate priority component, and 24.10% of the respondents indicated that a notable portion of the surveyed individuals might not clearly understand the accounts payable concept. Whereas 12.05% of respondents agreed that low priority is given to this component of WC in their businesses. Regarding the cash conversion cycle, 21.69% of respondents agreed that the cash conversion cycle is the

highest priority component, and 50.69% give moderate priority to the management of WC in their small and medium fisheries. The ‘do not know’ rating from 16.87% of the respondents indicates that a notable portion of the surveyed individuals might not clearly understand the cash conversion cycle concept, and only 10.84% of respondents rated the cash conversion cycle as ‘low priority.’

According to the descriptive statistics, inventory management achieved the highest mean score of (M = 3.96), followed by accounts receivable with a mean score of (M = 3.63), accounts payable with a mean score of (M = 3.40), and, lastly, cash conversion cycle with a mean score of (M = 0.89).

The mean scores of the WCM components reveal that inventory management is perceived as the most essential WCM component that enhances profitability. The accounts receivable are closely followed and ranked second in importance. Then, the accounts payable received the third-highest average rating. This pattern suggests that participants prioritise strategies that reduce the time between receiving and making payments. This aligns with a focus on improving cash flow efficiency, which can contribute to enhanced financial performance. The cash conversion cycle achieved the lowest mean score and is therefore considered to be the least essential WCM component that affects the profitability of Moroccan small and medium fisheries.

The importance of working capital management components on profitability

This section undertakes an in-depth examination of the critical role of working WCM components in influencing profitability. The primary objective is elucidating the complex interplay between these components and a company's financial performance. The question was rated on scales: ‘Strongly agree’, ‘Agree’, ‘Neither agree nor disagree’, ‘Strongly disagree’, ‘Disagree’. Table 5.5 displays the descriptive analysis of the WCM component’s importance on profitability.

Table 5.5 Descriptive analysis related to the importance of WCM components

Variable	Statements	Mean	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
C) WCM components and profitability	Management of inventory is important for increasing the company's profitability.	**3.16**	30.12%	18.07%	6.02%	30.12%	15.66%
	Management of accounts receivable is important for increasing the company's profitability.	**4.20**	67.47%	14.46%	0%	7.23%	10.84%
	Management of accounts payable is important for increasing the company's profitability.	**3.73**	51.81%	14.46%	0%	22.89%	10.84%
	Management of Cash Conversion Cycle is important for increasing the company's profitability.	**3.26**	36.14%	14.46%	0%	38.55%	10.84%

The results show that (20.12% + 18.07%) 38.82% of small and medium fisheries invest in inventory to improve and increase their profitability, whereas 6.02% of owner-managers neither agreed nor disagreed about the importance of inventory component to the amelioration of profitability. Notably, a substantial proportion of fisheries, accounting for (30.12% + 15.66%) 45.78%, disagreed with this statement. The mean score for this motive is 3.16. The second statement to respondents was the importance of accounts receivable management to improving profitability. Even though (7.23% + 10.84%) 18.07% of respondents disagreed with the statement, (67.47% + 14.46%) 81.93% of respondents agreed that the management of accounts receivable increases the profitability of their fisheries. Concerning the importance of accounts payable management, 66.27% (51.81% + 14.46%) agreed with the statement. On the other hand, the data shows that a considerable portion of participants, about (10.84% + 22.89%) 33.73%, disagree that effectively handling accounts payable is crucial for boosting their company's profits. This finding points to respondents' differing opinions about managing accounts payable in overall financial success. The final statement was about the importance of cash conversion cycle management to the importance of profitability. 50.6% (36.14% + 14.46%) of owner-managers agreed that managing the cash conversion cycle is important for increasing their company’s profits. Conversely, 49.39% (38.55% + 10.84%) of respondents disagreed with this statement.

According to the descriptive statistics, accounts receivable achieved the highest mean score of (M = 4.20), followed by accounts payable with a mean score of (M = 3.73), then followed by cash conversion cycle with a mean score of (M = 3.26) and then lastly inventory management with a mean score of (M = 3.16). The mean scores of the WCM components reveal that accounts receivable is perceived as the most critical WCM component that enhances profitability. Following closely are the accounts payable, which is ranked second in importance. Then, the cash conversion cycle received the third-highest average rating. This pattern suggests that participants prioritise strategies that reduce the time between receiving and making payments. This aligns with a focus on improving cash

flow efficiency, which can contribute to enhanced financial performance. The inventory holding period achieved the lowest mean score and is therefore considered to be the least important WCM component to affect the profitability of Moroccan small and medium fisheries.

The target level of working capital management components

The scholarly literature on WCM has emphasised a significant relationship between firm performance and working capital levels. Therefore, it is essential to analyse how these target levels of WCM components impact a company's financial operations. This analysis aims to provide a comprehensive overview of how fisheries allocate their target levels across various WCM components. The descriptive analysis table of WCM components' target levels is found in Table 5.6.

Table 5.6 Descriptive analysis related to the target level of WCM components

Variable	Statements	Mean	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
D) WCM components and target level	The company sets a specific level of inventory to be maintained	**2.55**	0%	25.3%	20.12%	19.28%	25.30%
	The company sets a specific level of accounts receivable	**4.33**	69.88%	3.61%	16.87%	9.64%	0%

	The company sets a specific level of accounts payable	**3.26**	69.88%	0%	16.87%	13.25%	0%
	The company sets a target of Cash Conversion Cycle	**3.93**	59.04%	0%	16.87%	24.10%	0%

The findings show that 25.30% of participants accept that their respective small and medium fisheries set a specific inventory level to be maintained. This strategic focus aims to optimise the impact of working capital where businesses proffer credence to the precision and foresight associated with target-setting, seeking to optimise inventory levels in alignment with operational needs and strategic objectives. In contrast, a substantial portion of owner-managers, comprising 20.12%, neither express agreement nor disagreement with the statement. This neutral stance might reflect diverse considerations or a lack of consensus within this subset of participants. While not overtly endorsing the practice, this group's neutrality underscores the variance in perspectives and the complexity inherent in devising inventory management strategies. On the other hand, a significant majority, comprising 44.58% (19.28% + 25.30%) of participants, express disagreement, citing concerns about the adaptability of fixed inventory thresholds in dynamic market conditions and evolving demand trends. This divergence underscores the delicate balance businesses strive to strike, effectively managing inventory while remaining flexible.

The analysis of participant responses offers a comprehensive insight into their viewpoints regarding the establishment of a predetermined level of accounts receivable. Notably, a substantial majority of 73.49% (69.88% + 3.61%) agree with this practice, suggesting a widespread acknowledgement of the value in maintaining a targeted level of accounts receivable. This significant agreement underscores the strategic importance of balancing

efficient cash flow management with the assurance of steady incoming funds. In a distinct vein, a notable 16.87% of participants adopt a neutral stance, indicating a divergence in opinions within this subgroup. This neutrality might stem from varying considerations or a lack of unanimous consensus. This diverse response underscores the complexity of shaping optimal financial policies, particularly managing accounts receivable. Conversely, a smaller yet significant proportion of 9.64% voice disagreement, suggesting reservations about imposing a specific level on accounts receivable. This dissent may arise from concerns related to adaptability in addressing market fluctuations, customer relationships, or the practicality of rigid receivable thresholds. Their differing viewpoint emphasises the intricate balance businesses aim to strike, harmonising practical cash flow management principles while maintaining flexibility.

Regarding the statement that businesses establish a specific accounts payable target, 69.88% agreed. This suggests a broader trend within the industry, where companies strive to achieve and adhere to specific accounts payable thresholds. On the other hand, the results present an interesting contrast, with a substantial segment of participants, approximately 13.25%, expressing disagreement with businesses needing to establish a specific target for accounts payable. This dissenting perspective is reminiscent of insights from Nadiri (1969), whose work highlighted that actual levels of payables often diverge from desired levels, and companies require time to transition between these real and desired benchmarks. Several factors contribute to these disparities. Notably, firms frequently struggle to forecast their sales and consequent purchasing needs accurately due to inherent uncertainties. Additionally, a lack of precise anticipation regarding shifts in the opportunity cost of trade credit can further compound these differences. Moreover, imbalances in other aspects of a firm's assets, such as inventory levels, might also contribute to these variations. Interestingly, 16.87% of owner-managers neither express agreement nor disagree with the statement. The final statement pertained to establishing a predetermined target concerning the cash conversion cycle. 59.04% of owner-managers agreed that the company should set

a target for the cash conversion cycle. Conversely, 24.10% of respondents disagreed with this statement, and 16.87% were neutral.

The descriptive statistics of the target levels set for each component of WCM by Moroccan small and medium fisheries indicate that the accounts receivable period has the highest mean score (M = 4.33), followed by the cash conversion cycle with a mean score of (M = 3.93). The WCM component with the third highest mean score is the accounts payable (M = 3.26), and finally, the inventory management achieved the lowest mean score of (M = 2.55). These findings align with the conclusions drawn by Afrifa (2013) that show that AIM-listed SME companies expressly set targets for accounts receivable periods more than any other WCM component. However, the findings specify that the inventory holding period is the least of the WCM components to have a specific target set for it.

The strategy of working capital management components

In the subsequent phase of this study, this section explores the intricate relationship between the distinct components of WCM and their corresponding strategic implications. This pivotal section delves into whether augmenting each of the four WCM components contributes positively to overall profitability. This analysis aims to unravel the complex interplay between operational decisions related to working capital and their potential impact on financial performance. In pursuit of this objective, a comprehensive descriptive analysis is presented. The descriptive analysis of WCM components and their strategies is found in Table 5.7.

Table 5.7 Descriptive analysis related to the strategy of WCM components

Variable	**Statements**	Mean	Strongl agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
E) Working capital management and strategy	Increase in inventory improves	**2.40**	0%	46.99%	0%	0%	53.01%

	our company's profitability.						
	Increase in accounts receivable improves our company's profitability.	**3.22**	40.96%	0%	0%	59.04%	0%
	Increase in accounts payable improves our company's profitability.	**2.61**	0%	51.81%	0%	6.02%	42.17%
	Increase in Cash Conversion Cycle improves our company's profitability	**2.39**	0%	43.37%	0%	9.64%	46.99%

The finding shows that 53.01% of participants disagree with the conservative inventory strategy regarding the increase in inventory levels. Shen and Soenen (1998) state that companies adopting conservative WCM strategies (more investment in inventories) reduce supply costs and price fluctuations. Still, they also reduce their profitability by incurring greater financing and opportunity costs. The empirical evidence has mostly found a negative relationship between the days inventory outstanding and profitability since high levels of inventory involve considerable costs(e.g., opportunity cost, warehouse rent, insurance expenses) that might reduce firm profitability (Deloof, 2003; Lazaridis &

Tryfonidis, 2006; García-Teruel & Martinez-Solano, 2007; Raheman & Nasr, 2007). On the other hand, 46.99% of respondents favour increasing the inventory level to enhance profitability. Keeping a high level of inventory avoids incurring breakage costs (e.g., in production, in the supply chain) due to interruptions in the production process (Baños-Caballero et al.,2014; Deloof, 2003; Vishnani & Shah, 2007) and, ultimately, the immediate availability of the product is guaranteed. In addition, it allows hedging against high price fluctuations or taking advantage of quantity discounts (Baños-Caballero et al.,2014). Thus, Enow and Brijlal (2014), Javid and Dalian (2014), and Mathuva (2010) find that the DIO positively influences profitability.

Regarding accounts receivable, the data reveals an intriguing division of opinions among respondents regarding the impact of increased accounts receivable on the company's profitability. 40.96% of respondents agree with the importance of investing in accounts receivables, while 59.04% disagree. In the case of respondents who support the increase of accounts receivable levels, a longer day's outstanding sales may positively affect firm profitability. This is because, through the collection period, the company's customers obtain financing at a generally lower cost than that offered by financial institutions; in addition, it allows customers to test the products before payment (Deloof, 2003; García-Teruel & Martínez-Solano, 2007; Lazaridis & Tryfonidis, 2006). Conversely, the disagreement of respondents about the increase in accounts receivable refers to the fact that longer collection periods imply higher financial resources invested in working capital. In this sense, companies with longer periods face higher opportunity costs (Deloof, 2003; Raheman & Nasr, 2007) and experience low profitability. Shortening the day's sales outstanding allows companies to reduce the non-payment risk that they bear when facilitating trade credit since being more demanding with their collection periods (i.e., asking customers to make their payments close to the moment at which the company delivers the product or service) may lead to the rejection of customers with lower liquidity guarantees. Companies tend to conduct a better credit evaluation of their customers than financial institutions probably do, but even so, a certain risk of non-payment exists. The

differing opinions within the respondent pool suggest that the relationship between accounts receivable and profitability is far from straightforward. It is crucial for decision-makers to carefully assess the specific circumstances of their company, industry, and customer base when considering the impact of accounts receivable on profitability. Moreover, finding the optimal balance between extending credit to customers and ensuring timely cash inflows is essential for maintaining a healthy financial position.

Additionally, the data underscores a noticeable disparity in opinions among respondents regarding the potential impact of an increase in accounts payable on the company's profitability. With 51.81% of respondents in agreement and 59% (6.02% + 42.17%) in disagreement, it is evident that perspectives on this matter are diverse and subject to differing interpretations. Among the respondents who agreed with the statement, their arguments imply that as the day's payable outstanding increases, the company takes advantage of its supplier financing, holding on to cash longer. Thus, instead of resorting to negotiated and more expensive sources of financing, the company will increase its investment potential, being able to allocate resources to more profitable investments (García-Teruel & Martínez-Solano,2007). Deferring payment to suppliers can become a relatively cheap and flexible source of financing (Deloof, 2003). Conversely, from the disagreement point of view (represented by 57% of respondents), a contrasting sentiment emerges regarding the potential benefits of increasing accounts payable to enhance our company’s profitability. This group of respondents expresses reservations about the viability of this strategy as a direct driver of improved financial performance. It is noteworthy that the relationship mostly found by the literature indicates a negative association between the days payable outstanding and profitability (Deloof, 2003; Lazaridis & Tryfonidis, 2006; García-Teruel & Martinez-Solano, 2007; Raheman & Nasr, 2007). This negative relationship might reflect that companies with lower profitability pay later (reverse causality; Deloof, 2003). Additionally, deferring trade credit payments can involve huge costs for the company if the suppliers offer important discounts for early payments (Raheman & Nasr, 2007), thereby harming firm profitability. Moreover, when

suppliers anticipate that customers will pay late, they may increase the price of goods to help counterbalance their financial costs.

Furthermore, the data presents an interesting division of opinions among respondents regarding the potential impact of an increased cash conversion cycle on the company's profitability. With 56.63% (9.64%+46.99%) of respondents in agreement and 43.37% of respondents expressing disagreement. Supporters of the idea might point to the strategic advantages of extending the cash conversion cycle which allows for better alignment of production and inventory management with customer demand, potentially leading to more efficient resource utilization and operational effectiveness. On the other hand, those who hold reservations about the idea may emphasize the potential drawbacks associated with an extended cash conversion cycle. They may raise concerns about the strain on liquidity and the possible disruptions that could arise within the supply chain. These individuals might argue that a longer cycle could hinder the company's ability to swiftly respond to market shifts and capitalize on emerging opportunities.

The results of the descriptive statistics show that accounts receivable has the highest mean score of (M = 3.22), followed by accounts payable with a mean score of (M = 2.61). Inventory management has the third highest mean score of (M = 2.40), whilst the cash conversion cycle achieved the lowest mean score of (M = 2.39). The mean score of 2.39 for the cash conversion cycle shows that lengthening the cash conversion period does not lead to an increase in profitability, and therefore, it can be said that fisheries are pursuing an aggressive strategy when it comes to the cash conversion cycle. The mean score for the accounts receivable, accounts payable and inventory of 3.22, 2.61 and 2.40, respectively, which is between the disagree and neither disagree nor agree, is an indication that companies mildly believe that an increase in accounts receivable, accounts payable and cash conversion cycle do not lead to higher profitability.

Section C – Corporate governance, bureaucratic corruption, and institutional support in the fishing sector

Principal component analysis

The moderating variables consist of many factors that exhibit complex interactions. Therefore, a sophisticated approach such as PCA is essential to minimise their intricate nature. Furthermore, another fundamental purpose of implementing PCA is to construct a composite single index corresponding to each moderating variable (bureaucratic corruption, institutional support, and corporate governance) to examine the interaction effect on the relationship between WCM and profitability of small and medium fisheries in the Moroccan setting. The analysis will explore each moderating variable separately, and it will begin with corporate governance, followed by bureaucratic corruption, and then institutional support.

Corporate governance

Table 5.8 outlines 5 statements corresponding to the five items identified in the literature: Board Structure, Board Procedure, Internal Audit Control, Disclosure, and Managerial Equity Ownership. The selection of these institutional support items is supported by previous studies that have utilised similar items to measure the role of institutions in business performance and economic development (Nsour & Al-Rjoub, 2022; Black et al. ,2012; Ararat et al., 2017; Black et al., 2019).

These items were assessed on a 5-point Likert scale, treated as ordinal categorical variables, and transformed into continuous data using polychoric correlation to account for their non-linear properties (Olsson, 1979). Prior to dimensionality reduction via principal component analysis (PCA), the internal consistency of the scale was evaluated using Cronbach's alpha, yielding a value of 0.7316 (Table 5.1). This exceeds the conventional threshold of 0.70 (Taber, 2018), confirming strong reliability and coherence among the items and indicating that respondents interpreted the questions consistently.

Table 5.8 Statements presented to respondents and the corporate governance items

Question	Statement	Items	Likert Scale Type				
			1	2	3	4	5
CG1	To what extent do you agree with the statement that it is important for the firm to have at least one independent director	Board Structure	SD	D	N	A	SA
CG2	To what extent do you agree with the statement that it is important for the board to adopt and implement a firm risk management plan	Board procedure	SD	D	N	A	SA
CG3	To what extent do you believe that the internal audit function effectively enhances and supports good corporate governance practices within you organization.	Internal audit control	SD	D	N	A	SA
CG4	To what extent do you agree that the firm must have a managerial equity ownership	Managerial equity ownership	SD	D	N	A	SA
CG5	To what extent do you agree that the firm must reveal its annual financial statements	Disclosure	SD	D	N	A	SA

The suitability of the data for PCA was further assessed through two diagnostic tests. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy returned a value of 0.5823 (Table 5.9), classified as "mediocre" (Antony & Rao, 2007), suggesting moderate shared variance among the items. While this value is suboptimal, it exceeds the minimum threshold of 0.50 (Field, 2013) and was complemented by a significant Bartlett's Test of Sphericity ($p < 0.001$), which rejected the null hypothesis of uncorrelated variables (Bartlett, 1954). These results, combined with the acceptable Cronbach's alpha, justified proceeding with PCA despite the modest KMO.

Table 5.9 KMO measure of sampling adequacy and Bartlett's test of sphericity for corporate governance variable

KMO Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
	Chi-Square	df	Sig
0.5823	100.512	10	0.000

Interpretation of Results from PCA

The 5 items were included in the factor analysis and since the items were not standardized, the polychoric correlation matrix was used as an input to PCA to extract the factors. The results are presented in Table 5.10. The number of factors extracted can be defined, and there are techniques available in STATA that can help decide the number of factors. One of the most commonly used techniques is Kaiser's criterion or the eigenvalue rule. Under this rule, only those factors with an eigenvalue (the variances extracted by the factors) of 1.0 or more are retained. Using this criterion, the data revealed only the first factor should be maintained since its eigenvalue of 2.8941 explains more variance in the dataset than a single original variable.

Table 5.10 Principal component analysis without factor rotation for corporate governance

Initial Eigenvalues			
Factor	Total	% of Variance	Cumulative %

1	**2.8941**	0.5788	0.5788
2	0.7867	0.1574	0.7362
3	0.7456	0.1491	0.8853
4	0.4190	0.0838	0.9691
5	0.1544	0.0309	1.000

The present study has also used a graphical method known as Catell's (1966) scree test (Figure 5.2). These are plots of each of the eigenvalues of the factors. One can inspect the plot to find the place where the smooth decrease of eigenvalues appears to level off. To the right of this point, only 'factorial scree' (meaning debris which collects on the lower part of a rocky slope) is found. After examining the scree plot, only one factor was extracted for analysis.

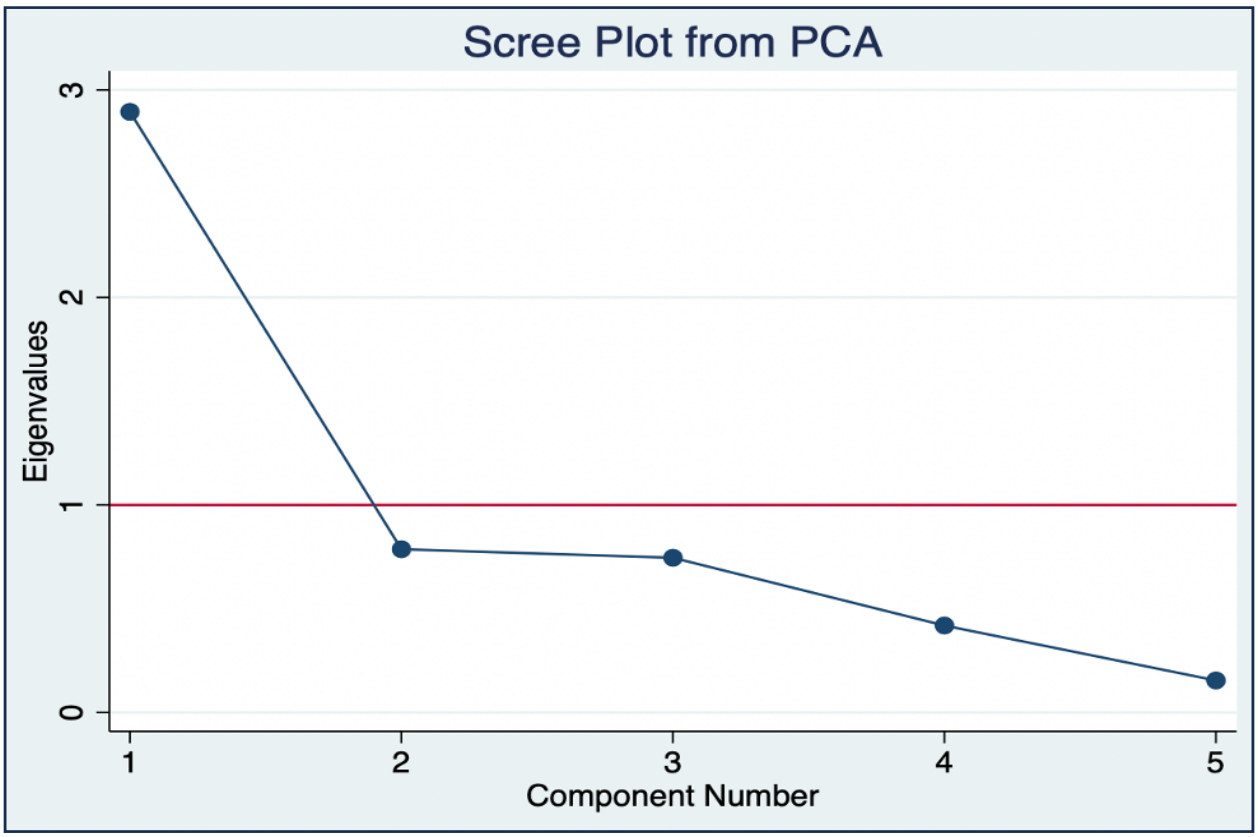

Figure 5.2 Scree plot of eigenvalues of factors for corporate governance

Factor rotation methods were developed to facilitate an easier interpretation of principal components. This research study uses the varimax orthogonal rotation method developed by Kaiser (1958), which is based on the criterion of maximizing the factor loadings of dominant items in each principal component. The results of PCA using varimax rotation are presented in Table 5.11. The rotated factor loading indicates the extent of correlation between the items and the corporate governance index, as reflected by the score of the first factor. One factor accounted for 57.88 per cent of the total variance in the data. For the only factor detected, board structure, board procedures, internal audit control, and managerial equity ownership showed markedly strong positive loadings, while disclosures showed strong negative factor loadings. Loading resulting from an orthogonal rotation are correlation coefficients of each variable with the corporate governance index, so they naturally range from -1 to +1. The table also presents information regarding uniqueness, which elucidates the proportion of variance attributed solely to each individual item, without any shared variance with other items. It is important to note that a lower uniqueness level signifies a greater relevance of the item to the underlying component. As suggested by Gibson, Morrow, and Rocconi (2020), commonality, represented as 1 minus uniqueness, should ideally exceed 0.6. In simpler terms, a uniqueness value below 0.4 is preferred. For instance, board structure and managerial equity ownership exhibit low uniqueness values of 33.6% and 30.9%, respectively. This implies that they individually account for only 33.6% and 30.9% of the variance, while the majority, 66.4% and 69.1%, respectively, is shared among the other items. In other words, these two items demonstrate a high degree of relevance to the component under consideration. Conversely, items including board procedures, disclosures, and internal audit control exhibit uniqueness values of 52.9%, 50.9%, and 42.2%, respectively, indicating a comparatively lower degree of relevance to the index when compared to the other items. Despite these values, their retention is justified due to their critical role in capturing the multidimensional nature of corporate governance. Board procedures and internal audit control are essential for procedural rigor and oversight, while disclosures are fundamental to transparency and accountability, as highlighted in studies such as Nsour and Al-Rjoub (2022), Black et al.

(2012) and Ararat et al. (2017). Therefore, removing these items would risk oversimplifying the construct, omitting facets critical to its theoretical integrity (Brown, 2015).

Table 5.11 Results of PCA using varimax rotation for corporate governance

PC1-eigenvalue	**Proportion explained by PC1**	**PC1- Rotated factor loadings**				
		Board structure	**Board procedures**	**Disclosures**	**Internal audit control**	**Managerial equity ownership**
2.89418	0.5788	0.8147	0.6863	-0.7002	0.7604	0.8312
Kaiser-Meyer-Olkin (KMO)		0.5555	0.7951	0.5318	0.5362	0.5914
Uniqueness		0.3362	0.5290	0.5098	0.4218	0.3090

Bureaucratic corruption

Table 5.12 outlines 5 statements that correspond to the five items corresponding to bureaucratic corruption named as Bribery and Extortion, Misappropriation of Fisheries Resources, Transparency in Fisheries Management, Legal and Regulatory Framework for Fisheries, and Corruption Reporting Channels. The selection of these items aligns with scholarly frameworks that conceptualize bureaucratic corruption as a multidimensional construct impacting business performance, resource sustainability, and institutional trust (Hara, 2008; White, 2020; Asteriou et al., 2021)

In the context of calculating bureaucratic corruption index, the ranked categories of the five items represent a discrete representation of a latent continuous data that signifies the 'value' of each item (Martel et al., 2021). Hence, the polychoric correlation is utilized. The internal consistency of the five-item scale was assessed using Cronbach's alpha, yielding a value of 0.8193, which exceeds the conventional threshold of 0.70 (Taber, 2018). This indicates excellent reliability and homogeneity among the items, confirming that

respondents interpreted the questions consistently and that the scale robustly captures the latent construct of bureaucratic corruption.

Table 5.12 Statements presented to respondents and bureaucratic corruption items

Question	Statement	Items	Likert Scale Type				
			1	2	3	4	5
BC1	Fisheries enforcement officers demand bribes or 'fees' from fishermen to avoid fines or penalties for minor violations.	Bribery and Extortion	SD	D	N	A	SA
BC2	There are instances of influential individuals with ties to government officials illegally exploiting marine resources.	Misappropriation of fisheries resources	SD	D	N	A	SA
BC3	Initiatives to increase transparency in fisheries management are limited in scope and impact	Transparency in fisheries management	SD	D	N	A	SA
BC4	Anti-corruption initiatives have streamlined regulatory	Legal and regulatory framework for fisheries	SD	D	N	A	SA

	processes, reduced operational delays, and allowing fisheries to maintain optimal working capital levels.						
BC5	Effective Corruption reporting channels can mitigate the negative impact of bureaucratic corruption on working capital management and profitability.	Corruption reporting channels	SD	D	N	A	SA

The Kaiser–Meyer–Olkin (KMO) measure verified the sampling adequacy for the analysis, KMO = 0.8134 as show in Table 5.13, which suggests that the sample size is adequate for factor analysis. Bartlett's test of sphericity [$\chi^2(10) = 196.598; p < 0.000$] indicated that correlations between items were sufficiently large for PCA.

Table 5.13 KMO measure of sampling adequacy and Bartlett's test of sphericity for bureaucratic corruption variable

KMO Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
	Chi-Square	df	Sig
0.8134	196.598	10	0.000

Interpretation results from PCA

Table 5.14 below presents the principal component analysis without factor rotation for bureaucratic corruption. The table has showed that the first factor explained 67.7% of the total variance in the dataset while both factors 1, 2 and 3 explained 90% of the total variance

in the dataset. In determining the numbers of factor to retain, the result below suggests that only the first factor with eigenvalue 3.3884 should be retained.

Table 5.14 Principal component analysis without factor rotation for bureaucratic corruption

	Initial Eigenvalues		
Factor	Total	% of Variance	Cumulative %
1	**3.3884**	0.6777	0.6777
2	0.5928	0.1186	0.7963
3	0.5188	0.1038	0.9000
4	0.3174	0.0635	0.9635
5	0.1824	0.0365	1.000

A scree plot from Principal Component extraction is presented in Figure 5.3, and it shows that one component is sufficient to explain the loadings plots.

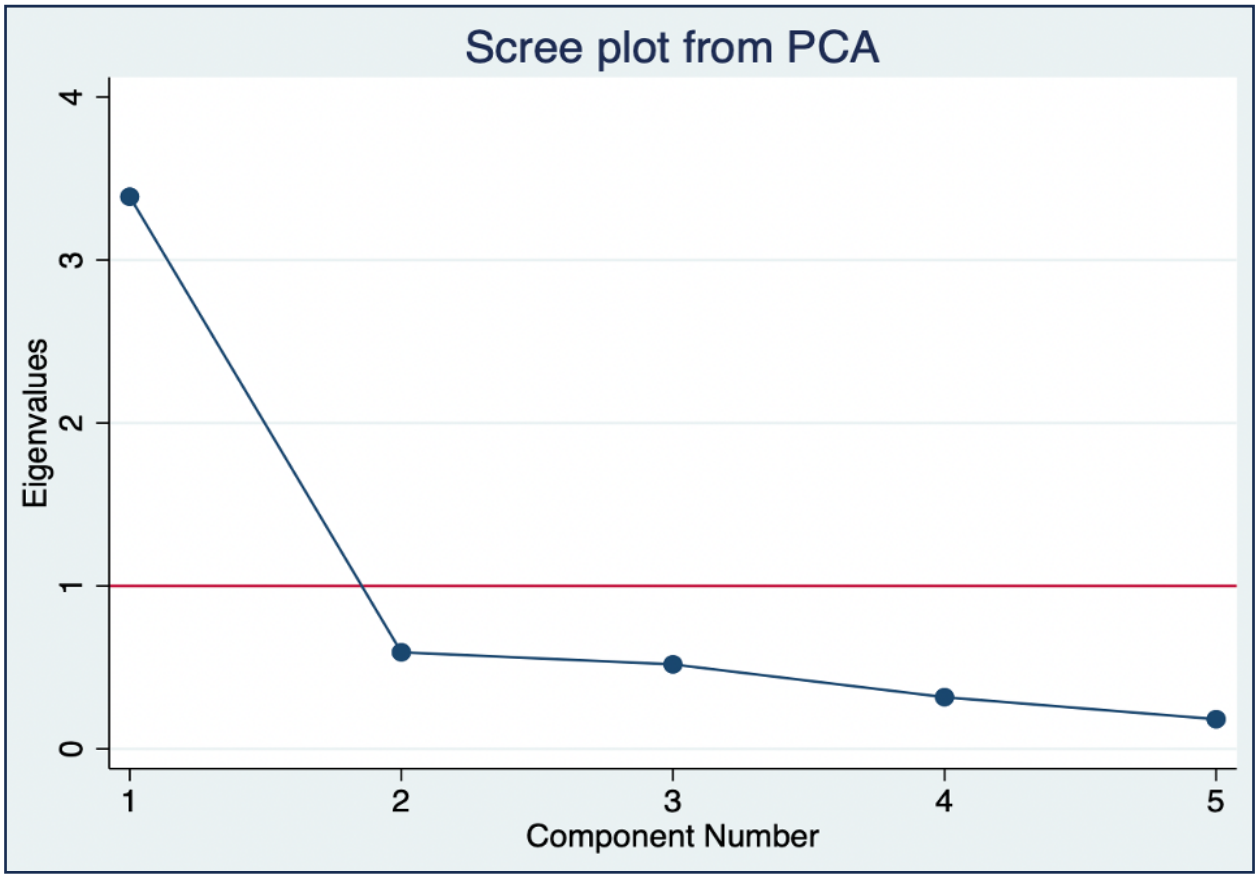

Figure 5.3 Scree Plot of eigenvalues of factors for bureaucratic corruption

The results of PCA using varimax rotation are presented in Table 5.15. The rotated factor loading indicates the extent of correlation between the items and the bureaucratic corruption index, as reflected by the score of the first factor. One factor accounted for 67.77 per cent of the total variance in the data. All items showed a positive association with the proposed index. Among all the items considered, only bribery and extortion has a uniqueness value above the 0.4 threshold. Misappropriation of fisheries resources, Transparency in fisheries management, Legal and regulatory framework for fisheries and Corruption reporting channels have uniqueness values of 24%, 27.7%, 21.6% and 39.3% respectively. This implies that these only individually explain 24%, 27.7%, 21.6% and 39.3%, while the remaining 76%, 72.3%, 78.4% and 60.7% of the variance are shared among the other variables. In other words, these four items are highly relevant for the component. On the other hand, Bribery and extortion, with a uniqueness value of 48.4%, exhibit a lesser relevance to the index compared to the other items. As Galtung (2016) emphasizes, corruption indices should capture the multidimensional nature of corruption, including both direct and indirect mechanisms. Excluding bribery and extortion based solely on statistical uniqueness would risk overlooking a fundamental component of bureaucratic corruption. Retaining this item ensures a more holistic assessment, aligning with empirical evidence and theoretical frameworks on systemic corruption (Søreide & Williams, 2013).

Table 5.15 Results of PCA using varimax rotation for bureaucratic corruption

PC1-eigenvalue	**Proportion explained by PC1**	**PC1- Rotated factor loadings**				
		Misappropriation of fisheries resources	**Bribery and extortion**	**Transparency in fisheries management**	**Legal and regulatory framework for fisheries**	**Corruption reporting channels**
3.3884	0.6777	0.8716	0.7179	0.8501	0.8852	0.7791

Kaiser-Meyer-Olkin (KMO)	0.8393	0.9311	0.7543	0.7882	0.8124
Uniqueness	0.2403	0.4847	0.2773	0.2164	0.3930

Institutional support

Table 5.16 outlines four statements that correspond to the four items corresponding to institutional support. The named institutional support components may be summarised into the following areas: four items, namely, Government Financial Support for SMEs, Business Development Support, Networking and Partnerships, and Legislative Policies. The selection of these institutional support items is supported by previous studies that have utilized similar items to measure the role of institutions in business performance and economic development (Ismail & Othman, 2014; Jayeola et al., 2020; Rahman & Ramos, 2014; Jiang, 2014; Nieuwenhuizen, 2019). These items illustrate the fundamental mechanisms by which institutions deliver both financial and non-financial support to businesses, especially in contexts where formal financial markets are underdeveloped, or the regulatory environments are weak (Cuevas & Fischer, 2006).

In deriving the institutional support index, literature generally supports the use of composite indices as effective tools for translating theoretical concepts into quantifiable variables and indicators, thus providing a structured means to capture complex, multidimensional constructs within a system (Islam et al., 2020). To operationalize this, the polychoric correlation was employed as an input to PCA for factor extraction, as it provides a more accurate estimation of correlations between ordinal variables, ensuring that the extracted factors meaningfully represent the underlying items. Following factor extraction, the reliability of the four-item scale was assessed using Cronbach's alpha, which yielded a value of 0.7636. This value exceeds the widely accepted threshold of 0.70 (Taber, 2018), indicating robust internal consistency and affirming that the items collectively constitute a reliable and coherent measure of institutional support.

Table 5.16 Statements presented to respondents and the institutional support items

Question	Statement	Items	Likert Scale Type				
			1	2	3	4	5
IS1	The firm can access financial counselling and advisory services through the government channels.	Government financial support for SMEs	SD	D	N	A	SA
IS2	The firm receive guidance on risk assessments, stakeholder engagement, proposal development, and financial oversight.	Business development support	SD	D	N	A	SA
IS3	Robust legislative policies are essential for promoting sustainable fisheries management and ensuring the long-term viability of marine ecosystems	Legislative policies	SD	D	N	A	SA
IS4	The government supports SMEs in expanding their markets internationally.	Networking and partnership	SD	D	N	A	SA

As visualized in table 5.17, both the KMO statistic and Bartlett's test of sphericity indicate an appropriate factor analysis model: the Kaiser, Meyer and Olkin (KMO) test, whose

value is 0.934 (> 0.5) and the Bartlett sphericity test (Bartlett = 146.711; p = 0.000) indicates that the data can be factorised. Thus, the principal component analysis can be performed in the next step.

Table 5.17 KMO measure of sampling adequacy and Bartlett's test of sphericity for institutional support

KMO Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
	Chi-Square	df	Sig
0.5218	146.711	6	0.000

Interpretation results from PCA

Table 5.18 below presents the principal component analysis without factor rotation for institutional support. The table has indicated that the first factor explained 68.2% of the total variance in the dataset, while both factors 1, 2 and 3 explained 99.2% of the total variance in the dataset. In determining the numbers of factor to retain, the Kaiser criterion suggests retaining the factor with at least an eigenvalue of 1. Thus, the result above suggests that only the first factor or components should be retained. This is because this first component with eigenvalue 2.7286 explains more variance in the dataset than a single original variable.

Table 5.18 Principal component analysis without factor rotation for institutional support

Initial Eigenvalues			
Factor	Total	% of Variance	Cumulative %
1	**2.7286**	0.6822	0.6822
2	0.7202	0.1801	0.8622
3	0.5211	0.1303	0.9925
4	0.0299	0.0075	1

A scree plot from principal component extraction is presented in Figure 5.4, and it shows that one component is sufficient to explain the loading plots.

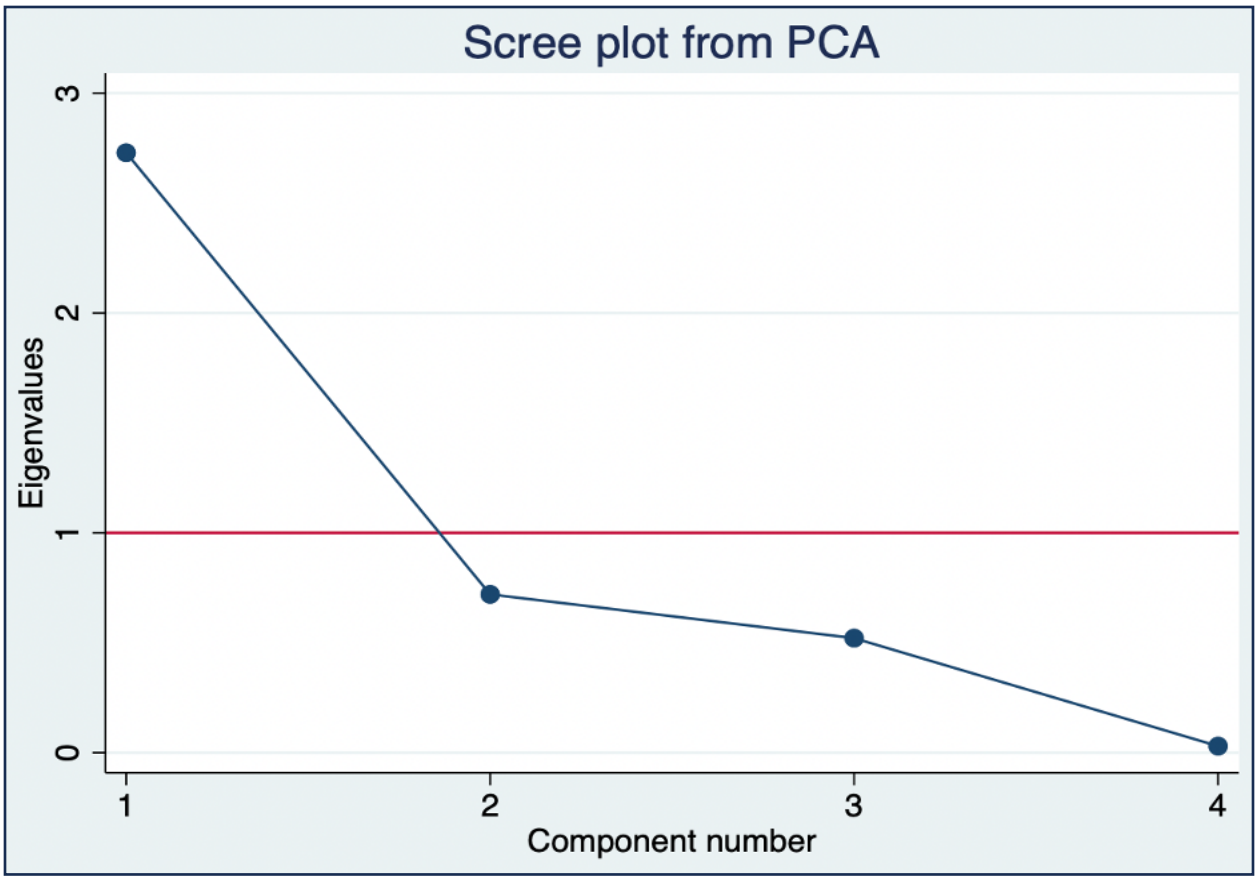

Figure 5.4 Scree Plot of eigenvalues of factors for institutional support

Table 5.19 presents the results of PCA using varimax rotation. The rotated factor loading indicates the extent of correlation between the items and the institutional support index, as reflected by the score of the first factor. One factor accounted for 68.22 % of the total variance in the data. All items showed a positive association with the proposed index. Government financial support for SMEs and business development support items have a higher correlation with the proposed index than employee development networking and partnership items.

Only the networking and partnerships item has uniqueness values above the 0.4 threshold. However, Items such as government financial support for SMEs, business development support, and networking and partnerships have lower uniqueness values: 22.2%,7.2%, and 40.7%, respectively. While uniqueness values indicate the proportion of variance in an item

not explained by the extracted factor, excluding these variables solely on this basis would undermine the conceptual validity of the institutional support construct. Government financial support, business development support, and networking and partnership are foundational components of institutional support**,** as they provide firms with resources that reduce financial constraints and enhance competitiveness (Joo & Suh, 2017). Empirical studies demonstrate that access to financial and business development support significantly influences the survival and growth of SMEs, particularly in emerging markets where institutional voids exist (Jayeola, 2020). Removing these variables from the analysis would weaken the explanatory power of the institutional support index and create an incomplete assessment of its impact on business operations.

Table 5.19 Results of PCA using varimax rotation for institutional support

PC1-eigenvalue	**Proportion explained by PC1**	**PC1- Rotated factor loadings**			
		Financial support for SMEs	**Business development support**	**Employee development**	**Networking and partnerships**
2.7286	0.6822	0.8823	0.9631	0.7700	0.6555
Kaiser-Meyer-Olkin (KMO)		0.4853	0.5111	0.9155	0.3738
Uniqueness		0.2216	0.0724	0.4071	0.5703

5.2 Descriptive statistics

Table 5.20 presents descriptive statistics of the dependent, independent, moderating, and control variables. It is divided into four sub-sections: Panel A presents descriptive statistics of the study's dependent variable, Panel B presents an analysis of the independent variables, Panel C presents evidence of moderating variables, and Panel D contains the descriptive statistics of the control variables.

Dependent variable

The study adopts ROA as the primary dependent variable. From panel A section, firms make an annual average return on assets of 9% with a minimum and maximum yield of -12 % and 84 %, respectively, over the studied period. This means that the majority of small and medium fisheries reported a profit, while some made significant losses for the entire period. Quy and Nguyen (2017) reported an average return on assets of positive 6 % with a minimum yield of – 16 % and 24 % for Vietnam fisheries. The similarity in the two findings suggests consistency and stability in the financial performance of both Vietnamese and Moroccan fisheries.

Table 5.20 Descriptive statistics for all continuous variables

Panels	Variable	N	Mean	Median	SD	Min	Max	Skewness	Kurtosis
Panel A	ROA	600	.09	0.10	.09	-.12	.84	5.48	48.32
	CCC	600	135.27	81.31	99.74	22.31	502.38	1.36	5.21
Panel B	DIO	600	125.70	109.05	114.14	0	552.31	.92	4.17
	DPO	600	75.76	61.28	28.41	19.97	146.88	.53	2.39
	DSO	600	85.08	96.39	49.07	-1.38	260.84	.44	3.58
	CGI	600	2.41	2.45	.97	.69	4.09	-.06	2.33
Panel C	BCI	600	4.13	4.17	1.00	2.38	5.84	.02	2.11
	ISI	600	3.29	3.63	1.32	1.19	5.75	-.17	1.78
	CURR_RAT	600	2.43	1.85	2.72	.17	17.74	4.77	26.11
	DEBT_RAT	600	.514	0.23	.90	-.08	3.8	3.18	11.60
Panel D	FIRM_SIZE	600	17.99	17.86	1.32	14.98	20.56	.33	3.16
	WCREQ	600	.67	0.63	.27	.43	2.89	5.49	44.60
	GRWCE	600	1.71	1.68	.80	.30	2.92	.27	2.00

Note: This table reports descriptive statistics for all continuous variables adopted in estimating the relationship between working capital management and profitability on a sample of 100 Moroccan small and medium fisheries in the period 2015-2020. It is presented in four panels. Panel A presents descriptive statistics of the dependent variable of the study which is measured using return on assets (ROA), whilst Panel B presents analysis of the independent variables which includes: cash conversion cycle (CCC), days payables outstanding (DPO), days sales outstanding (DSO), days inventory outstanding (DIO), and cash conversion cycle (CCC). Panel C presents analysis of the moderating variables which refers to: corporate governance index (CGI), bureaucratic corruption index (BCI), and institutional support index (ISI). Finally, the last panel D presents analysis of the control variables which includes: firm size (FIRM_SIZE), financial leverage (DEBT_RAT), liquidity ratio (CURR_RAT), gross working capital efficiency (GRWCE), working capital requirement (WCREQ). Notes: To eliminate the effects of outliers, dependent variable, independent variables and control variables have been winsorized at the 1st and 99th percentiles, before analyzing the summary statistics.

Independent Variables

The descriptive statistics of the independent variables are found in panel B of Table 5.20. DIO is, on average, 125.70 days, which is an indication that it takes the average company within the sample over four months to turnover its inventory, a figure that is far from the 30 days that Bieniasz and Golas (2011) found that firms involved in the processing and preservation of fish, crustaceans, and molluscs tend to be located near other operations that produce food goods like sugar, tea, or coffee. It has a range of 0-day minimum and 552.31 days maximum. It is also evident from the study that sampled companies have a high variation of inventory turnover of 114.14 days; the high standard deviation shows that the sampled companies have a sparse variation of inventory turnover. The minimum inventory turnover of 0 is because some companies do not have inventory and, therefore, have no inventory turnover days. The DSO ranges from a minimum of – 1.38 days to a maximum of 260.84 days, with an average collection period of 85.08 days. The mean day's sales outstanding of 85.08 days explains that it takes on average over two months, almost close to three months, for companies to collect their credit sales owed by customers, which is slightly higher than that the finding of Rey-Ares, Fernández-López and Rodeiro-Pazos (2021), who report the average of accounts receivable period of Spanish fish canning companies during the period 2010 – 2018 to be 80.73 days. A standard deviation of 49.07 days implies less variation in the accounts receivable period between the companies. The DPO is 75.76 days, with a minimum of 19.97 days and a maximum of 146.88 days, respectively. The results show that companies take, on average, two and a half months to pay their suppliers. The standard deviation of 28.41 reveals that supplier's payment patterns of companies vary slightly across companies. In terms of CCC, evidence from the study shows an average CCC of 135.27 days with a maximum of 502.38 days and a minimum of 22.31 days. Companies take, on average, four and a half months to turnover their inventory and collect payments from their customers compared to making payments to trade creditors, indicating that Moroccan small-scale fisheries are slow in converting inventory into sales and collecting monies. This is slightly higher than the average cash

conversion cycle of 128.80 days from Rey-Ares, Fernandez-Lopez and Rodeiro-Pazos (2021). A high standard deviation of 99.74 days implies a broader variation of the CCC period among the companies.

Moderating variables

The descriptive statistics of the moderating variables are found in panel C of Table 5.20. There are minor differences in firm-level corporate governance between the 100 firms in the research sample. The CGI ranges from 0.69 to 4.09, with a mean of 2.41 and a standard deviation of 0.97. Regarding the BCI, the average level is moderate, with a value of 4.13, and there is variation in the scores, with some fisheries experiencing low levels of corruption (closer to 2.38) while others face higher levels (closer to 5.84). Finally, the ISI, which measures the level of support and framework provided to the fisheries, ranges from 1.19 to 5.75 with a standard deviation of 1.32. These statistics offer intriguing insights into the effect of institutional support on the performance of fisheries.

Control variables

Panel D contains the descriptive statistics of the control variables. The FIRM_SIZE of sample fisheries ranges from a minimum of MAD 14.98m to a maximum of MAD 20.56m, and the firm size average is MAD 18m, which suggests that the majority of the fisheries fall under the medium-size category of enterprises. The study also found that most sampled fisheries have an average DEBT_RAT of 0.51, a minimum of – 0.08 and a maximum leverage of 3.8. The average financial leverage of 0.51 explains that most fisheries use equity capital to finance their businesses. The reported mean of the GRWCE is 1.71 and ranges from 0.30 to 2.92. The standard deviation of 0.80 signifies that there are fewer variations of gross working capital efficiency among the sample, indicating that the fisheries could be more efficient in using gross working capital to generate sales and, therefore, rely more on short-term finance. The WCREQ of the sample ranges from a minimum of 0.43 to a maximum of 2.89, with a mean of 0.67. It has a standard deviation

of 0.27, indicating that the companies have similar working capital requirements. The average working capital requirement of 0.67 suggests that the companies invest a significant amount in both inventories and customers, which demands an increase in short-term debt, as evidenced above. The study also found that the average CURR_RAT is 2. 43, and it ranges from a minimum of 0.17 to a maximum of 17.74, which signifies that most of the fisheries are highly liquid.

5.3 Correlation analysis

Table 5.21 contains the correlation matrix for all the continuous variables. For the possible presence of multicollinearity, the correlation result in Table 4.21 indicates that none of the variables had coefficients greater than the threshold of 0.87 or 0.97, as suggested by Field (2005). Hence, their inclusion in each of the models creates no problem of multicollinearity. The results show a negative and non-significant correlation between ROA and DSO. The study also found a significant and negative correlation between ROA and DPO, suggesting that firms could decrease their profitability by having a longer payable period. In the same vein, a negative and significant correlation was found between DIO and ROA. The correlation results also indicate a significant and negative relationship between ROA and CCC, which signifies that reduction in CCC leads to higher ROA. Among the independent variables, there are significant correlations among most of the principal components of working capital management. There is a high and significant correlation between CCC and the other two measures of WCM, including DIO (0.79) and DPO (0.24), but not with DSO. Because the combination of the other three components of WCM, including days inventory outstanding, days sales outstanding and days payables outstanding, results in the calculation of the cash conversion cycle, each WCM variable is therefore run separately with the control variables to avoid collinearity issues (see, Padachi, 2006; García-Teruel & Martinez-Solano, 2007; Mathuva, 2010).

Furthermore, evidence from Table 5.21 found a significant and positive relationship between ROA and ISI. The finding is in line with those of Aftab et al. (2022), Baumöhl et

al. (2019), Faruq and Weidner (2018), and Ghoul et al. (2017), who found that institutional support has a significant positive impact on firms' performance. It is suggested that government support facilitates and stimulates the success of business activities of SMEs (Shamsuddoha & Ali, 2006; Awojide, 2015). However, the study found a non-significant and negative relationship between ROA and the two other moderating variables: BCI and CGI. In terms of CCC and its relationship with moderating variables. There is a non-significant and positive relationship between CCC and BCI and a non-significant and negative relationship between CCC and ISI. As revealed in the table, CGI has a positive and significant relationship with CCC, although the relationship is weak, as seen in the correlation coefficient of 0.09. Furthermore, governance quality has a significant negative correlation with CCC, which implies that strong governance quality is associated with short CCC and, hence, efficient WCM.

Table 5.21 Correlation analysis for all continuous variables

	ROA	DSO	DIO	CCC	DPO	CURR_RAT	DEBT_RAT	FIRM_SIZE	WCREQ	GRWCE	BCI	ISI	CGI
ROA	1												
DSO	-.07	1											
DIO	-.29***	-.31***	1										
CCC	-.31***	.07	.79***	1									
DPO	-.35***	.23***	.34***	.24***	1								
CURR_RAT	-.13**	-.04	.13***	.23***	-.36***	1							
DEBT_RAT	.01	.02	-.22***	-.31***	.30***	-.22***	1						
FIRM_SIZE	-.18***	.03	.42***	.48***	.07	-.02	-.58***	1					
WCREQ	.34***	-.14***	.36***	.30***	.13**	.00	-.10**	-.08*	1				
GRWCE	.35***	-.51***	-.45***	-.67***	-.31***	-.38***	.39***	-.41***	-.16***	1			
BCI	-.01	.05	.02	.06	-.01	.04	.00	.08*	-.02	-.06	1		
ISI	.10*	-.19***	.06	-.01	-.03	-.09*	.12**	-.09*	.10**	.20***	-.46***	1	
CGI	-.06	.02	.08*	.09*	.02	.05	-.00	.13***	-.05	-.07	.14***	-.26***	1

This table reports the correlation coefficients for all continuous variables adopted in estimating the relationship between working capital management and profitability. Variables are defined as follows: return on assets (ROA), cash conversion cycle (CCC), days payables outstanding (DPO), days sales outstanding (DSO), days inventory outstanding (DIO), corporate governance index (CGI), bureaucratic corruption index (BCI), institutional support index (ISI), firm size (FIRM_SIZE), financial leverage (DEBT_RAT), liquidity ratio (CURR_RAT), gross working capital efficiency (GRWCE), and working capital requirement (WCREQ).For tests of whether the correlation coefficient is equal to zero, significant levels are designated at 1% (***), 5% (**), and 10% (*).

In terms of control variables, ROA has a significant and positive correlation with GRWCE and WCREQ. This means that the higher the investment in current assets, the more the company's profit. Additionally, the study has found that ROA has a significant and negative correlation with FIRM_SIZE and DEBT_RAT but is non-significant with CURR_RAT. This means that larger companies with higher liquidity often experience low profitability. This finding is similar to Hansen and Wernerfelt (1989), who suggested a negative relationship between firm size and profitability

5.4 Multivariate analysis

5.4.1 Cash conversion cycle and profitability

The results of Model 1 (a), which is presented in table 5.22 show evidence of the relationship between CCC and ROA. Hypothesis (H_1) predicts that all other constituents be held constant; there is a significantly negative relationship between CCC and ROA. The study found a significant and negative relationship between CCC (β = -.00025, $p<0.05$) and ROA, suggesting that shorter CCC relate to better financial performance. Therefore, hypothesis (H_1) is supported.

Table 5.22 Regression results on the relationship between working capital management components and profitability

Models	**Fixed Effect Model**			
Variables	Return on Assets (ROA)			
	Model 1 (a)	Model 1 (b)	Model 1 (c)	Model 1 (d)
CCC	-.00025**			
	(.00012)			
DPO		-.00110**		
		(.00052)		
DSO			.00065***	
			(.00027)	
DIO				-.00028***
				(.00010)
CURR_RAT	-.00133	-.00568**	-.00093	-.00160
	(.00165)	(.00249)	(.00133)	(.00153)
DEBT_RAT	-.02124**	-.00745	-.04043***	-.01868*
	(.00857)	(.01930)	(.00913)	(.00984)
FIRM_SIZE	-.01050	-.00234	-.01754*	-.00364
	(.00756)	(.00833)	(.01006)	(.00886)
WCREQ	.15961***	.15778**	.13308***	.17665***
	(.05735)	(.06071)	(.06294)	(.06561)
GRWCE	.01548	.01135	.06399***	.02409**
	(.01253)	(.01801)	(.01119)	(.01197)
Constant	.20156	.10918	.18082	.05495
	(.16636)	(.16821)	(.23398)	(.19595)
Observations	600	600	600	600
R-squared	.30293	.32680	.36898	.33685

Note: This table presents results of the following panel data regression on the relationship between working capital management components and profitability:

$$PROFITABILITY_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 Z_{it} + V_{it} + \varepsilon_{it}$$

Where: $PROFITABILITY_{it}$ is the dependent variable which is measured using return on assets (ROA); X variables include cash conversion cycle (CCC), days payables outstanding (DPO), days sales outstanding (DSO), days inventory outstanding (DIO). Z represents control variables that may influence companies' profitability. These variables are: firm size (FIRM_SIZE), financial leverage (DEBT_RAT), liquidity ratio (CURR_RAT), working capital requirement (WCREQ), and gross working capital efficiency (GRWCE). V_{it} is the unobserved company effects (fixed effects) and ε_{it} is the idiosyncratic shocks. β_1 and β_2 are vectors of the parameters to be estimated. The subscript i denotes the nth company (i= 1... 100), and the subscript t denotes the t^{th} year (t=1 …6). Regressions are estimated with fixed effect model. Standard errors are in parentheses and *** p<.01, ** p<.05, * p<.1

5.4.2 Accounts receivable and profitability

From model 1 (c) of Table 5.22, DSO, which is a proxy for accounts receivable, is found to have a positive coefficient of (0.00065). This coefficient is significant at the 1 per cent level, suggesting that the management of the accounts receivable influences the ROA of small and medium Moroccan fisheries. In effect, the result means that the longer period it takes a company to recover amounts owed by customers will lead to an increase in the ROA of small and medium fisheries. However, the result contradicts hypothesis (H_2) that all other things are equal, there is a significantly negative relationship between DSO and ROA. Contrary to the proposed hypothesis, the result supports the argument that firms offering more trade credit to customers help to establish long-term relationships with customers, resulting in future opportunities for increasing profitability.

5.4.3 Accounts payable and profitability

Model 1 (b) of Table 5.22 contains results of the relationship between DPO, which is a proxy for accounts payable and profitability and reveals that the coefficient of DPO in association with ROA is (-0.00112). This relationship is significant at the 5 per cent level, which indicates that the management of DPO affects ROA of small and medium Moroccan fisheries. The negative coefficient indicates that a one-day minimisation of days payables outstanding will magnify ROA by 0.112 per cent. This finding shows that a company's decision to make early payments to suppliers of goods and services will help improve ROA. However, the result from the table rejects hypothesis (H_3), which states that, with all other things being equal, there is a significantly positive relationship between DPO and ROA. In contrast to the proposed hypothesis, the result reveals that high levels of accounts payable expose firms to substantial opportunity costs arising from forgone discounts and the inherent expenses associated with more extended credit periods and, therefore, induce a loss of profitability.

5.4.4 Inventory management and profitability

The coefficient of DIO, which is a proxy for inventory management, is negatively associated with ROA at the 1 per cent significance level (model 1-d- of table 5.22). This means that inventory management affects the ROA of small and medium Moroccan fisheries. The magnitude of the coefficient is (-.00028), which means that a one-day decrease in the day's inventory outstanding period will cause a corresponding increase of 0.028 per cent in ROA. The significant negative relationship between DIO and ROA reveals that the more extended inventory is kept in stock, the lower the ROA. The finding confirms the developed hypothesis (H_4) that predicted a significantly negative association between DIO and ROA.

5.4.5 Control variables and profitability

The study also introduces the effect of control variables to determine the relationship between WCM and profitability. They include FIRM_SIZE, a proxy for firm size; DEBT_RAT, a proxy for financial leverage; CURR_RAT, a proxy for liquidity ratio; WCREQ, a proxy for working capital requirement; and GRWCE, a proxy for gross working capital efficiency. The study only found a significant and negative relationship between CURR_RAT (β = -.00568 $p<0.05$) and ROA in model 1 (b), which supports the hypothesis (H_{10}) of chapter two that there is a significant and negative relationship between liquidity ratio and profitability. On the other hand, the study did not find any significant relationship between CURR_RAT and ROA in the rest of the models in Table 5.22. The study also found a significant and negative relationship between DEBT_RAT and ROA in model 1 -a- (β = -.02124 $p< 0.05$), model 1 -c- (β = -.04043 $p<0.01$) and model 1 -d- (β = .01868 $p< 0.1$) respectively, supporting hypothesis (H_9). Based on this evidence, the study suggests that firms with higher leverage tend to have lower profitability.

Furthermore, the study found a significant and negative relationship between FIRM_SIZE and ROA in only model 1-c- (β = -.01752 $p<0.1$) but nonsignificant in the other models. This means that companies of medium and larger sizes are often under greater stakeholder

scrutiny, leading management to strive to meet investor expectations, potentially leading to increased earnings management practices. Therefore, the result supports the study's hypothesis (H_8). In terms of gross working capital efficiency, the study only found a significant and positive relationship between GRWCE and ROA in model 1 -c- ($\beta = .06399$ $p<0.01$) and model 1 -d- ($\beta = .02409$ $p<0.05$) and not significant in the rest of models, therefore, contradicting with what was hypothesised (H_{11}). Finally, the results of the control variables in Table 5.22 also show that WCREQ has a significant and positive relationship with ROA in all the models (model 1-a- $\beta =.15961$ $p<0.01$; model 1 -b- $\beta =.15778$ $p<0.05$; model 1 -c- $\beta =.13308$ $p<0.01$; model 1 -d- $\beta =.17665$ $p<0.01$). The results are not supported by hypothesis (H_{12}). This means that effective management of working capital is associated with higher profitability as measured by ROA, which is an important insight for financial and strategic decision-making within small and medium fisheries.

5.4.6 Moderating effect of bureaucratic corruption on cash conversion cycle and profitability

Model 2 (a) of Table 5.23 covers the results of the moderating role of the bureaucratic corruption index on the relationship between the cash conversion cycle and profitability. It reveals that the interaction effect term ($\beta = -.00013$ $p < 0.01$) has a significant and negative impact on profitability, which contradicts with the developed hypothesis (H_7). When considering the CCC effect in isolation, the results exhibit a non-significant but positive relationship with profitability. However, the interaction effect of CCC with BCI emerges as negative and statistically significant, indicating that the combined influence of BCI and CCC has an adverse impact on profitability. As BCI levels increase, small and medium fisheries start facing delays in obtaining approvals, permits, and resources, which increase operational costs and, therefore, reduce profitability.

It is also found that the coefficient of the BCI ($\beta = .02039$ $p< 0.01$) is significant and positively associated with ROA. This suggests that engaging in corrupt practices reinforces small and medium fisheries' position in the market by granting them advantages such as

expedited access to crucial resources, including fishing permits, quotas, prime fishing grounds, financial support and essential infrastructure.

5.4.7 Moderating effect of corporate governance on cash conversion cycle and profitability

Model 2 (b) of Table 5.23 contains results of the moderating role of the corporate governance index on the relationship between the cash conversion cycle and profitability and shows that the interaction effect term (β = -.00005) has a non-significant and negative impact on profitability. The lack of statistical significance does not allow for confirmation of hypothesis (H_5). When considering the CCC effect in isolation, the results exhibit a non-significant and negative relationship with profitability, suggesting that a longer CCC is associated with a negative impact on profitability. However, the finding of a nonsignificant negative interaction effect between CGI and CCC on profitability suggests that the combined influence of CGI and CCC does not reliably predict a consistent adverse impact on profitability. Further robustness technique is needed to draw more conclusive insights into the interplay between corporate governance, operational efficiency (represented by the cash conversion cycle), and overall profitability.

It is also found that the coefficient of the CGI (β =.00960 $p< 0.01$) is significant and positively associated with ROA. Several positive outcomes are anticipated as companies adhere to and implement effective corporate governance strategies. These may include improved decision-making processes, enhanced transparency, better risk management, and increased accountability. Consequently, these factors contribute positively to the operational efficiency and overall performance.

5.4.8 Moderating effect of institutional support on cash conversion cycle and profitability

Model 2 (c) of Table 5.23 presents the moderating role of the institutional support index (ISI) on the relationship between the cash conversion cycle and profitability and indicates that the interaction term (β =.00011) is significant and positive at the percent level, as

recommended by Dittmar and Mahrt-Smith (2007), Kusnadi (2019), Orlova and Sun (2018), and Pinkowitz et al. (2006). This indicates that when firms operate within a supportive institutional environment, they can manage their working capital more effectively, leading to higher profitability. The initial hypothesis (H6) posited that institutional support would negatively affect the relationship between CCC and profitability. This hypothesis was based on literature highlighting that institutional weaknesses typical of emerging markets would undermine the effectiveness of WCM strategies (Jayasekara et al., 2020). Previous research has shown that despite both direct and indirect government support, SMEs in emerging markets remain vulnerable to systemic risks such as financial distress and liquidation (Chakabva et al., 2021). However, the positive moderating effect observed in the results contradicts this expectation. The findings suggest that institutional support does not hinder but rather enhances the effectiveness of WCM. This can be attributed to the evolving institutional landscape in Morocco, particularly in sectors such as fisheries, where recent reforms and support mechanisms have begun to address some of the institutional voids that previously impeded SME growth. As institutions become more supportive, providing reliable access to credit, transparent regulatory procedures, and efficient public infrastructure, firms can leverage these improvements to optimise their working capital cycles more effectively.

When considering the CCC effect in isolation, the findings reveal that the length of CCC negatively affects the firm's profitability as the coefficient of CCC has a negative and statistically significant coefficient of -.00069 with the firm's profitability. Thus, small and medium fisheries with shorter CCCs are more profitable than those with longer CCCs. In line with the findings, it can be said that the relatively shorter CCC can reduce a firm's dependency on external sources of financing, which may reduce the cost of funding and interest, henceforth increasing the firm's profitability. Furthermore, the interaction of CCC and ISI was found to be significant with a positive coefficient, indicating that the combined influence of ISI and CCC has a positive impact on profitability. It means that the presence

of institutional support fosters a proactive approach towards working capital management and, therefore, enhances the firm's ability to optimise cash holdings.

The negative and significant coefficient of the ISI ($\beta = -.01383$, $p < 0.01$) implies that there is an inverse relationship between institutional support and ROA. In other words, as institutional support increases, there is a corresponding decrease in the firm's ROA. This finding suggests that while institutional support may contribute positively to working capital management, it appears to have a reducing effect on the firm's overall profitability, as measured by ROA. One possible interpretation could be that the firm may be prioritising liquidity and conservative financial strategies, driven by the influence of institutional support, which, in turn, impact the firm's cash holdings level. Still, this positive effect does not last indefinitely as at some point the adverse effects of having shorter collection periods arise and counteract the positive effects of a longer CCC which then decreases profitability.

Table 5.23 Regression results on the interaction effect of moderating variables on the relationship between CCC and ROA

Models	**Fixed Effect Filtering**		
Variables	Return on Assets (ROA)		
	Model 2 (a)	Model 2 (b)	Model 2 (c)
CCC	.00027	-.00014	-.00069***
	(.00020)	(.00011)	(.00014)
CURR_RAT	-.00101	-.00129	-.00102
	(.00155)	(.00155)	(.00154)
DEBT_RAT	-.02063***	-.02173***	-.01849***
	(.00576)	(.00580)	(.00581)
FIRM_SIZE	-.01023**	-.01028**	-.00652
	(.00483)	(.00486)	(.00497)
WCREQ	.16509***	.15945***	.16624***
	(.01307)	(.01297)	(.01305)
GRWCE	.01316**	.01270*	.01363**
	(.00651)	(.00657)	(.00649)
BCI	.02039***		
	(.00170)		
CCC*BCI	-.00013***		
	(.00004)		
CGI		.00966***	
		(.00170)	
CCC*CGI		-.00005	
		(.00004)	
ISI			-.01383***
			(.00133)
CCC*ISI			.00011***
			(.00003)
Constant	-.08438***	-.02336***	.04559***
	(.00727)	(.00444)	(.00473)
Observations	498	498	498
R-squared	0.31160	.30312	.30312

Note: This table presents results of the following panel data moderation regression:

$$PROFITABILITY_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 Z_{it} + \beta_3 P_t + \beta_4 X_{it} P_t + V_{it} + \varepsilon_{it}$$

Where: $PROFITABILITY_{it}$ is the dependent variable which is measured using return on assets (ROA); X refers to the main variable of working capital management named as cash conversion cycle (CCC). Z represents control variables that may influence companies' profitability. These variables are firm size (FIRM_SIZE), financial leverage (DEBT_RAT), liquidity ratio (CURR_RAT), working capital requirement (WCREQ), and gross working capital efficiency (GRWCE). P refers the moderating variables which include bureaucratic corruption index (BCI), corporate governance index (CGI), and institutional support index (ISI). XP represents the interactive term between cash conversion cycle (CCC) and moderating variables (BCI, CGI, ISI). V_{it} is the unobserved company effects (fixed effects) and ε_{it} is the idiosyncratic shocks. β_1 , β_2 , β_3 and β_4 are vectors of the parameters to be estimated. The subscript i denotes the n^{th} company (i= 1... 100), and the subscript t denotes the t^{th} year (t=1 …6). Regressions are estimated with fixed effects filtering model. Standard errors are in parentheses and ***p<.01, **p<.05, *p<.1

5.5 Robustness analysis

To enhance the robustness of the results, dynamic panel data models are applied in order to face the endogeneity problems that the data can present, as a number of independent variables (CCC, DSO, DPO, DIO, FIRM_SIZE, DEBT_RAT) are likely to have an unobserved lagged effect on the dependent variable (ROA). Moreover, the use of an instrumental variable estimator like the system GMM facilitates the consideration of the endogeneity of all time-varying explanatory variables (Pindado et al., 2014) as it contains lags of the dependent variable as covariates and includes unobserved panel-level effects. Therefore, Arellano-Bover/Blundell-Bond linear dynamic panel-data estimation is applied, which is a system estimator that uses additional moment conditions based on the work of Blundell and Bond (1998). In this study, this estimation technique is used because of the following reasons: i) studies so far undertaken in Northern African countries have not employed this method of analysis, a gap that this study bridges, therefore, adding to the existing literature, ii) the data collected for 6 years since the system GMM estimator gives better results in dynamic panel models, particularly when T is small, and N is large as argued by Blundell and Bond (2000), Bobba and Coviello (2007), Baltagi (2008), and Grohmann (2015), iii) in order to correct autocorrelation, lagged dependent variable in the dynamic panel data estimation catch up some of the effects of omitted variables varying over time, iv) there are strong doubts about the homogeneity of the sample because of some outliers v) the literature on profit persistence has made substantial claims in the application of an autoregressive (AR) framework and a system GMM estimator (Hirsh et al. 2021). In this respect, empirical evidence exists supporting the profit persistence hypothesis in both the food industry (Hirch, 2013; Chaddad & Mondelli, 2013) and food retailing (Hirsch et al., 2021). All specifications of the following models are estimated with the GMM estimator system (Arellano and Bond, 1991) using the STATA command *xtabond2* (Roodman, 2009).

5.5.1 Robustness check on the relationship between working capital management and profitability

Table 5.24 shows regression estimates for system GMM models analysing the relationship between working capital management components and profitability. The results show that both techniques, the fixed-effect model and system GMM, provide similar results, suggesting that cash conversion cycle, days payable outstanding, and days inventory outstanding are negatively (and significantly) associated with return on assets, while days sales outstanding are positively (and significantly) associated with return on assets.

To check control variables, all models in both techniques show a positive and significant relationship between working capital requirement and profitability, which indicates that small and medium fisheries benefit from sufficient working capital, leading to increased sales and profitability. Additionally, there is a positive significance relationship between gross working capital efficiency and profitability revealed in all models of system GMM. Liquidity ratio, indicated by the current ratio, is also confirmed to be negative and statistically significant in all models of system GMM. It is further revealed a significant negative relationship between financial leverage and profitability in all models of system GMM except model 3 (b), which indicates that as the leverage of the firms grows, the financial cost profitability decreases. Finally, firm size has a negative and significant impact on profitability, as it is shown in all models of system GMM. This evidence indicates that as firms increase in size, the rate of profit growth decreases; furthermore, diseconomies of scale may materialise, and a company may reach a size at which the advantage derived from a previously internalised transaction may be nullified by management incompetence or another internal or external element.

Table 5.24 Robustness results on the relationship between working capital management components and profitability

Models	**System GMM**			
	Return on Assets (ROA)			
Variables	Model 3 (a)	Model 3 (b)	Model 3 (c)	Model 3 (d)
ROA_{t-1}	.27443***	.08151*	.19087**	.08192**
	(.01772)	(.04540)	(.08106)	(.03114)
CCC	-.00013***			
	(.00001)			
DPO		-.07479**		
		(.03604)		
DSO			.12553**	
			(.06277)	
DIO				-.00021**
				(.00008)
CURR_RAT	-.00158***	-.81808**	-.17713*	-.00284***
	(.00033)	(.32499)	(.06277)	(.00105)
DEBT_RAT	-.01895***	-1.12509	-4.53860*	-.04947***
	(.00164)	(1.10199)	(2.58090)	(.01225)
FIRM_SIZE	-.00714***	-2.82097**	-3.80512*	-.05007**
	(.00218)	(1.40201)	(2.04544)	(.01000)
WCREQ	.03623***	.49884	3.89123	.132340**
	(.00148)	(.93954)	(12.61413)	(.06654)
GRWCE	.02823***	3.91600**	4.39257***	.053770***
	(.00241)	(1.81551)	(1.64081)	(.00848)
constant	.21093	67.27926**	52.46965	.45306**
	(.03735)	(30.38422)	(50.37642)	(.35988)
Number of Observations	500	500	500	500
Number of instruments	31	40	23	23
Years	Yes	Yes	Yes	Yes
F test	44.10	18.71	92.07	311.18
F p-val	0.00	0.00	0.00	0.00
AR(2) p-value	0.11	0.82	0.41	0.26
Hansen J Statistic	39.99	26.06	23.72	28.13

Note: The dynamic panel model is presented as follows:

$$PROFITABILITY_{it}=\beta_0 + \beta_1 \, prof\, i_{,t-1} + \beta_2 \, X_{it} + \beta_3 \, C_{it} + V_{it} + \varepsilon_{it}.$$

Where: PROFITABILITY is the dependent variable indicated by (ROA); $prof\, i_{,t-1}$ is lagged-dependent variable; X_{it} denotes the independent variables referring to the key elements of WCM including cash conversion cycle (CCC), days payables outstanding (DPO), days sales outstanding (DSO), days inventory outstanding (DIO); C_{it} refers to the control variables including firm size (FIRM_SIZE), financial leverage (DEBT_RAT), liquidity ratio (CURR_RAT), working capital requirement (WCREQ), and gross working capital efficiency (GRWCE); V_{it} is the unobservable heterogeneity that allows the particular characteristics of each company to be controlled for and ε_{it} is the idiosyncratic shocks. β_1, β_2, and β_3 are vectors of the parameters to be estimated. The subscript i denotes the nth company (i= 1... 100), and the subscript t denotes the year (t=1 …6). Standard errors are in parentheses and *** p<.01, **p<.05, *p<.1

In addition, the results in Table 5.24 reveal that the lagged dependent variable ROA_{t-1} has a positive and statistically significant influence on the present profitability. This indicates that the financial success of a corporation has a level of temporal durability, similar with findings from previous research on the food business (Chaddad & Mondelli, 2013; Hirsch & Gschwandtner, 2013; Hirssch et al., 2021; Rey-Ares et al., 2021).

Finally, the post-estimation tests indicate that the AR (2) statistic in all models is insignificant, which suggests the absence of autocorrelation. Hansen test (Hansen, 1982) is used to examine over-identifying restrictions in the econometric models, and the estimated values in Table 5.24 reject the assumption of overidentified restrictions, so the instruments used are valid in all of the models.

5.5.2 Robustness check on the moderation analysis

Table 5.25 shows regression estimates for system GMM models analysing the interaction effect of moderating variables on the relationship between cash conversion cycle and profitability. The results show that both techniques, fixed effect filtering model and system GMM provide similar results, revealing a negative moderation effect of bureaucratic corruption index on the relationship between cash conversion cycle and profitability and a negative moderation effect of corporate governance index on the relationship between cash conversion cycle and profitability as well as a positive moderation effect on the relationship between cash conversion cycle and profitability.

Table 5.25 Robustness results on the interaction effect of moderating variables on the relationship between CCC and ROA

Models	**System GMM**		
Variables	Return on Assets (ROA)		
	Model 4 (a)	Model 4 (b)	Model 4 (c)
ROA_{t-1}	.20640**	.28789**	.06013***
	(.15182)	(.14071)	(.01660)
CCC	.00684*	-.00250**	-.00105***
	(.00663)	(.00118)	(.00038)
CURR_RAT	-.00842	-.00577	-.00160
	(.01649)	(.00398)	(.00103)
DEBT_RAT	-.10776***	-.12269**	-.02843**
	(.13726)	(.04918)	(.01250)
FIRM_SIZE	-.07262***	-.09319***	-.02141**
	(.06533)	(.02368)	(.01046)
WCREQ	.42577***	.43697***	.10911***
	(.13050)	(.07096)	(.07038)
GRWCE	.08332**	.16706***	03726***
	(.08625)	(.05130)	(.01270)
BCI	.23393**		
	(.21235)		
CCC*BCI	-.00195***		
	(.00169)		
CGI		.17946**	
		(.07460)	
CCC*CGI		-.00152**	
		(.00058)	
ISI			-.02847**
			(.01148)
CCC*ISI			.00026***
			(.00009)
Constant	-2.17336	-1.84631***	.47233***
	(1.62709)	(.48157)	(.20960)
Number of observations	415	415	415
Number of instruments	18	25	35
Years	Yes	Yes	Yes
F test	7.70	25.66	110.24
F p-val	0.00	0.00	0.00
AR(2) p-value	0.13	0.72	0.28
Hansen J Statistic	6.23	13.77	53.19
Hansen J p-value	0.18	0.24	0.23

Note: The dynamic panel moderation model is presented as follows:$PROFITABILITY_{it} = \beta_0 + \beta_1 prof_{i,t-1} + \beta_2 X_{it} + \beta_3 Z_{it} + \beta_4 P_t + \beta_5 X_{it} P_t + V_{it} + \varepsilon_{it}$ Where: $PROFITABILITY_{it}$ is ROA; $prof_{i,t-1}$ is lagged-dependent variable. X refers to the main variable of working capital management named as cash conversion cycle (CCC). Z represents: FIRM_SIZE, DEBT_RAT, CURR_RAT, WCREQ, GRWCE. P refers to: BCI, CGI, and ISI. XP represents the interactive term between CCC and BCI, CGI, ISI.. β_1 , β_2 , β_3, β_4 and β_5 are vectors of the parameters to be estimated. Standard errors are in parentheses and *** p<.01, ** p<.05, * p<.1

In alignment with theoretical predictions and filtering fixed effect method results, the control variables are significant and have the expected sign except for gross working capital efficiency and liquidity ratio. Firm size has a negative and significant influence on ROA. Similarly, the leverage ratio is statistically significant and has a negative effect on ROA. As expected, gross working capital efficiency has a positive and significant impact on ROA. However, the result concerning working capital requirement has a different outcome as it was expected that working capital requirement would negatively impact profitability. In all models, gross working capital efficiency is positive and significant. Finally, the liquidity ratio has a negative effect on profitability but is statically insignificant in all models.

Moreover, the empirical findings reveal that the previous year's return on asset has a significant and positive effect on the return on asset in the current year. Results from the AR (2) test show that the second-order autocorrelation is absent and the Hansen's J test confirm the validity of the instruments. The robustness of this finding is shown by its consistency across various estimating approaches, since both system GMM estimation and FE filtering estimation provide the same results on the topic.

Chapter 6

6. Discussion of findings

This chapter discusses the findings that emerge from the quantitative data analysis presented in the two previous chapters: The panel survey study brings together results from questionnaire and multivariate analysis and identifies the possible explanations behind the different results compared with previous studies. The primary and secondary data are blended where appropriate and are discussed with reference to the relevant literature in Chapter 2.

This study sought to empirically analyse working capital management's effect on the profitability of small and medium fisheries in Morocco. Using a significant sample of 100 fisheries from 2015 to 2020 (600 observations), the study adopted an explanatory quantitative method design, using both primary and secondary data to obtain a comprehensive understanding of WCM in the context of Morocco's fishing sector. In analysing the data, the study began with questionnaire analysis, which was performed to analyse WCM practices applied by small and medium fisheries and to create indices related to corporate governance, bureaucratic corruption, and institutional support. This was followed by a multivariate analysis to determine the nature of the relationship between WCM components, its moderating variables, and profitability. The measure utilized for profitability was return on assets. Additionally, the following measures were employed for working capital management: days sales outstanding, days payable outstanding, days inventory outstanding, and cash conversion cycle. On the other hand, the moderating variables were identified as: bureaucratic corruption index, corporate governance index, and institutional support index.

To make clear the relationship between working capital management and profitability which is the main objective of this study, the subsequent discussion (Sections 7.1, 7.2, and 7.3) focuses on answering the three research questions (RQs) developed in Chapter 1.

Section 7.1 discusses the extent to which working capital management practices affect profitability (RQ1), whilst section 7.2 will answer (RQ2) by assessing the moderating effect of corporate governance, bureaucratic corruption, and institutional support in explaining the working capital management - profitability mechanism in the fishing industry of an emerging market. The final section (Section 7.3) focuses on RQ3 and revises the working capital management and profitability framework developed in Chapter 3 in the light of the findings of this study, to ensure that it is appropriate for the unique characteristics inherent in the fishing industry of an emerging market, such as Morocco.

6.1 The relationship between working capital management and profitability

The study found a significant relationship between the profitability of small and medium fisheries and working capital management. The findings from the empirical results (Chapter 6) show that each of the four working capital management components used in this study, namely, days sales outstanding, days payable outstanding, days inventory outstanding, and cash conversion cycle, affect profitability, but their effects differ based on the financial structures and practices of the fisheries. The empirical investigations for cash conversion cycle (Section 6.1) show a negatively significant relationship with profitability. This finding contradicts most of the existing studies Lyroudi and Lazaridis (2000); Deloof (2003); Rimo and Panbunyuen (2010); Sharma and Kumar (2011); Gill et al. (2012); Sensini and Vazquez (2021); Javid and Dallian (2014); Ng et al. (2017). It is important to note that most of these studies were conducted on a heterogeneous group of firms. This suggests that the influence of different elements of working capital on profitability varies across industries, thus shaping the financial management approaches adopted by companies within those sectors. Evidently, this research differs from others because the outputs demonstrate theoretical and empirical knowledge for an atypical fishing sector. Firms in the fishing industry invest greatly in their accounts receivable with low levels of inventory and accounts payable, reflecting the seasonal pattern of raw materials occurring within short timeframes and the need for prompt processing. This can lead to a shorter cash conversion cycle for fishing companies than other sectors. Overall,

this analysis advances knowledge on working capital management by extending the established theory of the cash conversion cycle to provide a more comprehensive understanding of the financial management practices employed by small fishery businesses. Traditionally, the cash conversion cycle has been used as a critical metric to analyse and optimise working capital across various industries. However, the findings of this research demonstrate that the fishing sector exhibits distinct characteristics that require a more nuanced application of this theoretical framework. As a result, SME owner-managers are encouraged to put in place credit policies, learn budgeting techniques, and master the art of the cash conversion cycle to control financial risk and improve operational efficiency.

Regarding the components of WCM, the findings of this study indicate that the inventory management (Section 6.4) also needs to be reduced to improve fisheries' financial performance. There are several reasons that can be expounded to explain the negative relationship between ROA and DIO. First, investment in inventory represents the amount of money locked up, which could have been invested in a high-return venture to increase ROA (Falope & Ajilore, 2009). Such a move further reduces ROA because it may require a company to seek short-term financing, which increases financing costs and eventually minimises ROA. Therefore, reducing DIO will free up capital invested in profitable ventures to improve ROA. Second, the negative relationship between ROA and DIO implies that a reduction in DIO minimises the various costs associated with holding inventory (Koumanakos, 2008), which improves ROA. Such holding costs include warehousing security, rental fees, heating and lightening, obsolesce, theft, etc. Although this finding is similar for the majority of the authors, the conclusion of Deloof (2003), García-Teruel and Martinez-Solano (2007), Usman et al. (2017) and Rey-Ares et al. (2021) is more reliable as they have used large amount of sample covering significant periods in their research. On the other hand, the finding is different for Mathuva (2010) and Lazaridis and Tryfonidis (2006). They both analysed a sample of listed firms on the Stock

Exchange, and they concluded that days of inventory outstanding are positively related to profitability. This result divergence stems from the intrinsic dissimilarities in the operational dynamics and market environments between fisheries and firms listed on the Stock Exchange. Therefore, while strategies for optimising inventory management may yield favourable outcomes in one industry, they may not necessarily translate to similar benefits in a different sector due to varying industry norms and operational contexts. In essence, this analysis has been able to vindicate the existing literature about the effect of WCM on the profitability of fisheries. Notably, the outcome of this study sheds more light on the significance of inventory management in examining the relationship between WCM and firms' profitability, which will enable fisheries managers to know the optimal level of inventory level that will be useful for their inventory control and management. Moving forward, this discussion prompts further exploration into tailoring WCM approaches to different industries' unique characteristics and requirements (Jaworski & Czerwonka, 2024). Therefore, future research could delve deeper into the specific drivers of inventory management effectiveness across diverse sectors, thereby offering more granular insights into optimising financial performance through WCM practices.

Moreover, the results reveal an inverse relationship between accounts payable (Section 6.3) and profitability. The negative association between DPO and ROA established here can be justified for two reasons. First, early payment to suppliers will improve ROA because of the discount to be enjoyed (Ng et al., 1999). Many companies offer customers the benefit of paying early in the form of discounts, which can substantially enhance ROA (Ng et al., 1999). Second, paying suppliers early will improve the business relationship between a company and its suppliers, ensuring continuous and sustainable future business deals and maximising ROA. Many past studies also found a negative relationship between DPO and ROA, including Deloof (2003), Padachi(2006), Lazaridis and Tryfonidis (2006), Nobanee (2009) and Ukaegbu (2013). On the contrary, Aytac et al. (2020) and Gonçalves et al.(2018) found a significantly positive relationship between DPO and ROA. These studies, conducted in developed nations like France and the UK, where macroeconomic variables

and the country's financial position greatly impact firms' financial management decisions, found that accounts payable serve as interest-free short-term financing. Many companies in these countries utilise them until the last possible day before payment is due. However, in emerging economies, the relationship between DPO and ROA may diverge from these findings. While extended DPO may indicate efficient cash management strategies in developed economies, it could signal liquidity challenges or inefficient supply chain management in emerging markets. Consequently, managers in emerging economies may need to adopt different approaches to optimize their financial performance. One such strategy is to prioritize the timely settlement of liabilities, including accounts payable. By doing so, managers can enhance liquidity, strengthen supplier relationships, and ultimately create positive value for shareholders. In this regard, this finding extends the body of working capital management literature by delving into the nuanced dynamics of accounts payable management within the context of Morocco, an emerging market characterized by unique economic and financial conditions. By focusing on accounts payable, a critical component of the cash conversion cycle, this analysis offers a detailed examination of how fisheries in Morocco optimize their payment practices to enhance liquidity, operational efficiency, and overall financial performance. Furthermore, the analysis advances the understanding of cash conversion cycle theory by elucidating the role of accounts payable as a critical determinant of working capital efficiency and financial performance outcomes in an emerging market context. Finally, the analysis sheds further light on the implications of establishing robust financial policies on the long-term viability of businesses, with particular emphasis on optimizing accounts payables practices to mitigate risks and foster sustainable growth within the fishing sector. It should also encourage small and medium fisheries to incorporate more working capital and financing practices into their venture strategies so they may monitor the resulting impact on their enterprise's performance. In sum, this analysis not only illuminates the critical role of effective accounts payable management in sustaining small and medium fishery growth and viability but also sets a new direction for future research and policy interventions aimed at fostering a conducive environment for small and medium fisheries in Morocco.

Furthermore, the analysis established that there is a statistically significant and positive effect of accounts receivable (Section 6.2) on the firm's profitability. This also suggests that increasing the account receivables as a component of working capital management by fisheries leads to increases in their profitability. The result confirms the cash conversion cycle theory and the results by Haresh (2012) and Azam (2016), who suggested that compelling accounts receivable were good for a firm's profitability. Still, it contradicts with Deloof (2003) and Lazaridis and Tryfonidis (2006). Thus, a closer examination of the nuances within their studies is imperative. Deloof (2003) scrutinized a substantial sample of 1,009 large Belgian nonfinancial firms, while Lazaridis and Tryfonidis (2006) focused on a sample of 131 companies listed in the Athens Stock Exchange (ASE). Both studies emphasised the reduction of days for accounts receivable as a strategy for increasing firm profitability. However, it is crucial to note that their research contexts differed significantly from the focus of the present analysis. Deloof's examination of established Belgian firms might only partially align with the dynamics of small and medium fisheries management under consideration in this study. Similarly, Lazaridis and Tryfonidis' study of companies listed in the ASE might not directly correlate with the operational realities of the fisheries industry. In this regard, small and medium fisheries are observed to allocate a greater proportion of their resources to accounts receivables, which necessitates a strategic approach to credit management and collection practices. Overall, this analysis shows that investing in accounts receivable is essential and incorporating routine trade credit management is crucial for a firm's profitability. Therefore, this analysis finding enriches the theoretical understanding of the cash conversion cycle by shedding light on the role of accounts receivable investment and trade credit management in influencing firm profitability (Jaworski & Czerwonka, 2024). In addition to its theoretical contribution, this analysis offers valuable contextual insights into the specific dynamics of accounts receivable management practices within the small and medium fisheries sector, particularly in emerging markets like Morocco. Practically, this

result will be fruitful for firms' general managers, financial managers, and regulators. General managers can develop more effective strategies to streamline invoicing processes, monitor receivables more closely, and establish more stringent credit policies to ensure timely customer payments. Financial managers can implement optimized collections processes and negotiate favourable credit terms with customers to automate invoicing and payment processes, thereby reducing the risk of late or delinquent payments and improving overall cash flow management. Moreover, regulators can implement measures to enhance credit reporting mechanisms, strengthen debtor protection laws, and promote financial literacy initiatives to empower small and medium fisheries enterprises to manage their accounts receivables more effectively. Further research may confirm or strengthen the robustness of our results by including different sectors. Such as manufacturing, retail, or services, to provide a broader understanding of how working capital management practices vary across industries and their impact on firm profitability.

6.2 The impact of moderating factors on working capital management and profitability

As discussed in Chapter 1, one of the objectives of this study is to examine the joint effect of contextual factors and WCM on firm profitability in the context of Morocco's fishing sector. Recognising that the fishing industry is experiencing structural changes, increased competition, market volatility, and unexpected disruption, fisheries must recognise the importance of macroeconomic and environmental determinants to pursue operational efficiency and long-term sustainability. While previous research theorised and tested the influence of institutional and macroeconomic moderators on capital structure (Belkhir et al., 2016; Jaworski & Czerwonka, 2019; Matemilola et al., 2019), this study verified the impact of moderating factors in the context of the relationship between profitability and working capital management. Based on the moderation analysis findings, the study in Sections 6.6, 6.7, and 6.8 shows that firm-level factors and environmental conditions exhibit measurable influences on the working capital-profitability relationship. The study found that corporate governance and bureaucratic corruption, when included as moderating

variables, have negatively influenced the relationship between WCM and profitability. At the same time, institutional support, on the other hand, has a positive moderating effect.

Overall, the findings imply that the effectiveness of WCM on fisheries profitability is contingent on a moderate level of bureaucratic corruption, institutional support, and corporate governance. In this regard, this analysis intersects with evidence that financial management depends upon corruption (Anton & Nucu, 2022), institutional support (Khoshmaram et al., 2020), and corporate governance (Gill & Biger, 2013), and adds to Deesomak et al. (2004), who show that legal, financial, and institutional environments influence financial decisions of firms. Further, like studies by Belkhir et al. (2016), Singh et al. (2016), and Vlismas (2024), this study complements existing research by providing a possible explanation for the contradictory results on the relationship between working capital management and profitability. As such, the cash conversion cycle is the result of shaping other components of the enterprise's operating cycle, which can be highly dependent on macroeconomic and firm-level conditions. In sum, the findings highlight the strategic importance of aligning working capital practices not only with internal financial strategies but also with the external institutional and regulatory environment in which the firm operates. In this regard, businesses should proactively engage with regulatory authorities and industry stakeholders to stay abreast of changes in the rapidly changing world. Moreover, it becomes imperative for businesses to implement robust compliance measures, establish transparent and accountable governance structures, and cultivate strong relationships with regulatory bodies and industry associations.

6.2.1 Corporate governance

While recent academic studies provide evidence on the relationship between institutional quality and corporate governance (Amon & Nucu, 2022), highlighting that the institutional environment is essential for effective corporate governance, there is a strong premise that in emerging markets, where there is weak institutional legislation quality and absence of robust regulatory frameworks, the challenges to implementing effective governance

practices are amplified. Thus, this research debates whether corporate governance exerts any significant influences on working capital management and the profitability relationship of Morocco's small and medium fisheries. The results (Section 6.7) demonstrate that there is a negative moderation effect of corporate governance on working capital management and profitability; that is, weak corporate governance deteriorates the efficiency of the cash conversion cycle, which, in turn, causes an increase in working capital requirements and then diminishes profitability. This evidence supports the argument that a weaker system in the organisation will increase debt-financing costs and hampers the long-term relationship with suppliers and customers, adversely affecting businesses' value maximization (Gulzar & Haque, 2023). In countries with weak governance quality and corruption, creditors may be reluctant to extend credit to firms due to the heightened risk of non-payment or default, stemming from ineffective legal systems and enforcement mechanisms that make it challenging for creditors to recover their funds in such scenarios, thereby deteriorating the working capital of poorly governed firms. Further, it is apparent that fisheries hold an extremely small board size, which weakens their governance structure (Rahman & Ali, 2006), and therefore, the profitability may be adversely affected. Moreover, it could be argued that size and complexity make monitoring and control complex, hence inefficient outcomes. This research shows a corresponding result with previous research conducted by Jiang et al. (2023), Dittmar and Mahrt-Smith (2007), and Bawuah (2024), showing that corporate governance moderates working capital efficiency and firm performance. It becomes evident that corporate governance serves as a strategic enabler for efficient working capital management, as it governs the allocation and utilization of resources, establishes clear accountability structures, and promotes transparency and integrity in financial operations.

The contributions of this analysis extend and advance the current knowledge of financial working capital management. Firstly, this result provides a new viewpoint on corporate finance and financial management. Firm-level and country-specific factors are often studied independently in the literature on working capital management (Banerjee & Gupta,

2021). This analysis expands the cash conversion cycle theory scope to encompass contextual factors within working capital management practices. Acknowledging the disparities reported in existing literature regarding the effects on the relationship between working capital management and profitability, this analysis posits that this relationship may undergo moderation. The results imply connections between the governance structure and the money tied up in working capital, shedding light on the significance of governance mechanisms in shaping the management of working capital and its impact on the overall financial health and performance of the organisation. By elucidating these connections, this analysis highlights the importance of effective governance practices in optimising working capital utilisation and enhancing corporate profitability and sustainability. Secondly, this analysis adds a new contextual dimension to working capital management literature. Unlike Deloof (2003) and Goyal (2018a; 2018b) findings, which related to only large listed companies in manufacturing and service industries, this study extends the moderation relationship argument to SMEs engaged in the fishing sector, which is a volatile industry of external factors and where the WCM is fundamental for both the characteristics of the type of product that it offers and the characteristics of the companies in the sector (primarily SMEs) that tend to have relatively low bargaining power and non-negligible borrowing constraints. Consequently, it has become clear to financial managers that their mission no longer stops at just identifying the optimal levels of working capital and its components but extends to determining the impact of external factors on the efficiency of WCM. Finally, the analysis unveils the potential strategies for fostering small business growth and development by implementing appropriate practices. Therefore, businesses should prioritise establishing and maintaining robust corporate governance frameworks to not only optimise their working capital management practices but also to uphold ethical standards, mitigate risks, and enhance long-term sustainability. Moreover, regulatory enforcement with corporate governance disclosure practices should be prioritised alongside actual adherence to acceptable best practices in organisations. This neutralises any potential adverse effects of weak disclosure corporate governance practices on performance. Lastly, to improve financial performance and minimise the failure of firms, legislators and

policymakers in emerging markets must continuously reform, improve and update the provisions of corporate governance codes.

6.2.2 Bureaucratic corruption

The results of the moderation analysis in Section 6.6 show that bureaucratic corruption negatively moderates working capital management and profitability relationships in the context of Morocco's fishing sector. The results prove that the lack of government integrity and bureaucratic corruption lead to inefficient and wasteful expenditure as funds are misallocated through bribes on procurement contracts, deviating actual spending from approved budgets, which in turn adversely impacts firms' cash management and profitability. Firms operating in corrupt environments are forced to maintain higher cash reserves to accommodate bribe payments and other extraneous costs associated with bureaucratic red tape. This ties up capital that could otherwise be invested in productive activities or growth opportunities. Moreover, the uncertainty and operational inefficiencies stemming from corruption reduce firms' profitability by increasing costs and hampering their ability to optimize production processes. These findings support Asteriou et al. (2021), Anton and Nucu (2022), and Dutta and Sobel (2016) and contradict Dreher and Gassebner (2013), and Van Vu et al. (2018). Further, it is worth noting that corruption makes firms more likely to engage in risky projects, resulting in an increase in the probability of experiencing a stock price crash risk (Chen et al., 2018; Cao et al., 2019) and a deterioration of working capital. Thus, firms that are involved in corruption practices would create more financial fragility and leave them more vulnerable to shocks that could impair their cash flows and profitability.

This analysis makes a unique contribution to the working capital management literature by exploring the joint effects of bureaucratic corruption and working capital management on firms' profitability in a developing economy. It provides a fresh perspective on the complex interplay between macro-level issues and micro-level characteristics in assessing firm performance. While previous studies have examined the effects of corruption on financial

management and firm profitability in sectors like manufacturing (Amin & Motta, 2023), the fishing sector has been relatively overlooked. By focusing on this sector, our analysis fills a significant gap in the literature and offers valuable insights into an area that has not been extensively studied. The fishing industry operates within a regulatory environment that is both formal and informal, adding to its unique dynamics. Consequently, given its susceptibility to such influences, it stands as a prime locus for examining the ramifications of corruption. In this regard, this analysis contributes to the broader understanding of working capital management literature and sheds light on the unique challenges faced by SMEs operating in the fishing sector. Second, this analysis contributes to the cash conversion cycle theory, revealing that fisheries accumulate more cash from cash flow where corruption is prevalent. In a highly corrupt environment, firms are more likely to prepare for bribery payments. Therefore, they increase cash-cash flow sensitivity to prepare for paying bribes as "grease money" and "protection money" (Claessens et al., 2008; Tahoun, 2014; Thakur & Kannadhasan, 2019; Wei & Kaufmann, 1999). As firms allocate more resources towards building cash reserves to accommodate potential bribery payments, they divert resources away from investments that could enhance productivity and profitability. This diversion of funds limits their ability to pursue growth opportunities, develop innovative products or services, or optimize operational efficiency. Overall, this analysis extends the prevailing understanding of the cash conversion cycle theory by combining analyses of the internal financial resources (e.g., working capital management) with the external institutional environment. By combining financial capital and bureaucratic corruption, firms can address the nuanced interplay between financial decision-making and external pressures. Thus, this holistic approach enables firms to navigate better the complex landscape of corruption risk and financial constraints. Third, a significant contribution of this analysis lies in its revelation of the significance of national governance quality for firm operations, particularly for small- and medium-sized enterprises (SMEs), which demonstrate heightened sensitivity to fluctuations in the business environment and policy adjustments. The insights gleaned from this analysis hold potential benefits for regulators and policymakers in Morocco, aiding them in the timely

implementation of regulatory measures aimed at enhancing institutional frameworks and devising effective policies to mitigate SMEs' financial risks. Moreover, the implications derived from our research can assist firm managers in formulating business strategies geared towards achieving optimal long-term performance.

6.2.3 Institutional support

Regarding institutional support, the moderation analysis results (Section 6.8) highlight that institutional support plays an important role in shaping the policies on working capital of Moroccan small and medium fisheries, which in turn positively impacts profitability. This emphasises the significant influence of institutional support mechanisms in guiding the financial strategies adopted by businesses operating within the Moroccan fishing industry. The presence of robust institutional support fosters an environment conducive to sound financial decision-making, enabling fisheries to implement effective working capital management practices. Although in emerging markets, inherent institutional voids distance firms from government assistance (Palepu & Khanna, 1998), as the ease with which they [firms] can access available support is encumbered; however, the role of government can still serve as a stimulating force for the development of businesses (Onjewu et al., 2023) and can positively influence the value of cash holdings for firms. These findings are supported by the results of Dittmar and Mahrt-Smith (2007), Kusnadi (2019), Orlavo and Sun (2018), Pinkowitz et al. (2006), Onjewu et al. (2023) and Rita et al. (2024), who argue that external factors such monetary stimulus policies with liquidity support through fast credit schemes contribute to having sufficient and optimal working capital for businesses. This can be explained through two arguments. First, government support can reduce cash flow pressure because it offers a tax relaxation program (Amah et al., 2021). Second, it helps in credit restructuring and direct cash assistance (Kurniawan et al., 2023). Moreover, the results of this analysis indicate that institutional support in the form of government financial support for SMEs, business development support, legislative policies, and networking and partnership can increase the adequacy of SMEs working capital. Then there

will be continuity of sales which in turn will be able to create profitability and business continuity.

This analysis makes three main contributions. First, it extends the working capital management literature and connects the cash conversion cycle theory, institutional support, and firm profitability in the context of the fishing sector in a developing economy. These connections effectively explain the interactions of financial management practices, government support policies, and operational efficiency as small and medium fisheries navigate the complexities of market dynamics. Thus, novel moderating relationships between institutional support, working capital management, and profitability have been conceptualised and tested to demonstrate their effects on small and medium fisheries financial performance. The findings of this analysis will, therefore, enrich the fishing literature and add to the body of knowledge on the role of institutional support on SME profitability and performance. Second, light is shed on the crucial role of institutional support in SME development in an emerging market. It is intriguing to discern that although bureaucratic corruption is significant in Morocco, government support increases the resilience of SMEs and, therefore, improves their financial and economic performance. This suggests that while corruption poses inherent challenges to business operations, proactive government intervention and support mechanisms serve to counteract these negative effects to some extent. Government initiatives such as financial assistance programs, regulatory reforms, and capacity-building initiatives may provide SMEs with the necessary resources, guidance, and protection to navigate the complexities of the business environment. In other words, government support probably elevates 'regulatory bureaucracy' which John and Reve (1982) describe as the formal procedures governing activities in firms' inter-organisational relationships. Therefore, the present analysis advances the literature by demonstrating that, in contexts of institutional voids, government support would nurture SMEs' development. Third, the analysis has pertinent implications for SME owners/managers operating in the Moroccan fishing sector. Small and medium fisheries are unequivocally encouraged to obtain government support as it augurs well for

their financial management and performance. Specifically, small and medium fisheries owners/managers can reflect on these findings to behold the positive knock-on effect wielded by institutional support on their integration with public institutions and their management of financial capital to enhance operational efficiency, optimize resource utilization, and increase profitability. The Ministry of Economic Inclusion, Small Business, Employment and Skills can appropriate the findings to sensitise SMEs and drum up greater uptake of government support. Thus, this analysis is a guide to small and medium fisheries in Morocco on how to enhance firm profitability by understanding the role working capital management driven by institutional support.

6.3 Modelling the impact of working capital management on profitability

As per previously mentioned, Chapter 2 presented a theoretical model that explains how working capital management can impact a company's profitability, taking into account the interaction effects of moderator variables on this relationship. This model was guided by the studied theories on working capital management and aimed to illustrate the direct relationship between working capital management components and profitability. It also aimed to highlight the moderating effects of bureaucratic corruption, institutional support, and corporate governance on the relationship between working capital management and profitability. The model predicted that the cash conversion cycle, days sales outstanding and days inventory outstanding would have a negative impact on profitability. Conversely, days payables outstanding were projected to have a positive impact on profitability. The model also assumed that the corporate governance index would have a negative moderating effect on the relationship between the cash conversion cycle and profitability. Additionally, the model projected a negative moderation effect of the institutional support index on the relationship between the cash conversion cycle and profitability. On the other hand, the bureaucratic corruption index was anticipated to have a positive moderating effect on the same relationship. Finally, the control variables included in the model were predicted to have a negative relationship between firm size and profitability, financial leverage and profitability, working capital efficiency and profitability, and liquidity ratio and

profitability. On the other hand, a positive relationship between gross working capital efficiency and profitability was projected. This section evaluates whether the anticipated connections should be adjusted based on the empirical findings obtained in this research. In effect, as explained in the previous sections, the study reveals that the relationship between the cash conversion cycle and profitability is negative. This indicates that a firm can improve its economic performance by shortening the cash conversion cycle. While the day's sales outstanding suggests a rationale for augmenting investments in working capital and the day's inventory outstanding suggests the opposite, reducing days payable outstanding decreases financing expenses and augments firm profitability. This underscores the significance of strategies like extending trade credit to customers, ensuring timely supplier payments, and efficient inventory control in influencing firm profitability. Notably, control variables were factored into the analysis. The study reveals that factors such as working capital requirement, financial leverage, gross working capital efficiency, and firm size emerge as statistically significant drivers of profitability. It was clear that the presence of moderator variables affected the orientation and exertion of the effects of working capital management on a firm's profitability. Specifically, the study found that institutional support plays a crucial role in shaping the working capital policies of small and medium fisheries in Morocco, ultimately leading to improved profitability. However, the study also revealed that bureaucratic corruption in Morocco has a significant impact on operational costs, which in turn increases the working capital requirement and reduces sales and revenue for small and medium fisheries. Finally, the study has also revealed the negative moderation role of corporate governance on the relationship between cash conversion cycle and profitability. Because of weak corporate governance dominance in emerging economies, small and medium fisheries face challenges in optimising the cash conversion cycle and ultimately decreasing their profitability in emerging markets contexts. In this context, the research introduces a modified conceptual framework derived from the discourse presented in this section, illustrated in Figure 7.1.

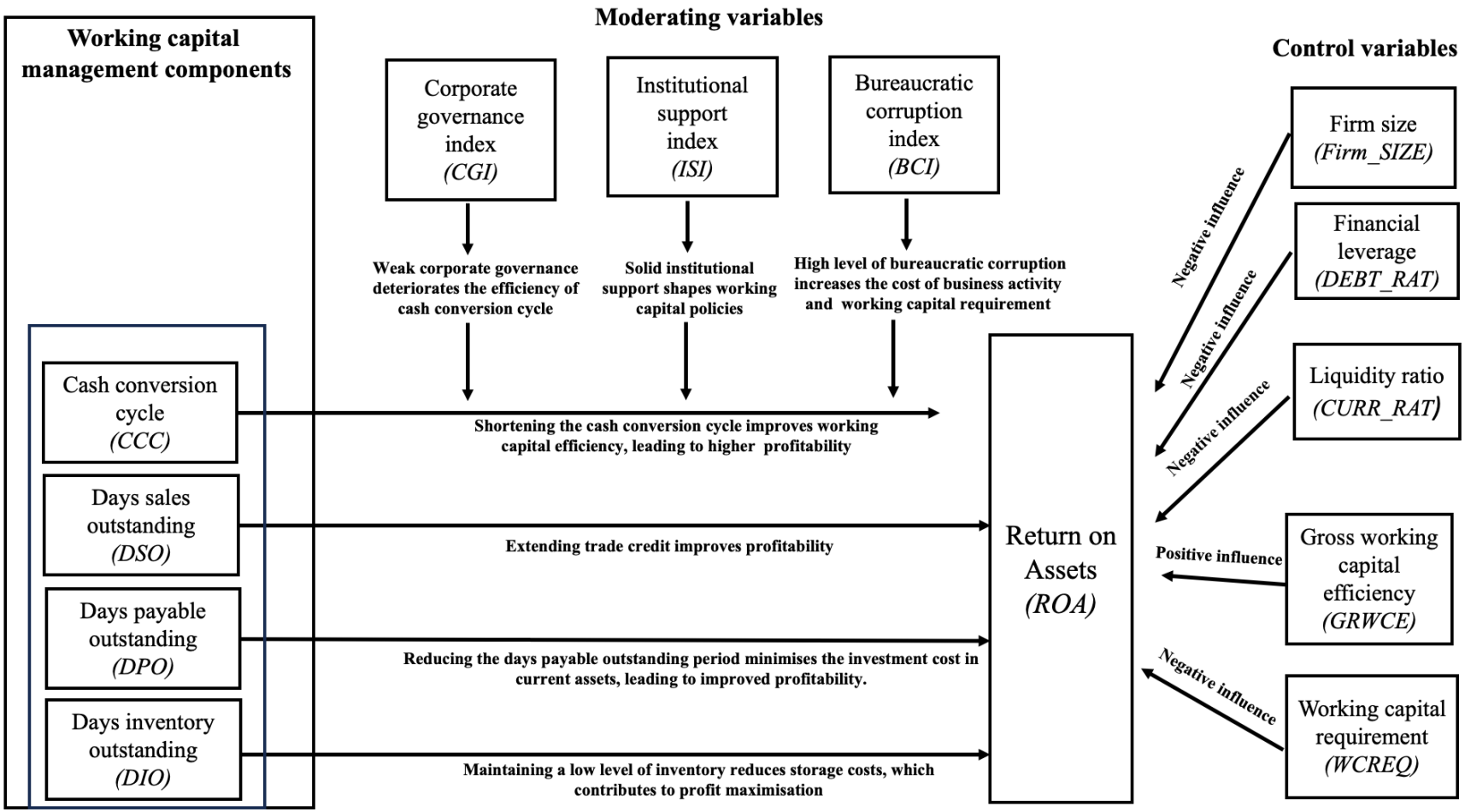

Figure 7.1 Modified conceptual model

Chapter 7

7. Conclusion

The study demonstrates the importance of short-term financial decisions in financial management for business success. Traditionally, the scope of current corporate finance literature has been long-term financial decisions such as analysing investments, capital structure, dividends or company valuation (García-Teruel & Martínez-Solano, 2007). Consequently, this study acknowledges that the investment that firms make in short-term assets significantly affects their profitability. The actual short-term financial decisions about how much to invest in the customer and inventory accounts and how much credit to accept from suppliers are reflected in the firm's working capital, which has been measured by the four components, namely: days payable outstanding, days sales outstanding, days inventory outstanding and the cash conversion cycle, which represents the average number of days between the date when the firm must start paying its suppliers and the date when it begins to collect payments from its customers. However, the working capital management environment has been involved with several internal and external factors. Hence, the success of firms expands firm-level factors to include broader contextual and macroeconomic influences. This study explored the moderating role of bureaucratic corruption, institutional support, and corporate governance on the relationship between working capital management and profitability. The empirical results show the importance of institutional support in determining the level of working capital for small and medium fisheries. Moreover, fisheries should consider the quality of governance quality when determining the level of working capital. Although managers cannot change the institutional environment, they should take into account the influence of bureaucratic corruption on short-term financing decisions. This study, therefore, moved beyond firm-specific determinants of WCM to consider contextual factors, viz, bureaucratic corruption, institutional support, and corporate governance, as moderators of the relationship between WCM and firm profitability and demonstrated the importance of incorporating contextual

and environmental factors in formulating WCM policies related to improving a firm's financial performance.

In conclusion, this study redefines WCM as both a financial and institutional imperative. By connecting firm-level financial practices with macro-level contextual dynamics, it offers a transformative lens for understanding SME resilience in emerging markets. For Morocco's fisheries sector, the findings highlight that profitability depends not only on operational efficiency but also on the strength of the institutional environment. As nations pursue agendas like the Blue Economy and sustainable industrialisation, this research confirms that optimising working capital is not just a pathway to financial success but a catalyst for equitable growth, governance reform, and systemic stability.

7.1 Summary of key findings and implications

The aim of this thesis was to investigate how firm-specific characteristics and contextual factors influence the relationship between working capital management practices and profitability. Specifically, the study sought to unravel the mechanisms through which bureaucratic corruption, institutional support, and corporate governance factors moderate the association between working capital management and profitability among small and medium-sized enterprises operating in Morocco's fishing industry. Overall, based on the quantitative method analysis results presented in Chapters 5 and 6, the study empirically provided evidence that working capital was an important factor that must be considered by fisheries, especially for financial managers, in an effort to increase profits. A refined understanding of the cash conversion cycle system has been achieved; as the current study illustrated, the management of effective and appropriate working capital practices necessitates the incorporation of contextual factors in decoding the mechanisms behind the relationship between WCM and profitability. The following section discusses the implications and explanations of these results.

First, profitability has a negative relationship with the general determinant of working capital management, i.e., CCC. This negative relationship is a common phenomenon in

diverse countries of varying economic conditions. The high statistical significance of this relationship confirms the earlier findings of other authors (Chang, 2018; Zaidan & Shapir, 2017). This means that the vast majority of Moroccan small and medium fisheries are striving to increase their ability to generate profits while shortening CCC and reducing the costs associated with their financing. Therefore, managers of fisheries should develop and implement a sustainable CCC management strategy that not only focuses on short-term financial gains but also considers long-term durability and resilience through establishing financial metrics to optimise the right amount of inventory, implementing due diligence on new customers through credit checks, and preserving good relationships with suppliers to obtain favourable payment terms (Savino, 2020).

Second, it has been demonstrated that the increase in the profitability of fisheries is accompanied by a shortening of the DIO. Fisheries are frequently forced to source the raw material they will use annually in a very short period of time; this results in low inventory levels. Small and medium fisheries are usually not able to preserve as much inventory due to limited storage capacity and financial constraints. This limitation compels them to operate with a just-in-time inventory system, which minimizes holding costs but increases their vulnerability to supply chain disruptions. Thus, managers of Moroccan small and medium fisheries should continuously monitor their inventory levels with a view to reducing the number of days inventory is held in stock before they are sold. This will not only enhance their profitability positions but can help them respond more effectively to market changes and competitive pressures, which will enable them to seize new opportunities and mitigate risks more effectively, thereby enhancing their long-term sustainability and competitiveness.

Similar to the above findings DPO has negatively related to fisheries' profitability. This explains that shortening DPO allows fisheries to improve their negotiating position with suppliers and to obtain benefits from possible discounts for the faster settlement of liabilities. It is acknowledged that many businesses have failed because of poor credit

management (Perrin, 1998; Summers & Wilson, 2000) and it is evident that the main source of this problem is in late payment among business organisation. When payments are overdue, and the payment date becomes uncertain, then the financing costs and management time involved in chasing payments and financing the delay can seriously erode the profitability of the sale and put pressure on the business's own relationships with its bankers and suppliers (Wilson, 2008). Business managers should maintain an enhanced relationship with suppliers which can lead to cost savings, improved cash flow, and operational efficiency.

On the other hand, the study established that there is a statistically significant and positive effect of DSO on the firm's profitability. A conclusion can therefore be drawn that, fisheries should seriously factor in account receivables management as a managerial policy for better operations efficiency and financial performance. In addition to that, they should integrate tailored accounts receivable policies that address industry-specific challenges, such as seasonality and market dynamics, to optimize cash flow, mitigate financial risks, and gain a competitive advantage. Moreover, embracing technological advancements like automated invoicing systems and data analytics tools can streamline collection processes, improve efficiency, and foster sustainable growth.

In addition to that, the study's results indicate that the relationship between profitability and working capital management can be moderated by environmental and firm-specific factors related to the country and firm level. Evidence in the literature shows that investments in working capital are conditioned by country-specific factors and firm-specific characteristics (Anton & Nucu, 2022). The existing literature also indicates that macroeconomic and environmental conditions change the WCM policy. Given the nature of SMEs, which use more short-term financing than large enterprises, are prone to macroeconomic changes. Smith (1987) proved that the macroeconomic situation influences the level of accounts receivable in accordance with the level of market trust,

which may increase or decrease. Therefore, this study explored the moderating effects of bureaucratic corruption, institutional support, and corporate governance on the relationship between working capital management and profitability. Bureaucratic corruption was important to note because it could create a threat or opportunity for the company. The study found that bureaucratic corruption exerts a negative influence on the relationship between WCM and profitability of small and medium fisheries in Morocco. This explains that corruption creates additional costs for businesses, as paying bribes to government officers in a corrupt business environment turns out to be a survival mechanism for small businesses. Entrepreneurs use corruption both as a cost-reducing and survival strategy, thereby becoming victims of bureaucratic corruption (Firozjaii, 2012). As a result, the requirement for working capital increases, which in turn reduces sales and revenue for small and medium fisheries. Although managers cannot change the business environment, they should take into account the influence of bureaucratic corruption on working capital management to maintain an optimal level of working capital. Additionally, to promote transparency and integrity, governments should play an active role in creating and enforcing policies that combat corruption, promote ethical practices, and support fair competition.

The results also reveal that corporate governance exerts a negative moderating influence on the relationship between working capital management and profitability. This revelation suggests that the effectiveness of WCM practices in enhancing profitability is hindered by the presence of weak corporate governance structures prevalent in emerging markets. The plausible rationale behind this outcome lies in the challenges faced by small and medium fisheries operating in these environments, where inadequate corporate governance mechanisms may impede their ability to optimize the cash conversion cycle effectively. As a result, these businesses encounter difficulties in efficiently managing their working capital, which in turn leads to diminished profitability levels within the unique dynamics of emerging markets.

These findings indicate that factors such as bureaucratic corruption and weak corporate governance pose significant obstacles to optimising fisheries' WCM and maximising profits. To address these systemic barriers, the Moroccan government must prioritise institutional reforms that align with its national development agendas, including the Halieutis Plan (2020-2030) and the Industrial Acceleration Plan (2021-2025). Firstly, establishing a dedicated anti-corruption task force under the Ministry of Agriculture, Maritime Fisheries, and Rural Development would directly counter the pervasive demands for bribes that inflate working capital requirements. Secondly, introducing a central digital financial platform for fisheries SMEs would modernise tax compliance, permit applications, and supplier transactions. Mandating real-time digital record-keeping for all public-sector interactions would reduce cash-based exchanges susceptible to corruption while enhancing transparency in accounts payable and receivable cycles.

Furthermore, institutional support is an additional determinant of working capital management. The study reports that institutional support exerts a positive influence on the relationship between working capital management and profitability. The findings indicate that the implemented support programs have enabled fisheries to release resources tied up in working capital and optimise its level to expand investment. For policymakers, the results highlight the importance of creating a stable and supportive institutional environment. Policies should focus on expanding financial support programs tailored to SMEs in the fisheries sector, ensuring they have access to affordable credit and technical assistance. Furthermore, policymakers should work towards streamlining regulatory frameworks to reduce bureaucratic inefficiencies, which often hinder optimal WCM practices. This can be achieved by eliminating redundant administrative procedures, reducing the time and cost associated with permit approvals, and simplifying tax reporting requirements for small and medium-sized fisheries.

In summary, this thesis shows that although working capital management is a crucial determinant of profitability for small and medium-sized fisheries in Morocco, its effectiveness is significantly influenced by firm-specific characteristics and environmental factors. These variables are contingent on a firm's financial management strategy. These findings open a new venue for future research that addresses how to better understand the moderating effect of external and internal factors on the examined relationships in the context of emerging economies.

7.2 Contributions to knowledge

Acknowledging that the empirical evidence on the relationship between working management and firm profitability is largely limited in developing countries (Padachi, 2006) and in Morocco in particular, this study attempts to advance the understanding of working capital management in the following ways.

First, this study provides new evidence on the linear effect of WCM on corporate profitability in the North African region's emerging market, precisely the Morocco fishing industry sample. Preceding research has assessed the impact of WCM on profitability in developed countries using listed firms, and appropriate recommendations have been given to manage working capital efficiently. However, WCM is more relevant for SMEs in emerging economies, which are typically non-listed firms (Rodeiro-Pazos & Rey-Ares, 2020). Therefore, this study makes a significant empirical contribution by focusing on a food industry, namely the fishing sector, in an emerging market. The results of this study suggest that WCM components—days sales outstanding, days payables outstanding, days inventory outstanding, and cash conversion cycle—can be important predictors of firm performance. Through empirical analysis and data-driven research, this study enhances our understanding of how WCM influences profitability in SMEs within emerging economies and provides practical implications for industry practitioners, policymakers, and researchers seeking to optimise financial performance in similar contexts.

Second, this study contributes theoretically to the discourse on the need for contextual research to understand and explain how WCM influences profitability. To this end, the study has developed a theoretical framework that extends research on working capital management beyond its concentration in developed countries to emerging markets and, more particularly, in the North African region, where researchers argue that, to date, not much research has been conducted in an area with a significant number of SMEs characterized by informal WCM (Bellouma, 2011). In addition to the existing array of frameworks being used in different settings to measure the effect of WCM on profitability, this study integrates contextual factors such as bureaucratic corruption, institutional support, and corporate governance into existing theoretical frameworks, leading to a more comprehensive understanding of financial management in the context of emerging markets.

Finally, the outcomes of this study have brought new light into the working capital literature. The study focuses on both the business level (financial management and corporate governance) and country-specific characteristics (institutional support and bureaucratic corruption) in managing working capital. Therefore, this multifaceted perspective offers valuable implications for various stakeholders. For financial managers and corporate decision-makers, the findings highlight the strategic importance of aligning working capital practices not only with internal financial strategies but also with the external institutional and regulatory environment in which the firm operates. Thus, the study should assist SMEs in implementing practical managerial strategies as well as providing valuable professional knowledge for efficient managerial operations. Furthermore, this research will assist in ameliorating poor bookkeeping and accounting practices in SMEs. For policymakers, this research would be an essential tool for understanding the impact of country-specific characteristics on the working capital practice of small and medium fisheries, and developing policies and initiatives that foster a conducive environment for efficient working capital management, ultimately supporting the growth and competitiveness of businesses. Moreover, this examination will guide

government institutions and organizations on efficient actions to enhance the growth and development of SMEs and will support the key priorities of the Blue Economy (BE) program aiming to assist Morocco's institutional frameworks and enhance the utilization of resources in the Moroccan fish and seafood processing value chain (World Bank, 2023); it will also substantiate the second-phase framework of the Industrial Acceleration Plan (2021–2025), a Moroccan industrial-reform policy planning to integrate SMEs in various industries.

7.3 Recommendations

Based on the findings of the present study, Morocco must build a resilient business environment capable of optimising working capital management for small and medium enterprises. From public institutions mandated to support Moroccan business to regional and continental development finance institutions and local commercial banks, there is an increasingly sophisticated ecosystem of players able to – via debt, training, equity and grants – stimulate the growth of small, innovative Moroccan enterprises. Non-profit institutions and private organisations should arrange proper training programs with a motive to encourage small and medium enterprise owners to implement proper financial systems in their business because the result indicates that financial management practices increase the business profitability and improve the firm's growth and development in a more significant way.

Firms must weigh the costs and benefits of external versus internal financing. Such assessment is affected by the level of development of the institutional environment, of which the financial markets, particularly the capital market, represent one of the most critical dimensions (Chittooret al., 2015; Khanna and Palepu, 2000). In this regard, the government should focus on developing and strengthening the institutional environment, particularly the financial markets and capital markets. This includes implementing policies that enhance market transparency, improve access to financial information, and ensure robust regulatory frameworks. Additionally, the government should facilitate the

development of financial instruments and services that cater to the diverse needs of businesses. By doing so, firms will be better equipped to make informed financing decisions, ultimately contributing to their growth and stability.

Furthermore, the negative effects of bureaucratic corruption and corporate governance on the working capital management and profitability relationship in a weakly regulated country could be used by businesses to develop strategies for mitigating operational risks and improving financial performance. In addition, the study provides some political implications. Indeed, it recommends that policymakers develop corporate governance standards and practices that meet Morocco's particular environment to mitigate corruption risks and supervise the enforcement of anti-corruption laws and regulations more effectively. The study also suggests that developing corporate governance standards and practices will help ensure transparency and accountability within firms. The government should also promote awareness campaigns and provide training programs to educate businesses about the detrimental effects of corruption on financial stability. By doing so, the government can reduce financial fragility and enhance the overall profitability and sustainability of businesses, making them less vulnerable to economic shocks.

7.4 Limitations and suggestions for future research

The study acknowledged a number of limitations. The first limitation identified is the availability of data for the sample size. In terms of the secondary data, the study has a relatively small sample size of 100 fisheries. Even though in terms of sample representation, the study's sample fell within Sekaran's (2000) proposed percentage guidance on sample representation, a larger sample might have been preferred as it could provide evidence of a more robust and reliable relationship between working capital, its moderating variables and profitability. This is because statistically the larger the sample size the more reliable the results (Hill & Alexander, 2006). The need for consistent data led the researcher to exclude some of the observations that presented information that was not consistent with the sampling criteria. This has led to multivariate analyses being limited to fewer companies than those in the initial sample. With regard to primary data, the

limitation of focusing solely on the year 2021 due to constraints preventing the inclusion of previous years may impact the depth of historical insights that could have provided a more comprehensive understanding of trends and patterns over time. As a result, this undermines the internal validity of the moderation analysis. To mitigate these limitations, future studies could use a bigger sample size, which may be more beneficial by improving the results and, therefore, capturing a more diverse range of perspectives and experiences and offering a richer understanding of the complex dynamics between WCM practices and company profitability. Moreover, for an improved panel survey study design, future research could incorporate questionnaire data that aligns with the entire duration of the full panel dataset. This approach would facilitate a more comprehensive and balanced analysis, enabling the exploration of dynamic relationships, identification of temporal trends, and mitigation of potential time-varying confounding factors.

Furthermore, the study only relied on one measure of profitability (return on assets). It adopted ROA as the measure of profitability because it has more desirable distributional properties than other accounting measures such as return on equity (Core et al., 2006). Besides its adoption in the model allows easy comparability with similar studies (e.g., Deloof, 2003; Tauringana and Afrifa, 2013; Lazaridis and Tryfonidis, 2006). Various researchers have also adopted a number of measures for firm's profitability. Net operating profit was used by Raheman and Nasr (2007) as their main measure of profitability whist Lazaridis and Tryfonidis (2006) used gross operating profit in their study. Vishnani and Shah (2007) on the other hand rather employed return on capital employed to represent companies' profitability. The diversity in profitability proxies highlights the complexity of assessing a company's financial performance using a single metric. It underscores the need for caution when interpreting results based on a singular measure like ROA. Therefore, exploring alternative proxies beyond ROA is crucial to comprehensively evaluate the impact of working capital management on profitability. Given the multifaceted nature of profitability assessment, future research could delve into examining the effects of working capital management on diverse profitability indicators such as Return On Equity, Return

On Capital Employed, Return On Investment, among others. This broader exploration would provide a more comprehensive understanding of how working capital practices influence various aspects of a company's financial performance, offering valuable insights for strategic decision-making and performance evaluation in diverse organizational contexts.

This study was limited to only fishing companies. The WCM practices may differ across countries and industries. Therefore, findings may not apply to other industries or similar industries in emerging markets. Thus, it is recommended for future research to test the hypotheses based on different research contexts or in different industries such as manufacturing, service, and finance. Future researchers should apply the measurement scales and constructs on companies from different industries to substantiate the findings from across industry perspective. Bhunia and Das (2015) stated that examination of WCM practices across industries might generate valuable comparative insights. As this study focused only on small and medium enterprises, it would be interesting to compare and contrast the working capital optimization practices of small, medium, and large companies.

An additional limitation of this study is the timeframe of the panel data analysis, which covers the period from 2015 to 2020. Further studies could explore the impact of WCM on firms' profitability following the Covid-19 (CORONA virus). The pandemic has caused significant disruptions to business operations, supply chains, and cash flows across various industries, necessitating rapid adjustments to WCM strategies to maintain liquidity, manage working capital, and ensure operational continuity. As a result, it is imperative to conduct further research to examine how companies have adapted their WCM practices in order to fulfil their short-term obligations during this challenging time.

One of the methodological limitations of the current study is the predominant use of closed-ended questions in the questionnaire designed to analyze the WCM practices of small and medium fisheries. While closed-ended questions are valuable for quantitative data collection and analysis, they may restrict the depth and nuance of the insights gained. To

address this limitation, future research could consider embedding a combination of closed-ended and open-ended questions within the survey questionnaire. The inclusion of open-ended questions would allow respondents to provide more detailed information, opinions, and contextual factors that influence their WCM practices.

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Appendices

Appendix A: Questionnaire in English

Section A

COMPANY INFORMATION

A1. What is your professional role in the company? ……..

A2. Number of years of experience in your current position? ……

☐ 0-5 ☐. 6 – 10 ☐ 11-15 ☐ 16 – 20 ☐ 21 over

A3. Education level of respondents

☐ illiterate ☐ Primary school ☐ Secondary school ☐ High school ☐ Higher education

A4. How many employees does your company have?

☐ 0-9 ☐. 10 – 19 ☐ 20-29 ☐ 30 – 49

Section B

WORKING CAPITAL MANAGEMENT PRACTICES

B1. Please indicate to what extent your small and medium fishery manages working capital.

☐ To a high extent ☐ To some extent ☐ Not at all ☐ Do not know

B2. Please indicate the priority level of each of the WCM components?

a. **Inventory management** ☐ High priority ☐ Moderate priority ☐ Do not know ☐ Low priority ☐ Not a priority

b. **Account receivables** ☐ High priority ☐ Moderate priority ☐ Do not know ☐ Low priority ☐ Not a priority

c. **Account payables** ☐ High priority ☐ Moderate priority ☐ Do not know ☐ Low priority ☐ Not a priority

d. **Cash conversion cycle** ☐ High priority ☐ Moderate priority ☐ Do not know ☐ Low priority ☐ Not a priority

e. **All the above** ☐ High priority ☐ Moderate priority ☐ Do not know ☐ Low priority ☐ Not a priority

B3. Please rate the importance of prioritising each of the WCM components?

a. **Inventory** ☐ Extremely important ☐ Very important ☐ Moderately important ☐ Slightly important ☐ Not important

b. **Account receivables** ☐ Extremely important ☐ Very important ☐ Moderately important ☐ Slightly important ☐ Not important

c. **Account payables** ☐ Extremely important ☐ Very important ☐ Moderately important ☐ Slightly important ☐ Not important

d. **Cash conversion cycle** ☐ Extremely important ☐ Very important ☐ Moderately important ☐ Slightly important ☐ Not important

B4. What is the impact of each working capital management components on profitability?

Please specify the degree of your agreement or disagreement with the following statements by indicating one of the boxes from (1) to (5), where: (1) = strongly disagree; (2) = disagree; (3) = neither agree or disagree; (4) = agree; and (5) = strongly agree.

a. Management of inventory is important for increasing the company's profitability.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

b. Management of accounts receivable is important for increasing the company's profitability.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

c. Management of accounts payable is important for increasing the company's profitability.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

d. Management of Cash Conversion Cycle is important for increasing the company's profitability.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

B5. What is the target level of WCM components?

Please specify the degree of your agreement or disagreement with the following statements by indicating one of the boxes from (1) to (5), where: (1) = strongly disagree; (2) = disagree; (3) = neither agree or disagree; (4) = agree; and (5) = strongly agree.

a. The company sets a specific level of inventory to be maintained

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

b. The company sets a specific level of accounts receivable

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

c. The company sets a specific level of accounts payable

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

d. The company sets a target Cash Conversion Cycle

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

B6. What is the strategy of each working capital management components ?

a. Increase in inventory improves our company's profitability

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

b. Increase in accounts receivable improves our company's profitability

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

c. Increase in accounts payable improves our company's profitability

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

d. Increase in Cash Conversion Cycle improves our company's profitability

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐

Section C

CORPORATE GOVERNANCE, BUREAUCRATIC CORRUPTION AND INSTITUTIONAL SUPPORT IN THE FISHING SECTOR

Please specify the degree of your agreement or disagreement with the following statements about the impact of corporate governance, bureaucratic corruption and institutional support by indicating one of the boxes from (1) to (5), where: (1) = strongly disagree; (2) = disagree; (3) = neither agree or disagree; (4) = agree; and (5) = strongly agree.

	Strongly disagree	Disagree	Neither agree or disagree	agree	Strongly agree
CORPORATE GOVERNANCE					
CG1 To what extent do you agree with the statement that it is important for the firm to have at least one independent director.	☐	☐	☐	☐	☐
CG2 To what extent do you agree with the statement that it is important for the board to adopt and implement a firm risk management plan.	☐	☐	☐	☐	☐
CG3 To what extent do you believe that the internal audit function effectively enhances and supports good corporate governance practices within you organization.	☐	☐	☐	☐	☐
CG4 To what extent do you agree that the firm must have a managerial equity ownership	☐	☐	☐	☐	☐

CG5 To what extent do you agree that the firm must reveal its annual financial statements	☐ ☐ ☐ ☐ ☐
INSTITUTIONAL SUPPORT	
IS1 The firm can access financial counselling and advisory services through the government channels.	☐ ☐ ☐ ☐ ☐
IS2 The firm receive guidance on risk assessments, stakeholder engagement, proposal development, and financial oversight.	☐ ☐ ☐ ☐ ☐
IS3 robust legislative policies are essential for promoting sustainable fisheries management and ensuring the long-term viability of marine ecosystems.	☐ ☐ ☐ ☐ ☐
IS4 The government supports SMEs in expanding their markets internationally.	☐ ☐ ☐ ☐ ☐
BUREAUCRATIC CORRUPTION	

BC1 Fisheries enforcement officers demand bribes or 'fees' from fishermen to avoid fines or penalties for minor violations.	☐	☐	☐	☐	☐
BC2 There are instances of influential individuals with ties to government officials illegally exploiting marine resources.	☐	☐	☐	☐	☐
BC3 Initiatives to increase transparency in fisheries management are limited in scope and impact	☐	☐	☐	☐	☐
BC4 ANTI-CORRUPTION INITIATIVES HAVE STREAMLINED REGULATORY PROCESSES, REDUCED OPERATIONAL DELAYS, AND ENABLED FISHERIES TO MAINTAIN OPTIMAL WORKING CAPITAL LEVELS	☐	☐	☐	☐	☐
BC5 Effective Corruption reporting channels can mitigate the negative impact of bureaucratic corruption on working capital management and profitability.	☐	☐	☐	☐	☐

Appendix B: Questionnaire in Arabic

القسم أ

معلومات الشركة

ما هو دورك المهني في الشركة؟.....

عدد سنوات الخبرة في منصبك الحالي؟.....

☐ 0-5 ☐. 6 – 10 ☐ 11-15 ☐ 16 – 20 ☐ 21 فما فوق

المستوى التعليمي للمستجيبين

☐أميون ☐ المرحلة الابتدائية ☐ المرحلة الاعدادية ☐ المرحلة الثانوية ☐ التعليم العالي

كم عدد العاملين في شركتك؟

☐ 0-9 ☐. 10 – 19 ☐ 20-29 ☐ 30 – 49

القسم ب

ممارسات إدارة رأس المال العامل

ب1. يرجى الإشارة إلى إلى أي مدى تدير مصايد الأسماك الصغيرة والمتوسطة رأس المال العامل.

☐إلى حد كبير ☐ إلى حد ما ☐ لا على الإطلاق ☐ لا أعرف

ب2. يرجى الإشارة إلى مستوى الأولوية لكل مكون من مكونات ادارة رأس المال العامل؟

أ. إدارة المخزون ☐ أولوية عالية ☐ أولوية متوسطة ☐ لا أعرف ☐ أولوية منخفضة ☐ ليست ذات أولوية

ب. حسابات القبض ☐ أولوية عالية ☐ أولوية متوسطة ☐ لا أعرف ☐ أولوية منخفضة ☐ ليست ذات أولوية

ج. الحسابات الدائنة ☐ أولوية عالية ☐ أولوية متوسطة ☐ لا أعرف ☐ أولوية منخفضة ☐ ليست ذات أولوية

د. دورة التحويل النقدي ☐ أولوية عالية ☐ أولوية متوسطة ☐ لا أعرف ☐ أولوية منخفضة ☐ ليست ذات أولوية

ه. كل ما سبق ☐ أولوية عالية ☐ أولوية متوسطة ☐ لا أعرف ☐ أولوية منخفضة ☐ ليست ذات أولوية

ب3. يرجى تقييم أهمية تحديد أولويات كل مكون من مكونات ادارة رأس المال العامل؟

أ. المخزون ☐ مهم للغاية ☐ مهم جدًا ☐ مهم إلى حد ما ☐ مهم قليلاً ☐ غير مهم

ب. ذمم المدينة ☐ مهم للغاية ☐ مهم جدًا ☐ مهم إلى حد ما ☐ مهم قليلاً ☐ غير مهم

ج. الحسابات الدائنة ☐ مهم للغاية ☐ مهم جدًا ☐ مهم إلى حد ما ☐ مهم قليلاً ☐ غير مهم

د. دورة التحويل النقدي ☐ مهمة للغاية ☐ مهمة جدًا ☐ مهمة إلى حد ما ☐ مهمة قليلاً ☐ غير مهمة

ب4. ما هو تأثير كل عنصر من مكونات إدارة رأس المال العامل على الربحية؟

يرجى تحديد درجة موافقتك أو عدم موافقتك على العبارات التالية من خلال الإشارة إلى أحد المربعات من (1) إلى (5)، حيث:

(1) = لا أوافق بشدة؛ (2) = غير موافق؛ (3) = لا نتفق ولا نختلف؛ (4) = موافق؛ و(5) = أوافق بشدة.

أ. إدارة المخزون أمر مهم لزيادة ربحية الشركة.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

ب. تعد إدارة حسابات القبض أمرًا مهمًا لزيادة ربحية الشركة.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

ج. تعد إدارة الحسابات الدائنة أمرًا مهمًا لزيادة ربحية الشركة.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

د. تعد إدارة دورة التحويل النقدي أمرًا مهمًا لزيادة ربحية الشركة.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

ب5. ما هو المستوى المستهدف لمكونات ادارة رأس المال العامل؟

يرجى تحديد درجة موافقتك أو عدم موافقتك على العبارات التالية من خلال الإشارة إلى أحد المربعات من (1) إلى (5)، حيث:

(1) = لا أوافق بشدة؛ (2) = غير موافق؛ (3) = لا نتفق ولا نختلف؛ (4) = موافق؛ و(5) = أوافق بشدة.

أ. تحدد الشركة مستوى معينًا من المخزون الذي يجب الحفاظ عليه

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

ب. تحدد الشركة مستوى محددًا للذمم المدينة

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

ج. تحدد الشركة مستوى محددًا للحسابات المستحقة الدفع

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

د. تحدد الشركة دورة التحويل النقدي المستهدفة

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

ب6. ما هي استراتيجية كل مكونات إدارة رأس المال العامل؟

أ. زيادة المخزون تعمل على تحسين ربحية شركتنا

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

ب. الزيادة في الحسابات المدينة تعمل على تحسين ربحية شركتنا

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

ج. الزيادة في الحسابات المستحقة الدفع تعمل على تحسين ربحية شركتنا

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

د. تعمل الزيادة في دورة التحويل النقدي على تحسين ربحية شركتنا

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

القسم ج

حوكمة الشركات والفساد البيروقراطي والدعم المؤسسي

يرجى تحديد درجة موافقتك أو عدم موافقتك على العبارات التالية حول تأثير حوكمة الشركات والفساد البيروقراطي والدعم المؤسسي من خلال الإشارة إلى أحد المربعات من (1) إلى (5)، حيث: (1) = لا أوافق بشدة؛ (2) = غير موافق؛ (3) = لا نتفق ولا نختلف؛ (4) = موافق؛ و(5) = أوافق بشدة.

	لا أوافق بشدة	غير موافق	لا نتفق ولا نختلف	موافق	أوافق بشدة

حوكمة الشركات					
ح.ش1 تعمل ممارسات حوكمة الشركات القوية على تعزيز العلاقة بين دورة التحويل النقدي الأمثل والربحية الإجمالية.	☐	☐	☐	☐	☐
ح.ش2 تعمل ممارسات حوكمة الشركات الفعالة على تضخيم التأثير الإيجابي لتقليل دورة التحويل النقدي على ربحية المنظمة.	☐	☐	☐	☐	☐
ح.ش3 تم تصميم حوافز التنفيذية لتتوافق مع قرارات إدارة رأس المال العامل التي تؤثر على الربحية.	☐	☐	☐	☐	☐
ح.ش4 يضمن الالتزام بلوائح الإدارة أن تعمل مصايد الأسماك ضمن الحدود القانونية والأخلاقية.	☐	☐	☐	☐	☐
ح.ش5 يؤدي تحسين ممارسات الحوكمة إلى تمكين مصايد الأسماك من تعظيم تأثيرات قرارات رأس المال العامل على الأداء المالي.	☐	☐	☐	☐	☐
الدعم المؤسسي					
د.م1 أدى برنامج الدعم الحكومي "خطة هاليوتيس" إلى تحسين خبرات مديري رأس المال العامل وبالتالي تعزيز الربحية.	☐	☐	☐	☐	☐

د.م2" خطة التسريع الصناعي 2014-2020" التي اعتمدتها وزارة الصناعة والاستثمار والتجارة والاقتصاد الرقمي عززت ربحية الشركة.	☐ ☐ ☐ ☐ ☐
د.م3 يساهم الدعم المؤسسي القوي في قدرة المنظمة على الاستفادة من دورة تحويل النقد الفعالة لتحسين الربحية.	☐ ☐ ☐ ☐ ☐
د.م4 إن المنظمات التي تتمتع بهياكل دعم مؤسسي قوية تكون في وضع أفضل للاستفادة من فوائد الربحية لدورة التحويل النقدي الفعالة.	☐ ☐ ☐ ☐ ☐
الفساد البيروقراطي	
قد يستخدم رواد الأعمال الذين يواجهون خيارات دخل محدودة أشكالًا معينة من الفساد مما قد يؤدي إلى تحسين إدارة الدورة النقدية وزيادة الربحية المحتملة	☐ ☐ ☐ ☐ ☐
يؤدي التورط في الفساد إلى تخفيف قيود الدخل والتأثير على ديناميكيات الدورة النقدية والنتائج المالية.	☐ ☐ ☐ ☐ ☐

إن الأنظمة التنظيمية الصارمة تضر بمعالجة ومراقبة الفساد المؤسسي والإداري والبيروقراطي.	☐ ☐ ☐ ☐ ☐
قد يوفر الفساد البيروقراطي لرواد الأعمال في البلدان النامية وسيلة للتغلب على التحديات وتحسين كفاءة الدورة النقدية وربحيتها.	☐ ☐ ☐ ☐ ☐
من الصعب تحديد العلاقة السببية المباشرة بين الفساد البيروقراطي وإدارة رأس المال العامل	☐ ☐ ☐ ☐ ☐

Appendix C: Questionnaire in French

Section A

INFORMATIONS SUR LA SOCIÉTÉ

A1. Quelle est votre fonction professionnelle dans l'entreprise ? ……..

A2. Nombre d'années d'expérience dans votre poste actuel ? ……

☐ 0-5 ☐. 6 – 10 ☐ 11-15 ☐ 16 – 20 ☐ 21 plus

A3. Niveau d'éducation des répondants

☐ analphabètes ☐ école primaire ☐ école secondaire ☐ école secondaire ☐ enseignement supérieur

A4. Combien d'employés votre entreprise compte-t-elle ?

Section B

PRATIQUES DE GESTION DU FONDS DE ROULEMENT

B1. Veuillez indiquer dans quelle mesure votre petite et moyenne pêcherie gère-t-elle son fonds de roulement.

☐ Dans une large mesure ☐ Dans une certaine mesure ☐ Pas du tout ☐ Je ne sais pas

B2. Veuillez indiquer le niveau de priorité de chacun des composants gestion du fonds de roulement?

un. Gestion des stocks ☐ Priorité élevée ☐ Priorité modérée ☐ Ne sait pas ☐ Priorité faible ☐ Pas une priorité

b. Comptes clients ☐ Priorité élevée ☐ Priorité modérée ☐ Ne sait pas ☐ Priorité faible ☐ Pas de priorité

c. Comptes créditeurs ☐ Priorité élevée ☐ Priorité modérée ☐ Ne sait pas ☐ Priorité faible ☐ Pas de priorité

d. Cycle de conversion monétaire ☐ Priorité élevée ☐ Priorité modérée ☐ Ne sait pas ☐ Priorité faible ☐ Pas de priorité

e. Toutes ces réponses ☐ Priorité élevée ☐ Priorité modérée ☐ Ne sait pas ☐ Priorité faible ☐ Pas une priorité

B3. Veuillez évaluer l'importance de donner la priorité à chacun des composants gestion du fonds de roulement?

un. Inventaire ☐ Extrêmement important ☐ Très important ☐ Modérément important ☐ Légèrement important ☐ Pas important

b. Comptes clients ☐ Extrêmement important ☐ Très important ☐ Modérément important ☐ Légèrement important ☐ Pas important

c. Comptes créditeurs ☐ Extrêmement important ☐ Très important ☐ Modérément important ☐ Légèrement important ☐ Pas important

d. Cycle de conversion en espèces ☐ Extrêmement important ☐ Très important ☐ Modérément important ☐ Légèrement important ☐ Pas important

B4. Quel est l'impact de chaque composante de la gestion du fonds de roulement sur la rentabilité ?

Veuillez préciser le degré de votre accord ou désaccord avec les énoncés suivants en cochant l'une des cases de (1) à (5), où : (1) = fortement en désaccord ; (2) = pas d'accord ; (3) = ni d'accord ni en désaccord ; (4) = d'accord ; et (5) = tout à fait d'accord.

a.La gestion des stocks est importante pour augmenter la rentabilité de l'entreprise.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

b. La gestion des comptes clients est importante pour augmenter la rentabilité de l'entreprise.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

c. La gestion des comptes fournisseurs est importante pour augmenter la rentabilité de l'entreprise.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

d. La gestion du cycle de conversion de trésorerie est importante pour augmenter la rentabilité de l'entreprise.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

B5. Quel est le niveau cible des composantes de la gestion du fonds de roulement ?

Veuillez préciser le degré de votre accord ou désaccord avec les énoncés suivants en cochant l'une des cases de (1) à (5), où : (1) = fortement en désaccord ; (2) = pas d'accord ; (3) = ni d'accord ni en désaccord ; (4) = d'accord ; et (5) = tout à fait d'accord.

a. L'entreprise fixe un niveau spécifique de stock à maintenir

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

b. L'entreprise fixe un niveau spécifique de comptes clients

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

c. L'entreprise fixe un niveau spécifique de comptes créditeurs

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

d. L'entreprise fixe un cycle de conversion de trésorerie cible

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

B6. Quelle est la stratégie de chaque composante de gestion du fonds de roulement ?

a. L'augmentation des stocks améliore la rentabilité de notre entreprise

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

b. L'augmentation des comptes clients améliore la rentabilité de notre entreprise

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

c. L'augmentation des comptes créditeurs améliore la rentabilité de notre entreprise

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

d. L'augmentation du cycle de conversion en espèces améliore la rentabilité de notre entreprise

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Section C

GOUVERNANCE D'ENTREPRISE, CORRUPTION BUREAUCRATIQUE ET SOUTIEN INSTITUTIONNEL

Veuillez préciser le degré de votre accord ou désaccord avec les affirmations suivantes concernant l'impact de la gouvernance d'entreprise, de la corruption bureaucratique et du soutien institutionnel en cochant l'une des cases de (1) à (5), où : (1) = fortement en désaccord ; (2) = pas d'accord ; (3) = ni d'accord ni en désaccord ; (4) = d'accord ; et (5) = tout à fait d'accord.

	tout à fait d'accord	**d'accord**	**ni d'accord ni en désaccord**	**pas d'accord**	**fortement en désaccord**
GOUVERNANCE D'ENTREPRISE					
GD1 De solides pratiques de gouvernance d'entreprise améliorent la relation entre un cycle de conversion de trésorerie optimisé et la rentabilité globale.	☐	☐	☐	☐	☐
GD2 Des pratiques de gouvernance d'entreprise efficaces amplifient l'impact positif de la réduction du cycle de conversion des liquidités sur la rentabilité de l'organisation.	☐	☐	☐	☐	☐
GD3 Les incitations pour les dirigeants de sont conçues pour s'aligner sur les décisions de gestion du fonds de roulement qui ont un impact sur la rentabilité.	☐	☐	☐	☐	☐
GD4 Le respect des règles de gouvernance garantit que les pêcheries opèrent dans le cadre de limites juridiques et éthiques.	☐	☐	☐	☐	☐

GD5 L'amélioration des pratiques de gouvernance permet aux pêcheries de maximiser l'influence de leurs décisions en matière de fonds de roulement sur leurs performances financières.	☐	☐	☐	☐	☐
Soutien Institutionnel					
SI1 le programme de soutien gouvernemental « plan halieutis » a permis d'améliorer l'expertise des gestionnaires de fonds de roulement et donc d'améliorer la rentabilité.	☐	☐	☐	☐	☐
SI2 « le plan d'accélération industrielle 2014-2020 » adopté par le ministère de l'industrie, de l'investissement, du commerce et de l'économie numérique a amélioré la rentabilité de l'entreprise.	☐	☐	☐	☐	☐
SI3 un soutien institutionnel solide contribue à la capacité de l'organisation à tirer parti d'un cycle de conversion de trésorerie efficace pour améliorer la rentabilité.	☐	☐	☐	☐	☐
SI4 les organisations dotées de solides structures de soutien institutionnel sont mieux placées pour capitaliser sur les avantages en termes de rentabilité d'un cycle de conversion de trésorerie efficace.	☐	☐	☐	☐	☐
Corruption Bureaucratique					

BC1 Les entrepreneurs confrontés à des options de revenus limitées peuvent recourir à certaines formes de corruption, ce qui pourrait conduire à une meilleure gestion du cycle de trésorerie et à une rentabilité potentiellement plus élevée.	☐	☐	☐	☐	☐
BC2 S'engager dans la corruption atténue les contraintes de revenus et influence la dynamique du cycle de trésorerie et les résultats financiers.	☐	☐	☐	☐	☐
BC3 Des régimes réglementaires stricts nuisent à la lutte et au contrôle de la corruption institutionnelle, administrative et bureaucratique.	☐	☐	☐	☐	☐
BC4 La corruption bureaucratique peut offrir aux entrepreneurs des pays en développement un moyen de relever les défis et d'améliorer l'efficacité et la rentabilité du cycle de trésorerie.	☐	☐	☐	☐	☐
BC5 Il est difficile de déterminer un lien de causalité direct entre la corruption bureaucratique et la gestion du fonds de roulement	☐	☐	☐	☐	☐

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Appendix D: Participants Information Sheet

PARTICIPANT INFORMATION FORM

THE IMPACT OF WORKING CAPITAL MANAGEMENT ON THE PROFITABILITY OF SMALL AND MEDIUM ENTERPRISES (SMEs) IN THE FISHING INDUSTRY IN MOROCCO

Welcome
Thank you for agreeing to consider participating in this research project. Before you decide whether to participate, it is important that you understand the reasons why we are carrying out the research and what your participation will involve. We would be grateful if you read the information below carefully and discuss it with colleagues or other people if you wish. Please feel welcome to contact us if anything is unclear, and to take as much time as you need to decide whether or not to take part.

What is the purpose of the study?
The purpose of the study is to examine the impact of corporate governance, bureaucratic corruption and institutional support in terms of working capital management in SMEs within the fishing industry in Morocco, and to determine the association between the working capital management and profitability of theses SMEs.

Why have I been invited to ?
The company fits the profile for the intended target population.

Who is running this study?
The project is being carried out by Ismail Boujnane who is supervised by Amon Simba and George Kuk of Nottingham Business School.

What will I be asked to do in this study?
I would like you to complete a questionnaire comprising 40 questions. The questionnaire will be carried out using Google Forms and a link to the questionnaire will be provided via email. The estimate time for the questionnaire completion is 15 minutes. Your answers will be saved to allow you to start the questionnaire and return to it at a later date. If you would prefer not to answer any of the questions you will be free to decline to answer without giving reason.

Do I have to take part?
Your participation is entirely voluntary. If you do decide to take part, you will be asked to consent before the questionnaire begins. If you decide not to take part, you-will need to inform the researcher within 28 days of completing this questionnaire.

What will happen to the information I give in my questionnaire?
Questionnaire responses will be downloaded and the data will be analysed. The results will be included in my final report. Extended answers may be included in my report as anonymous quotes.

How will you protect my confidentiality?
The questionnaire responses will be handled only by myself in line with data protection principles and NTU's approved research protocol. Any non-anonymised information collected will only be shared, confidentially, with the project supervisor and as required, solely for the purpose of project assessment. Hard copies of questionnaires are kept in locked filing cabinets, and electronic files are kept on password protected devices which are not accessible to any other person. The information collected through the questionnaire will be used only for the purposes of this research project. The anonymized questionnaire survey responses of the participants will be securely stored.

How will you protect my anonymity?
The questionnaire will be completed anonymously; the survey will be distributed via a personalised link and prior to its completion, you will be invited to create a codename that contains six characters comprising three non-consecutive numbers plus three non-consecutive letters. The completed questionnaire responses will only be identifiable via your personalised codename.

What are the possible benefits?
We hope that you will find the questionnaire interesting and will take satisfaction from helping with my research project.

What are the disadvantages and risks in taking part?
There are no foreseeable risks/disadvantages associated with participating in this study.

What will happen to the results?
The general findings might be reported in a scientific journal or presented at a research conference; however the data will be anonymized and will not be personally identifiable.

Has anyone reviewed the study?
The proposal for this project has been vetted and approved by my supervisor on behalf of the College Research Ethics Committee. Through the research there are stringent reporting requirements back to my supervisor as regards the progress of the research and any issues or concerns are raised here. NTU is ultimately responsible for the conduct of the project. The university's ethical approval procedure has been consulted and there is no requirement for a DBS check.

Who do I contact if I have questions or complaints?
If you have any questions before, during or after your participation you should get in touch with the researcher or their supervisor via the contact details below. These will also be provided at the end of the questionnaire.
Researcher name: Boujnane Ismail
Researcher email: Ismail.boujnane2019@ntu.ac.uk

Supervisor names: Amon Simba
George Kuk
Supervisors emails: amon.simba@ntu.ac.uk
George.kuk@ntu.ac.uk

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Appendix E: Consent Form

CONSENT FORM

THE IMPACT OF WORKING CAPITAL MANAGEMENT ON THE PROFITABILITY OF SMALL AND MEDIUM ENTERPRISES IN THE FISHING INDUSTRY IN MOROCCO

Please read through the **participant information sheet** attached (Part 1) which provides all the information you need about the research, before reading and signing this consent form (Part 2). Participation is voluntary and greatly appreciated. If you are happy to take part in this research please sign and date below. If you have any questions or concerns before, during or after your participation in this research, my contact details are on the bottom of the participant information sheet.

Please read and confirm your consent to being interviewed for this project by initialling the appropriate box (as) and signing and dating this form

I confirm that the purpose of the project has been explained to me, that I have been given information about it in writing, and that I have had the opportunity to ask questions about the research	
I understand my part in the research	
I understand that my participation is voluntary, and that I am free to withdraw at any point during the questionnaire without giving any reason and without any implications for my legal rights	
I understand that I do not have to answer all questions in the questionnaire.	
I give permission for my responses to be used in the research, on the understanding that the raw data will be destroyed at the end of the project	
I agree to take part in this project	

Name of respondent	**Date**	**Signature**
Name of researcher		

Please sign and date two copies, which will also be counter signed and dated by the researcher. You should retain one copy and the other will be retained by the research team. **Thank you very much indeed for taking the time to read this sheet, and for your interest in our research**.