

**AN INVESTIGATION INTO THE RELATIONSHIP BETWEEN A FIRM' S  
WORKING CAPITAL MANAGEMENT AND ITS PROFITABILITY: A  
CASE STUDY OF THE NAMIBIAN STATE-OWNED COMMERCIAL  
INSTITUTIONS**

**A THESIS SUBMITTED IN PARTIAL FULFILMENT  
OF THE REQUIREMENTS FOR THE DEGREE OF  
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## **DEDICATION**

Sustained support was granted to me by my family. This thesis is dedicated to them for this unconditional support.

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## **ABSTRACT**

The importance of effective working capital management in enhancing an organisation's profitability cannot be overemphasized. In Namibia, the profitability of several State-Owned Enterprises (SOE) has constantly been the cause of taxpayers' concern for the past few years as these SOEs have incessantly depended on Government bailouts. While a number of scholars have concentrated their research on understanding the relationship between working capital management (WCM) and an organisation's profitability, the Namibian SOE context has not been empirically studied with regards to these aspects. The discovery of this absence of research therefore generated the following question: *what is the impact of working capital management on the profitability in Namibian State-Owned commercial institutions?*

To address this research question, the literature on working capital management and profitability was thoroughly reviewed, and an empirical investigation was conducted. The literature review emphasised the importance of effective working capital management in enhancing an organisation's profitability. The population for this study comprised employees from the Finance departments from 23 SOEs, namely Air Namibia, Epangelo Mining; Lüderitz Water front; Meat Corporation of Namibia; Namibia Airports Organisation; Namibia Institute of Pathology; Namibia Ports Authority; Namibia Posts and Telecommunications Holdings; NAMPOWER; Namibia Wild Resort; National Fishing Corporation of Namibia; NAMCOR; Roads Authority; RCC; Trans Namib; Zambezi Water Front; Agricultural Bank of Namibia; Development Bank of Namibia; Namibia National Reinsurance Corporation; Road Fund Administration; Environmental Investment fund; MVA, and Games Products

Trust Fund. These institutions had a combined total of 125 finance employees countrywide and a questionnaire survey was administered to all of them via e-mail.

The findings indicated that profitability is positively influenced by working capital management (WCM) in Namibian State-Owned commercial institutions.

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## ABBREVIATIONS

JIT:	Just-in-Time
PLS:	Partial Least Squares
SOE:	State-Owned Enterprise
WCM:	Working Capital Management
UNAM:	University of Namibia

## CHAPTER 1 INTRODUCTION

### 1.1 Background

The significance of working capital management in enhancing a firm's profitability cannot be overemphasised. This emphasis is justified. First, the creation of stockholders' equity greatly depends on how efficiently and effectively a firm manages its working capital (Dong & Su, 2010, p. 60). Second, given that "working capital management seeks to maintain an optimum balance of each working capital component thereby ensuring that firms operate with sufficient fund (cash flows) that will service their long term debt and satisfy both maturing short term obligations and upcoming operational expenses" (Qazi et al., 2011, p.11006). Therefore it makes sense to underline the importance of effective working capital management in improving a firm's profitability.

In Namibia, there is a compelling narrative of the need for SOEs to improve their profitability. The poor performance in many Namibian SOEs in terms of profitability has been evidenced by continued yearly bailouts from the Government. One of the main determining factors of profitability is effective working capital management (Zubair & Muhammad, 2013, p. 384). While several studies have sought to investigate the rapport between working capital management and profitability, little research has been undertaken in the Namibian SOE context in this regard; therefore this is still a stimulating avenue for academic research.

## 1.2 Statement of the Problem

After independence in 1990, the Namibian Government deemed it strategic and imperative to nationalize several strategic and key organisations/industries. In so doing, the Government's aim was to maximize its regulatory powers over these industries whose revenues are considered very fundamental for the provision and advancement of required services to Namibian citizens, especially socio-political programmes. In the post-independence Namibia, the SOEs were thus perceived and expected to carry a crucial development objective. A good profitability of these organisations is deemed as a key element for the enhanced delivery of fundamental public services, as well as employment creation (Jauch, 2012, p. 2).

However, the profitability and performance of several SOEs continue to raise concerns among taxpayers. The problem of SOEs squabbles have been acknowledged by the current Prime Minister Saara Kuugongelwa-Amadhila as a headache to the State finances. She stressed that, after more than two decades in operation, there are still SOEs in Namibia that are going about their business without as much as a thoroughly planned budget (Ndayanale, 2013, p. 18). Over the recent years, and often for wrong reasons, Namibian SOEs have been constant media headlines. With expectations of adequate returns, the Namibian Government continues to make gigantic investments in SOEs while a considerable number of these organisations continue to suffer losses on a yearly basis (Kangueehi, 2007, p. 23; Ndayanale, 2013, p. 19). These yearly massive bailouts from the Government are persistently raising heightened but unaddressed taxpayers' anxieties and grumbles (Ndayanale, 2013, p.19).

While several scholars have demonstrated that a positive relationship exists between a firm's working capital management and its profitability (Rahman, 2011; Usama, 2012; Ali & Ali, 2012; Oladipupo & Okafor, 2013), there is a dearth of empirical research in this regard in the Namibian SOE context. The implication of this is that, in the context of Namibian SOEs, the link that is thought to be existent between these aspects is rather assumed than proven empirically. This dearth of empirical research led to the following question: *what is the impact of working capital management on the profitability in Namibian State-Owned commercial institutions?* Thus, this study endeavoured to alleviate the literature gap by addressing the research question above.

### **1.3 Research Questions**

This study sought to answer the following main question: *what is the impact of working capital management (WCM) on the profitability of Namibian State-Owned commercial institutions?* To answer this main research question, the following secondary questions needed to be answered:

1. What is the impact of cash management on profitability in Namibian State-Owned commercial institutions?
2. What is the link between debtor management and profitability in Namibian State-Owned commercial institutions?
3. What is the impact of creditor management on profitability in Namibian State-Owned commercial institutions?

4. What is the link between stock management and profitability in Namibian State-Owned commercial institutions?

The answers to these queries would ensure the accomplishment of the study's aim and objectives which are presented in the next section

#### **1.4 Research Aim and Objectives**

The aim of this research was to deepen the body of knowledge in the area of Working Capital Management by gauging the influence thereof on profitability in Namibian State-Owned commercial institutions, and in so doing serve as a guiding instrument for SOE managers and relevant stakeholders for them to formulate appropriate policies and programmes for the enhancement of working capital management and profitability in the SOE sector. To attain this core research aim, the following objectives of the study needed to be realized:

- To determine the influence of cash management on profitability in Namibian State-Owned commercial institutions;
- To assess the impact of debtor management on profitability in Namibian State-Owned commercial institutions;
- To determine the link between creditor management and profitability in Namibian State-Owned commercial institutions; and
- To gauge the effect of stock management on profitability in Namibian State-Owned commercial institutions.

## **1.5 Significance of the Study**

This study is likely to considerably contribute to working capital management literature. It may deliver a notional support on the liaison between working capital management and profitability in Namibian State-Owned commercial institutions. It should accordingly be of substantial interest to SOE managers and all other pertinent stakeholders for expanded alertness in this regard for better quality working capital management and profitability.

In addition, the research findings might reveal opportunities for comparable studies in this under-explored field. It is thus significant to future researchers.

## **1.6 Theoretical Framework**

Grounded on the problem statement and the literature reviewed, this study seeks to expand the body of knowledge in the area of working capital management by advancing and analysing a model which hypothesises working capital management dimensions as determinants of profitability in Namibian State-Owned commercial institutions. Chapter 3 elaborates on the research model and hypotheses in detail.

## **1.7 Research Methodology**

According to [Saunders, Lewis and Thornhil \(1997\)](#), “the research methodology lays down how the research was conducted to reach the specified objective”. This study’s objective was to assess how working capital management dimensions influence profitability in Namibian State-Owned commercial institutions. Primary and secondary researches were conducted. A detailed discussion of the research

methodology is provided in Chapter 3, but a brief description thereof is offered in this section.

### **1.7.1 Secondary Research**

Comprehensive literature needs to inform the research (Saunders, et al., 1997). Therefore Chapter 2 presents the literature reviewed in this study.

### **1.7.2 Primary Research**

McDaniel and Gates (2001, p. 10) underline that “this stage addresses the collection of data from field sources resulting straight from the specific subject under examination”. Supporting the same viewpoint, Bhattacharjee (2012, p. 5) and Singleton and Straits (2010, p. 13) stress that this stage addresses issues such as the research population and sample, data collection method, data collection instruments, and analysis of the gathered data as discussed in subsequent subsections.

### **1.7.3 Population and Sample**

Singleton and Straits (2010, p. 14) refer to the population as “the total collection of elements about which inferences are to be made.” The population for this study comprised of finance employees from 23 State-owned institutions namely Air Namibia, Epangelo Mining; Lüderitz Water front; Meat Corporation of Namibia; Namibia Airports Organization; Namibia Institute of Pathology; Namibia Ports Authority; Namibia Posts and Telecommunications Holdings; NAMPOWER; Namibia Wild Resort; National Fishing Corporation of Namibia; NAMCOR; Roads Authority; RCC; Trans Namib; Zambezi Water Front; Agricultural Bank of Namibia;

Development Bank of Namibia; Namibia National Reinsurance Corporation; Road Fund Administration; Environmental Investment fund; MVA, and Games Products Trust Fund). These institutions had a combined total of 125 finance employees countrywide and a questionnaire survey was administered to all of them via e-mail.

The sample was selected based on purposive sampling. According [Palys \(2008, p. 396\)](#), a “purposive sample is a non-probability sample that is selected based on the characteristics of a population and the objective of the study”. A homogeneous purposive sampling method was used for this study as the selected respondents had a shared characteristic or set of characteristics ([Palys, 2008](#)); they were all finance employees of Namibian State-Owned commercial institutions.

#### ***1.7.4 Data Collection***

The primary data were collected using a questionnaire survey administered via e-mail. This method was preferred because it is quicker, cheaper, and allows respondents to comfortably respond to the questionnaire at their own convenient time ([Scheepers, 2007](#)).

#### ***1.7.5 Research Instruments***

The various variables in the study were measured using a 6-point Likert scale questionnaire. The questionnaire requested the participants to rate their agreement or disagreement with statements, which made the questions easy to answer.

### **1.7.6 Data Analysis**

The data were analysed using the SPSS application. Data were described through the use of statistics, including mean and standard deviations. Given that ordinal data were collected, the relationships among the study variables were assessed using Spearman's correlation (Maitra & Yan, 2008, p. 86). As inferential statistics, the study used Partial Least Squares (PLS) regression analysis to determine the strength of each relationship hypothesized by the study model. The preference for this regression method was motivated by the fact that it is an appropriate method when the study variables are numerous and characterised by a high level of collinearity. Moreover, the method does not necessitate a vast sample or data which is normally distributed (Maitra & Yan, 2008, p. 86; Abdi & Williams, 2013, p. 567).

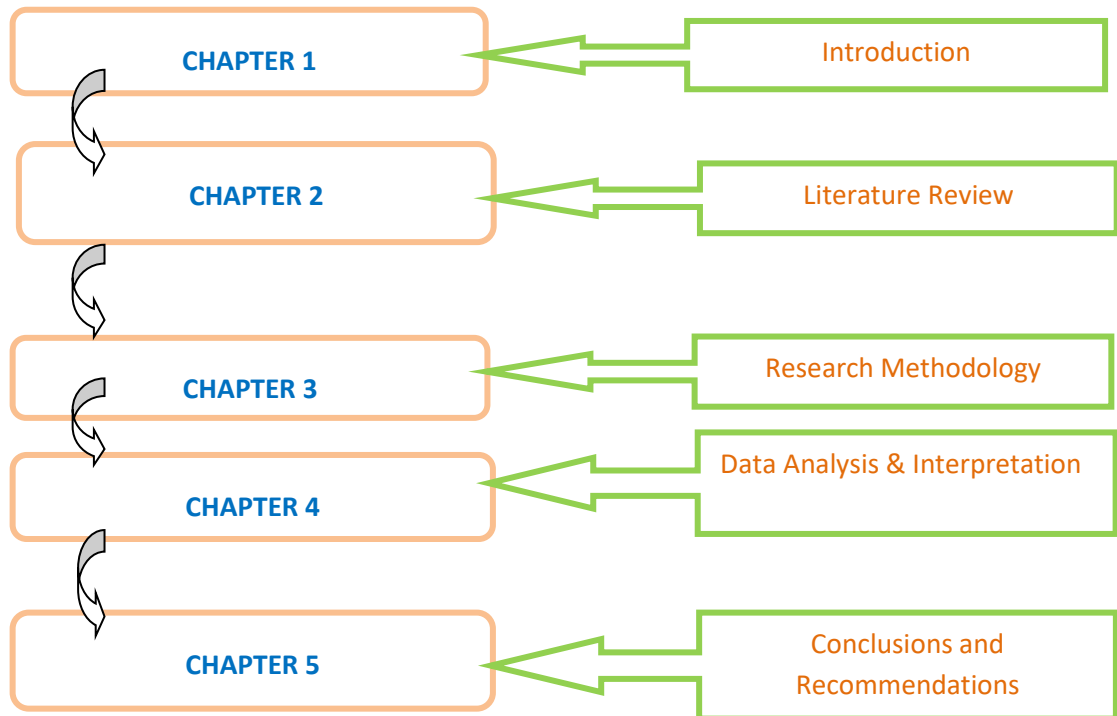
### **1.8 Limitations of the Study**

Inherently, the study design has some limitations. Given that only Namibian State-Owned commercial institutions were studied, the outcomes cannot be generalised to all other public or private institutions in and/or outside Namibia. The inherent limitations of a survey research design also apply to this study. Respondents' reluctance to disclose information that they consider sensitive or confidential is expected.

### **1.9 Organisation of the Study**

A depiction of the study outline is presented in Figure 1.1.

**Figure 1-1 Study outline**



**Source:** Developed by the research based on Scheepers (2007, p. 20).

Grounded on Scheepers (2007), the outline of the study was designed. The first chapter presents an introduction and orientation of the study. It presents the background, the statement of the problem, the research question, the objectives of the study, the significance of the study and the methodology used in the study, where the secondary and primary sources related to the research problem are introduced. This is then followed by the limitations of the study, structure of the thesis and definitions of key concepts (Scheepers, 2007, p. 20).

The second chapter discusses prior studies and underpinning theories on working capital management and firm profitability.

The third chapter provides “the methodology and design of the research. It elaborates on the sample, measurement instruments and data collection process. It also provides an overview of the statistical analyses performed” (Scheepers, 2007, p. 21).

The fourth chapter presents the empirical results. “The findings refer to the descriptive statistics and the various relationships between variables” (Scheepers, 2007, p. 21).

The fifth chapter “draws conclusions and provides recommendations in light of the findings of the study. Limitations of the study are highlighted and recommendations for future research made” (Scheepers, 2007, p. 21).

#### **1.10 Definition of Key Concepts Used in the Study**

In this section, key terms that are used frequently in this thesis are defined. In this paper, **profitability** simply refers to “an organization’s ability to earn financial profit or gain” (Taurigana & Afrifa, 2013, p. 454). **Working capital management** is defined as “an organization's managerial accounting strategy designed to monitor and utilize the two components of working capital - *current assets and current liabilities* - to ensure the most financially efficient operation of the organization” (Agyei & Yeboah, 2011, p. 2). Here, the aim is the insurance of an adequate cash balance for the timely settlement of liabilities when they become due for payment. Based on the literature reviewed, four key dimensions of working capital management have been identified for the purpose of this study and they are defined below:

- **Cash management:** refers to the “management of an entity’s cash to ensure sufficient cash to sustain the entity’s daily operations, finance continued growth and provide for

unexpected payments while not unduly forfeiting profit owing to excess cash holdings” (Mbroh, 2012, p. 40).

- **Debtor management:** is defined as “a collection of steps and procedures required to properly weigh the costs and benefits attached with the credit policies” (Akoto, Awunyo & Angmor, 2013, p. 375).
- **Creditor management:** refers to a “set of policies, procedures, and practices employed by an organization with respect to managing its trade credit purchases” (Arshad & Gondal, 2013, p. 387).
- **Stock management:** is defined as “the art and science of maintaining stock levels of a given group of items incurring the least cost consistent with other relevant targets and objectives set by management” (Raza, Bashri, Latif & Shah, 2015, p. 287).

### 1.11 Chapter Summary

This chapter has introduced the study and presented the orientation thereof. It presented the background, the statement of the problem, the research question, the objectives of the study, and the significance of the research. A brief explication of the study methodology was also presented. Lastly, the study limitations, the thesis outline, and definitions of key concepts were presented. The literature review is presented in the next chapter below.

## CHAPTER 2 LITERATURE REVIEW

### 2.1 Introduction

The literature on different variables emphasised in the study is reviewed in this chapter. In light of prior studies, the chapter defines profitability and then discusses the key constructs of working capital management that may have an influence on profitability in State-Owned commercial institutions – namely cash management, debtor management, creditor management, and stock management.

### 2.2 Defining Profitability

Profitability is generally defined as “an organization’s ability to earn financial profit or gain” (Tauringana & Afrifa, 2013, p. 454). The success and growth of any business substantially depend on its profitability (Onwumere, Ibe & Ugbam, 2012, p. 192). Here, one can deduce that the long-term survival of a firm is very much dependent on its profitability. A firm’s net profit is the difference between the revenue and all its operating expenses (Oladipupo & Okafor, 2013). The key goal of any commercial entity is profit (Al-Debi’e, 2011, p. 76). The main point here is that, without making a profit, the business is likely to collapse at some point (Tauringana & Afrifa, 2013, p. 455). This then underlines the importance of profitability in a commercial entity. According to Mathuva (2010, p. 2):

although present profitability of an organization may be good, opportunities for growth should always be explored, since this offers opportunities for

greater overall profitability and keeps or moves the corporation into the line of sight of analysts and potential or current investors.

A further interesting point is made by [Al-Mwalla \(2012\)](#) who argues that an understanding of a firm's present profitability position is the key to the development of an effective growth strategy. Supporting this proposition, [Oladipupo and Okafor \(2013\)](#), as well as [Mathuva \(2010\)](#) underscore that it is imperative for a firm to identify and enhance the drivers of its profitability if it hopes to successfully achieve its goals.

This is also supported by [Abuzayed \(2012\)](#), who underlines the complementarity between profitability and growth in determining a firm's success. [Abuzayed \(2012\)](#) further notes that "profit is key to basic financial survival of a firm, while growth is key to profit and long-term success" (p. 156). Scholars such as [Tauringana and Afrifa \(2013\)](#), [Akoto et al. \(2013\)](#) and [Raza, et al. \(2015\)](#) have emphasized that profitability is positively influenced by working capital management, which is discussed in Section 2.3 below.

### **2.3 Working Capital Management**

According to [Agyei and Yeboah \(2011, p. 2\)](#), "working capital management refers to an organization's managerial accounting strategy designed to monitor and utilize the two components of working capital - current assets and current liabilities - to ensure the most financially efficient operation of the organization." [Al-Mwalla \(2012, p. 147\)](#) and [Onwumere et al. \(2012, p. 193\)](#) concur and posit that the management of working capital management is concerned with the enhancement of the level of current assets through the adequate administration of current assets and current liabilities.

Furthermore, [Malik, Waseem and Kifayat \(2011, p. 156\)](#) suggest that working capital management mainly seeks to strike an appropriate balance between the level of current assets and current liabilities. Several other scholars such as [Hayajneh and Yassine \(2011\)](#) as well as [Karaduman, Akbas, Caliskan and Durer \(2011, p. 63\)](#) also support the idea that working capital management involves the sustained insurance of an appropriate relationship between current assets and current liabilities. [Mathuva \(2010:3\)](#) also posits that the goal of working capital management is to ensure that the firm is able to continue its operations and that it has sufficient cash flows to satisfy both maturing short-term debt and upcoming operational expenses.

Given that the maximisation of stockholders' equity, which can only be achieved through profit maximization, is the core goal of a business ([Hayajneh & Yassine 2011, p. 62](#)), working capital management is a key aspect in this regard because effective profit maximisation is dependent on a firm's ability to strike the right balance between current assets and current liabilities ([Malik et al., 2011, p.156](#)). This is in line with the notion of liquidity-profitability trade-off ([Eljelly, 2004](#)). Another attention-grabbing proposition is made by [Sarkar and Sarkar \(2013, p. 17\)](#) who advocate the need for the maintenance of an effective working capital policy by a firm, which is an "indication about how much working capital the firm should maintain should they go for zero risk management" ([Aruldoss, Rajan, Jesus & Mohamed, 2013, p. 2](#)). According to [Stephen and Elvis \(2011, p. 280\)](#), this "involves decisions about firm's assets and liabilities, what they consist of, how they are used, and how their mix affects the risk versus return characteristics of the firm".

The importance of effective working capital policies in enhancing a firm's profitability has also been underlined by a number of other authors (such as [Karaduman et al., 2011](#); [Malik et al., 2011](#); [Sarkar & Sarkar, 2013](#)). According to [Oladipupo and Okafor \(2013, p. 12\)](#), "there are two policies of working capital". The first one is concerned with determining the appropriate total current assets level that the firm needs to hold at a given time. The second one "involves managing the relationships among types of assets and the way these assets are financed" ([Stephen & Elvis, 2011, p. 281](#); [Agyei & Yeboah, 2011, p. 2](#)).

Several scholars ([Abuzayed, 2012](#); [Malik et al., 2011](#); [Sarkar & Sarkar, 2013](#), [Tauringana & Afrifa, 2013](#); [Akoto et.al, 2013](#); [Raza et al., 2015](#)) have studied the relationship between a firm's working capital management and its profitability. These researchers postulated different working capital management dimensions that are key to enhanced profitability. Some scholars focused their studies on the impact of the optimal inventory management on profitability ([Raza et al., 2015](#); [Hamid & Waqar, 2013](#), [Ghaziani & Zadeh, 2012](#)), while others advanced account receivables management and account payables management as determinants of profitability ([Barine, 2012](#); [Ali & Ali, 2012](#); [Arshad & Gondal, 2013](#)). Similarly, while most studies found a positive influence of working capital management on profitability, some authors found a negative relationship in this regard ([Jose, Lancaster & Stevens, 1996](#); [Shin & Soenen, 1998](#)). However, there is a general consensus that there is a relationship between working capital management and profitability ([Abbasali & Milda, 2012](#); [Mary, John & Laurie, 2010](#)). For the purpose of this study, and based on the reviewed reviewed, four main dimensions of working capital management namely

cash management, debtor management, creditor management, and stock management - have been identified as key drivers of profitability and they are discussed below.

### **2.3.1 Cash Management**

Cash management refers “to the management of an entity’s cash to ensure sufficient cash to sustain the entity’s daily operations, finance continued growth and provide for unexpected payments while not unduly forfeiting profit owing to excess cash holdings” (Mbroh, 2012, p. 40). Akinyomi (2014, p. 32) advances a rather short definition that cash management simply entails the adequate control of a firm’s inflows and outflows of cash. Akinyomi (2014) further notes that it also involves the establishment of appropriate cash balances at any given time. Along the same line as this argument, Uwuigbe, Uwalomwa and Egbide (2011, p. 49), posit that “cash management entails taking the needed precautionary measures to ensure that adequate cash levels are maintained in the business so that the operational requirements could be met”. On the other hand, Amoako, Marfo, Gyau and Asamoah (2013, p. 189) note that “cash management is a rather broad term that refers to the collection, management of cash as well as the payment of cash from the business”.

Underscoring the importance of adequate cash management, Bobitan and Mioc (2011, p. 302) put an emphasis on the costly nature of both too much cash and too little at hand in terms of interest expenses and the inability to meet short-term obligations as they fall due. As stated by Vijayakumar (2011, p. 168) and Eljelly (2004, p. 49), the trade-off theory of liquidity suggests that firms target an optimal level of liquidity to balance the benefit and cost of holding cash. Amoako et al. (2013, p.189) identify the low rate of return as one of the main costs of holding cash due to liquidity premium

and probable tax disadvantage. On the other hand [Mbroh \(2012, p. 40\)](#) identifies the benefits of holding cash. Mbroh (2012), notes that the first benefit is that of cost-saving on transaction related to raising funds. The second benefit is that firm can make use of the available cash in the event other sources of funding are expensive or simply unavailable.

Furthermore [Al-Mwalla \(2012, p. 3\)](#), draws attention to the role of cash management in enhancing a firm's outcomes. This is the same breath through which [Stephen and Elvis \(2011, p. 283\)](#) as well as [Akinyomi \(2014, p. 34\)](#) advise that firms should take advantage of the contemporary tools and techniques for cash management, in order to improve their profitability.

In brief, the literature stresses that cash management is a financial discipline that uses the same principles, regardless of the type of business, size or age of an enterprise ([Amalendu & Sri, 2011, p. 109](#); [Mbroh, 2012, p. 41](#)). The influence of an organisation's cash management on its profitability has been demonstrated by several scholars ([Bobitan & Mioc, 2011](#); [Akinyomi, 2014](#); [Mbroh 2012](#)).

### **2.3.2 Debtor Management**

Debtor management is defined as a “collection of steps and procedures required to properly weigh the costs and benefits attached with the credit policies” ([Akoto et al., 2013, p. 375](#)). According to [Ahmet and Emin \(2012, p. 489\)](#), there is a number of benefits associated with allowing credit sales, including the fact that this “incentivizes customers to acquire merchandise at times of low demand” ([Mbula, Memba & Njeru, 2016, p. 63](#)), as much as it “allows customers to check that the merchandise they

receive is as agreed, ensures that the services contracted are carried out” (Abuzayed, 2012, p. 159); and “helps firms to strengthen long-term relationships with their customers” (Al-Mwalla, 2012, p. 5). One of the key objectives of debtor management is to mitigate potential loss resulting from bad debts (Abuzayed, 2012), and an effective creditor policy is a fundamental aspect in this regard.

Given its obvious role in guiding the management with regards to striking the right balance between liberal and strict credit and debtor control, credit policy has an important influence on debtor management (Al-Mwalla, 2012, p. 4). A liberal credit policy will result in increased sales and profitability, but it will also increase bad debt risk (Vijayakumar, 2011). In contrast, a strict credit policy will lead to increased liquidity and security, but to reduced profitability (Akoto et al., 2013, p. 377). Therefore, an appropriate balance needs to be ensured between profitability and liquidity through an adequate creditor policy and debtor management. In their studies, a number of authors (Akoto et al., 2013; Barine, 2012, Ali & Ali, 2012), have emphasized the existence of a positive relationship between debtor management and profitability.

### **2.3.3 *Creditor Management***

The literature defines creditor management as a “set of policies, procedures, and practices employed by an organization with respect to managing its trade credit purchases” (Arshad & Gondal, 2013, p. 387). Effective creditor management provides a positive contribution to a firm’s cash flow and improves its relationship with suppliers (Mensah-Agyei, 2012). Effective creditor management enables an organisation “to minimize late payment costs such as penalties, interest charges, lost

prompt payment discounts, payment to creditors before collecting from debtors” (Enow & Kamala, 2016, p. 78). This proposition is supported by Arshad and Gondal (2013, p. 388) who hold that by ensuring well-run creditor management, the firm avoids these costs and saves money, and enhances its cash flow.

In the words of Mbroh and Attom (2012, p. 37):

accounts payable are a major source of short-term financing for businesses provided that they delay payment as long as possible without damaging their credit rating or pay on the last day when payment is due to take advantage of cash discounts.

Interestingly, this idea of ensuring that payments to suppliers are delayed until the last day is echoed by Tauringana and Afrifa (2013, p. 454), who stress that this practice would provide an interest-free source of finance by re-investing these delayed funds into the business, as long as the firm does forfeit cash discounts. In the same line, Mbawuni, Mbawuni and Nimako (2016, p. 54) rather puts an emphasis on the ability of effective creditor management practices to build trust between the firm and its suppliers. This aspect of enhanced trust-building is also underscored by Owolabi and Alu (2012, p. 57) who posit that this may allow the firm to benefit from better credit terms and improved networking with suppliers.

What is also thought-provoking is the argument by Tauringana and Afrifa (2013, p. 455) who note that:

creditor management also effectively ensures that appropriate controls are in place to avoid errors such as duplicate payment, vendor fraud such as paying

for goods not supplied, inefficient processes, late payment, all which do not only damage a firm's reputation, but also undermine its viability.

Owolabi and Alu (2012, p. 58) choose to focus on the risk management aspect by stressing that effective creditor management enhances the firm's ability to detect fake or erroneous invoices, and to ensure that all invoices from supplier are accounted for. Enow and Kamala (2016, p. 79) accentuate that the importance of effective creditor management lies in enhancing a firm's overall operational effectiveness. This is consistent with the suggestion that "a firm may soon have problems settling suppliers' invoices if its payables are too high" (Mbawuni et al., 2016, p. 53) and "if the payables are too low, then the firm may be unwisely making early payments, thereby forfeiting the opportunity to re-invest (into the business) these funds used to make early payment" (Owolabi & Alu, 2012, p. 59).

The above can have a negative effect on a number of a firm's financial performance indicators such as the 'current ratio' and 'payable days' (Owolabi & Alu, 2012, p. 60). The relationship between creditor management has been evidenced by the studies by Arshad and Gondal (2013), Tauringana and Afrifa (2013), and Mbroh and Attom (2012).

#### **2.3.4 Stock Management**

Raza et al. (2015, p. 287) define stock management as "the art and science of maintaining stock levels of a given group of items incurring the least cost consistent with other relevant targets and objectives set by management." Efficient and effective stock management allows a firm to circumvent needless investment in inventories

(Eneje, Nweze & Udeh, 2012, p. 351). This is consistent with the argument by Muninarayanaappa and Aggarwal (2013, p. 75) that failing to implement appropriate stock management mechanisms will eventually be detrimental to its profitability. While these scholars highlight disadvantages of excessive inventories, Panigrahi (2013, p. 108) interestingly argues that excessive inventories are advantageous. Panigrahi (2013) stresses that “among other benefits, high inventory levels reduce the cost of possible interruptions in the production process or of loss of business due to the scarcity of products, reduce supply costs, and protect against price fluctuations” (p. 108).

Taking a rather different standpoint from Panigrahi’s (2013) position, Sitienei and Memba (2015, p.112) contend that:

high inventory means blocking of funds and so it involves the interest cost, opportunity cost to the firm, storage costs such as insurance and obsolesce and movement of inputs from place of storage to the factory where the materials have to be finally used to convert them into finished goods.

Here, the JIT (Just in Time) concept that is used in some countries (such as Japan) can lend inspiration to Namibian State-Owned firms on stock management. The concept ensures that stock is received when required. According to Muninarayanaappa and Aggarwal (2013, p. 74) and Eneje, et al. (2012, p. 351), excessive inventory levels represent an idle resource and an opportunity cost, and should be avoided as much as possible. Sekeroglu and Altan (2014) concur and stress that a firm should always seek to ensure an optimal and balanced level of investment in inventories.

As underlined by [Anichebe and Agu \(2013, p. 94\)](#), effective stock management should aim at avoiding unnecessary inventory and maintaining suitable stock levels for optimum business operations. A firm needs to ensure that “orders are placed at the right time, from the right source, in the right quantity, and at the right price and quality” ([Ogbo Onekanma & Ukpere, 2014, p.11](#)). The literature underlines the influence of stock management on profitability ([Raza et al., 2015](#); [Hamid & Waqar, 2013](#), [Ghaziani & Zadeh, 2012](#)). It thus stands to reason that this is also the case in the context of Namibian State-Owned commercial institutions.

#### **2.4 Literature Gap**

Despite heightened interest by scholars in exploring the influence of working capital management on profitability ([Bartlett, Vager, Lange, Erasmus, Herfer, Madiba et al., 2014](#); [Akoto et al., 2013](#); [Tauringana & Afrifa, 2013](#); [Raza et al., 2015](#)), there is a dearth of literature in this regard in the Namibian SOE context. Hence this literature gap has to be filled. By proposing a model of working capital management and its influence on profitability in Namibian State-Owned commercial institutions, this study offers a notional support and contributes to fill the prevailing research gap in this regard.

#### **2.5 Chapter Summary**

In light of prior studies, the chapter discussed working capital management and its key constructs that have an influence on various phenomena, namely cash management, debtor management, creditor management, and stock management. For the purpose of this study, *profitability* was defined as “an organization’s ability to earn financial profit

or gain” (Tauringana & Afrifa, 2013, p. 454). *Working capital management* was defined as “an organization's managerial accounting strategy designed to monitor and utilize the two components of working capital - *current assets and current liabilities* - to ensure the most financially efficient operation of the organization”( Agyei & Yeboah, 2011, p. 2).

*Cash management* was defined as the “management of an entity’s cash to ensure sufficient cash to sustain the entity’s daily operations, finance continued growth and provide for unexpected payments while not unduly forfeiting profit owing to excess cash holdings” (Mbroh, 2012, p. 40). *Debtor management* was defined as “a collection of steps and procedures required to properly weigh the costs and benefits attached with the credit policies” (Akoto et al., 2013, p. 375). *Creditor management* was defined as a “set of policies, procedures, and practices employed by an organization with respect to managing its trade credit purchases” (Arshad & Gondal, 2013, p. 387). Whilst *stock management* was defined as “the art and science of maintaining stock levels of a given group of items incurring the least cost consistent with other relevant targets and objectives set by management” (Raza et al., 2015, p. 287). The chapter that follows discusses the methodology followed to achieve the objectives of the study.

## CHAPTER 3 RESEARCH METHODOLOGY

### 3.1 Introduction

The aim of this research was to deepen the body of knowledge in the area of working capital management by gauging the influence thereof on profitability in Namibian State-Owned commercial institutions and in so doing serve as a guiding instrument for SOE managers and relevant stakeholders to formulate appropriate policies and programmes for the enhancement of working capital management and profitability in the SOE sector. To attain this core research aim, the following objectives of the study needed to be realized:

- To determine the influence of cash management on profitability in Namibian State-Owned commercial institutions;
- To assess the impact of debtor management on profitability in Namibian State-Owned commercial institutions;
- To determine the link between creditor management and profitability in Namibian State-Owned commercial institutions; and
- To gauge the effect of stock management on profitability in Namibian State-Owned commercial institutions.

Meeting the research objectives requires that the researcher follows a well-thought-out research methodology. The methodology followed in this study is presented in this chapter. According to [Scheepers \(2007, p. 21\)](#), this chapter needs to “elaborate on the sample, measurement instruments and data collection process. Statistical analyses

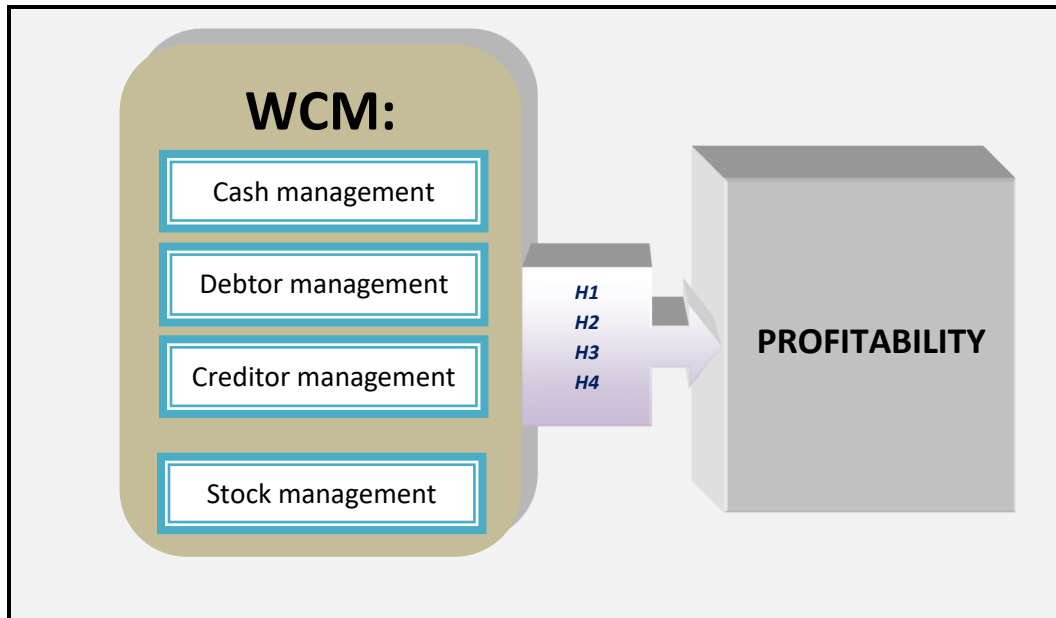
performed are also presented here”. [Bhattacharjee \(2012, p. 6\)](#) underlines that “enough details need to be provided in this chapter to evidence the understanding by the researcher of the chosen methodology and to allow any other reasonably knowledgeable future researcher to be capable of replicating the study if he/she so desires.”

### **3.2 Research Model and Hypotheses**

When a suggestion is advanced as a statement for empirical examination, it is called a “hypothesis”. [Bhattacharjee \(2012, p. 7\)](#) posits that “hypotheses are educated guesses about a problem’s solution, or expectations about groups in a population expressed in empirical testing”. In addition, [Scheepers \(2007, p. 113\)](#) notes that “the functions of hypotheses are to provide a framework for and give direction to the study, and create certain boundaries or limits within which a problem should be examined.”

Grounded on the problem statement and the reviewed literature, this study seeks to expand the body of knowledge in the area of working capital management by advancing and analysing a model which hypothesises working capital management (WCM) dimensions as determinants of profitability in Namibian State-Owned commercial institutions. The research model is presented in Figure 3-1.

**Figure 3-1 Research model**



**Source:** Developed by the researcher based on [Mutuku & Mathooko \(2014\)](#)

Given that scholars such as [Bobitan and Mioc \(2011\)](#) as well as [Akinyomi \(2014\)](#) have demonstrated that there is a positive influence of an organisation's cash management on its profitability, it therefore stands reasonable to assume that the same relationship exists in the context of the Namibian SOE sector. Consequently, the first hypothesis is formulated:

- **H1:** *A positive association exists between cash management and profitability in Namibian State-Owned commercial institutions.*

In their studies, a number of authors ([Akoto et al., 2013](#); [Barine, 2012](#); [Ali & Ali, 2012](#)), have emphasized the existence of a positive relationship between debtor management and profitability. The second hypothesis is thus deduced:

- **H2:** *A positive relationship exists between debtor management and profitability in Namibian State-Owned commercial institutions.*

The relationship between creditor management and profitability has been evidenced by studies by [Arshad and Gondal \(2013\)](#), [Tauringana and Afrifa \(2013\)](#), and [Mbroh and Attom \(2012\)](#); therefore the third hypothesis is formulated:

- **H3:** *There is a positive link between creditor management and profitability in Namibian State-Owned commercial institutions.*

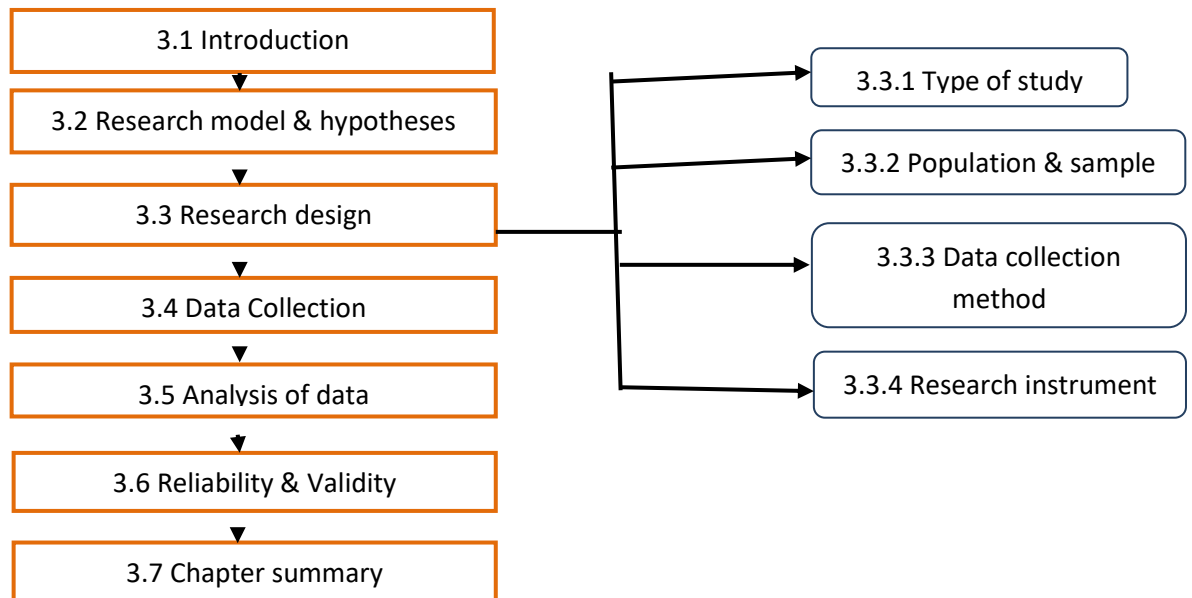
Given that literature underlines the influence of stock management on profitability ([Raza et al., 2015](#); [Hamid & Waqar, 2013](#), [Ghaziani & Zadeh, 2012](#)), the fourth hypothesis is therefore developed:

- **H4:** *A positive connection exists between stock management and profitability in Namibian State-Owned commercial institutions.*

### **3.3 Research Design**

[Bhattacharjee \(2012, p. 4\)](#) refers to a research design as “a framework or detailed blueprint to guide a research project towards its objectives”. [Bhattacharjee \(2012\)](#) emphasizes that “the methodology addresses the following decision stages: the type of study, the target population and sample, the data collection method, the research instruments used, and how the collected data are analysed”. The structure and layout of the research methodology are depicted in Figure 3-2.

Figure 3-2. Structure of the research methodology



**Source:** Developed by the researched based on [Scheepers \(2007, p.15\)](#)

### 3.3.1 *Type of Study*

The type of a research can be *quantitative*, *qualitative*, or *both*. *Qualitative research* is used for exploratory studies designed to uncover fundamental causes, sentiments, beliefs, incentives, trends, opinions and thoughts, which can also be used for the development of hypotheses for potential quantitative study ([Singleton & Straits, 2010](#)). The commonly used main data collection methods for qualitative studies include face-to-face interviews, group discussions, and participation/observations. The size of the sample is usually small in a qualitative study ([Singleton & Straits, 2010](#)).

In a *quantitative study*, behaviours, attitudes, and perceptions are quantified through the generation of numerical data, and findings from a larger population sample are generalized ([Bhattacharjee, 2012, p.113](#); [Singleton & Straits, 2010](#)). Compared to qualitative research, the methods of collecting data are more structured in a quantitate

study (Bhattacharjee, 2012, p. 119; Singleton & Straits, 2010). The gathering of data in this regard is usually done using methods which mainly include a variety of survey types “such as mail/e-mail, (self-administered) questionnaires, personal face-to-face interview, administered questionnaires, and a telephone interview” (Bhattacharjee, 2012, p. 119).

This study used a *quantitative approach* to assess the influence of working capital management on profitability in Namibian State-Owned commercial institutions. The population and sample, data collection, and data analysis methods are discussed below.

### **3.3.2 *The Population and Sample***

A population is “the total collection of elements about which inferences are to be made” (Singleton & Straits, 2010, p. 14). The population for this study comprised finance employees from 23 State-owned institutions (namely Air Namibia, Epangelo Mining; Lüderitz Water front; Meat Corporation of Namibia; Namibia Airports Organization; Namibia Institute of Pathology; Namibia Ports Authority; Namibia Posts and Telecommunications Holdings; NAMPOWER; Namibia Wild Resort; National Fishing Corporation of Namibia; NAMCOR; Roads Authority; RCC; Trans Namib; Zambezi Water Front; Agricultural Bank of Namibia; Development Bank of Namibia; Namibia National Reinsurance Corporation; Road Fund Administration; Environmental Investment fund; MVA, and Games Products Trust Fund). These institutions had a combined total of 125 finance employees countrywide and a questionnaire survey was administered to all of them via e-mail.

The sample was selected based on *purposive sampling*. According [Palys \(2008, p. 396\)](#), a “purposive sample is a non-probability sample that is selected based on characteristics of a population and the objective of the study”. A homogeneous purposive sampling was used for this study as the selected respondents had a shared characteristic or set of characteristics ([Palys, 2008](#)) – they were all finance employees in Namibian State-Owned commercial institutions.

### **3.3.3 Data Collection Approaches and Methods**

According to [Bhattacharjee \(2012, p. 8\)](#), a “variety of collection methods could be used to collect data, such as observation, testing, analysis of secondary texts and surveys”. [Bhattacharjee \(2012, p. 8\)](#) further notes that “three methods may be used to collect data in surveys: mail (self-administered) questionnaires, personal face-to-face interview-administered questionnaires, and a telephone interview.” Each one of these approaches has its strong points and flaws which have to be taken into consideration in light of the study.

[Singleton and Straits \(2010, p. 14\)](#) note that “self-administered questionnaires are generally economical (needing limited resources in terms of cost and staff) and quicker to complete than face-to-face interviews or administered questionnaires”. Moreover, the approach allows the participants to provide the required responses at the time of their own convenience but within the deadline. However, there is a risk of participants’ reluctance to avail certain information that they might consider confidential. Moreover, some answers to certain questions may be omitted if participants encounter problems in remembering certain aspects in this regard ([Bhattacharjee, 2012](#); [Singleton & Straits, 2010](#)).

The advantage of interview-administered questionnaires is that “they turn out fewer incomplete questionnaires, the correct respondent can more easily be identified, the questions may be clarified and it is a more effective method than self-administered questionnaires for collecting confidential information” (Scheepers, 2007, p. 120). In addition, “data collectors are able to make important observations based on the quality of interaction - whether the respondent had difficulty in answering certain questions or was hostile, and so on” (Singleton & Straits, 2010, p. 14). The main weakness is that this approach is costly and time-consuming.

In light of the appraisal of advantages and disadvantages on these different methods, and because participants were in geographically dispersed locations, a decision was taken to administer a questionnaire via e-mail.

### **3.3.4 *The Measurement Instrument***

Based on the literature, the measurement instrument was developed to assess the different variables of the research model. The variables were measured using a 6-point Likert scale which provided response categories for respondents to rate their answers to statements, making the questions simple to answer. The questionnaire is summarized and presented in detail in Appendix 1.

#### **3.3.4.1 *Scales of Measurement***

There are “four scales of measurement [which] can be used when designing a questionnaire: *nominal*, *ordinal*, *interval*, and *ratio*” (Bhattacharjee, 2012, p. 9). Ordinal scales were used for this study. In an ordinal scale, “the relative position of

items on a characteristic can be indicated, but not the magnitude of the difference between the positions” (Bhattacharjee, 2012, p. 9).

**Table 3-1 Summary of the variables, type of questions, question numbers and scale**

QUESTIONS	APP <sup>1</sup> & QUESTION NUMBER.	SCALE
<b>Cash Management</b>		
<p>Good understanding of what impacts the cash flow of the organisation; use of a mix of financial ratio analysis and cash flow forecasting; communication of the importance of cash flow throughout the organisation; promotion of a cash-consciousness among all staff with an influence on the application of cash resources; effective systems for collecting and processing cash flow information; regular monitoring of the working capital cycle to identify potential cash flow issues; preparation of a cash flow forecast that aligns with budgets and strategic timelines; regular monitoring and updating of cash flow forecasts; use of cash flow forecasts to run sensitivity analysis on various levels of business activities; and effective strategies for potential cash flow crises.</p>	<p><i>App 1:</i> CM1 to CM10</p>	<p>Ordinal</p>
<b>Debtor Management</b>		

<sup>1</sup> “App” is used as an abbreviation for “Appendix” in table 3.2.

<p>Credit control policy that includes credit checks for all customers prior to offering credit; credit limits for each customer; strictly negotiated payment terms before an order is taken; documentation of payments terms on every invoice; adequate controls to ensure adherence to the agreed terms; recognition of people’s capabilities as an important source of competitive advantage; invoices sent to customers as soon as product/service is delivered; regular reports to identify when payments are due; regular reports to identify slow paying customers; and a policy to stop supplying a customer until all debts are cleared.</p>	<p><i>App 1:</i> DM1 to DM10</p>	<p>Ordinal</p>
<p><b>Creditor Management</b></p>		
<p>Establishment of priorities for the vendor negotiation process and insurance that key personnel and decision-makers are involved; regular update of payment terms; periodic and timely vendor contract reviews; maximisation of savings potential by exploring the viability of various discounts; clear accounts payable metrics; and negotiation of adequate payment terms to maximize liquidity and reduce risk.</p>	<p><i>App 1:</i> CrM1 to CrM6</p>	<p>Ordinal</p>
<p><b>Stock Management</b></p>		
<p>Adequate understanding of stock items; effective stock management systems; sound physical controls; effective stock management record-keeping system; effective buying policy; prohibition to staff from processing their</p>	<p><i>App 1:</i> SM1 to SM7</p>	<p>Ordinal</p>

own purchases; and processing of all staff purchases by senior management.		
<b>Profitability</b>		
Gradual increase of profit margin for the past few years; steady increase in operating profit margin for the past few years; stable increase in net profit margin for the past few years; steady improvement of overall profitability ratios for the past few years; constantly above-industry average profitability for the past five years; and good prospects for income and sustained growth in both the short- and long-term.	<i>App 1:</i> P1 to P6	Ordinal

**Source:** Developed by the researcher based on [Scheepers \(2007\)](#)

### 3.3.4.2 Operationalising the Variables

The research instrument was designed to measure the following:

- Dependent variable: Profitability (refer to Appendix 1, questions P1 to P6).

In this paper, *profitability* was defined “an organization’s ability to earn financial profit or gain” ([Tauringana & Afrifa, 2013, p. 454](#)).

- Independent variables:
  - Cash management (refer to Appendix 1, questions CM1 to CM10).
  - Debtor management (refer to Appendix 1, questions DM1 to DM10).
  - Creditor management (refer to Appendix 1, questions CrM1 to CrM6).
  - Stock management (refer to Appendix 1, questions SM1 to SM7).

The research model presents working capital management as a determinant of profitability. In Section 1.10, *working capital management* was defined as “an organization's managerial accounting strategy designed to monitor and utilize the two components of working capital - *current assets and current liabilities* - to ensure the most financially efficient operation of the organization” (Agyei & Yeboah, 2011, p. 2). The main dimensions of working capital management – cash management, debtor management, creditor management, and stock management – are the independent variables and they are briefly reviewed:

*Cash management* was defined as the “management of an entity’s cash to ensure sufficient cash to sustain the entity’s daily operations, finance continued growth and provide for unexpected payments while not unduly forfeiting profit owing to excess cash holdings” (Mbroh, 2012, p. 40). *Debtor management* was defined as a “collection of steps and procedures required to properly weigh the costs and benefits attached with the credit policies” (Akoto et al., 2013, p. 375). *Creditor management* was defined as a “set of policies, procedures, and practices employed by an organization with respect to managing its trade credit purchases” (Arshad & Gondal, 2013, p. 387). Whilst *stock management* was defined as “the art and science of maintaining stock levels of a given group of items incurring the least cost consistent with other relevant targets and objectives set by management” (Raza et al., 2015, p. 287).

Having designed the research instrument and decided on the appropriate method for collecting the data, the collection of data was undertaken as discussed in Section 3.4 below.

### **3.4 Data Collection**

The implementation of the survey methodology and the collection of data were done during this stage. Data were collected using a questionnaire survey administered via e-mail. This method was preferred because it is quicker, cheaper, and allows respondents to comfortably respond to the questions at their own convenient time (Scheepers, 2007). While a sample of 125 respondents had been originally selected, only 100 questionnaires were successfully completed. The response rate was 80%.

### **3.5 Data Analysis**

The conversion of the gathered data into an informative format in line with the research problem is done at this phase. Singleton and Straits (2010, p. 15), as well as Bhattacharjee (2012, p. 9), advance that when data are processed, they need to be tabulated and then analysed. Data preparation is the process of extracting data from questionnaires so that they can be read and manipulated by computer software. Preparing data involves validating, editing, coding, entering and then cleaning the data.

To analyse the gathered data, this study made use of descriptive statistics and inferential statistics. The relevant statistical tests used for the measurement scales are presented in Table 3-2.

**Table 3-2 Summary of the descriptive and inferential statistical tests used in the study**

Measurement Scale	Permissible Statistics	
	Descriptive Statistics	Inferential Statistics
Ordinal Scales	Frequency, Mean, Standard Deviation, Correlation analysis	Partial Least Squares

**Source:** Adapted from [van Elst \(2015\)](#)

As table 3-2 shows, two options are available to researchers when it comes to data analysis. The description of data is done using descriptive statistics which are used to describe data, and the strength of the relationships between the variables is inferential is assessed using inferential statistics.

### **3.5.1 Descriptive Statistics**

Descriptive statistics “describe the characteristics of the respondents. Descriptive statistics use frequencies, means, modes, medians, standard deviations, and the coefficient of variation to summarise the characteristics of large sets of data” ([van Elst, 2015, p. 5](#)). This study made use of the following descriptive statistics:

- **Frequencies:** This “refers to actual number or percentage of responses to certain questions” ([van Elst, 2015, p. 6](#)).
- **Mean:** A mean is “the sum of the values for all observations of a variable divided by the number of observations. It measures the central tendency, i.e. the average response of respondents” ([van Elst, 2015, p. 6](#)).

- **Standard deviation:** The “standard deviation is the measure of average dispersion of the values in a set of responses around their mean” (van Elst, 2015, p. 7).

The description of the various relationships between the variables was done using a correlation analysis.

### 3.5.1.1 *Correlation Analysis*

According to van Elst (2015, p. 9), correlation analysis “refers to the degree to which changes in one variable are associated with changes in another.” It seeks to establish the potential existence of a linear connection between variables. Two correlation types are commonly utilised by researchers: “*Pearson product moment correlation* and *Spearman correlation coefficient*” (Hair, Black, Babin & Anderson, 2006, p. 15). The Pearson correlation is habitually utilised when interval or ratio scales are involved. When the data is ordinal, the Spearman correlation is utilised as it was the case in this study.

As stated by van Elst (2015, p.10), “the descriptive measure coefficient or correlation ( $r$ ) is a measure of the degree of association between two variables and indicates the estimated extent to which the changes in one variable are associated with changes in the other on a range of +1.00 to -1.00”, with +1.00 designating a perfect positive association, and -1.00 indicating a perfect negative connection. A score of 0.00 means that there is no link whatsoever between the variables. Elaborating on this, Maitra and Yan (2008, p. 86) note that “in case of a positive correlation between two variables, a higher score of one variable tends to indicate a higher score on the other. For a negative

correlation, a higher score on one variable tends to indicate a lower score on the second variable.” The correlation scores for this study are presented in Chapter 4.

### 3.5.2 *Inferential Statistics*

According to [van Elst \(2015, p. 13\)](#), “inferential statistics allow researchers to make inferences about the true differences in the population on the basis of the data. A basic principle of statistical inference is that it is possible for numbers to be different in a mathematical sense, but not significantly different in a statistical sense”. A certain significance level is chosen to define the statistical differences. The most commonly used significance levels are the range of 5% to 1%. This range was deemed appropriate for this study.

Inferential statistics are also utilised to test hypotheses. The “aim of a hypothesis test is to determine the probability that the difference between the value of a variable, as estimated from a sample, and the value of that same variable, as estimated from another sample, is the result of random characteristics of the sample” ([Scheepers, 2007, p. 114](#)).

The study used *Partial Least Squares* (PLS) regression analysis to determine the strength of each relationship hypothesized by the study model. The preference for this regression method was motivated by the fact that it is an appropriate method when the study variables are numerous and characterised by high levels of collinearity. Moreover, “the method does not necessitate a vast sample or data which is normally distributed” ([Maitra & Yan, 2008, p. 86](#); [Abdi & Williams, 2013, p. 567](#)). The following section provides a further discussion on the Partial Least Squares regression.

### **3.5.2.1 Partial Least Square**

In the words of [Abdi and Williams \(2013, p. 568\)](#), “Partial Least Squares (PLS) is a method for constructing predictive models when the factors are many and highly collinear”. [Abdi and Williams \(2013\)](#), stress that there is a difference between this method and other regression analysis methods. [Abdi and Williams \(2013\)](#) underline that in the PLS context, the meaning of the term ‘latent’ is not the same as in other regression analysis methods. According to [Maitra and Yan \(2008, p. 88\)](#):

PLS regression finds components from X that are also relevant for Y. Specifically, PLS regression searches for a set of components (called latent variables) that perform a simultaneous decomposition of X and Y with the constraint that these components explain as much as possible the covariance between X and Y.

To assess the paths’ and path coefficients’ significance, bootstrap confidence intervals are utilised.

### **3.5.2.2 Bootstrap Confidence Intervals**

The aim of the bootstrap is to carry out familiar statistical calculations, such as standard errors, biases, confidence intervals among others, in an unfamiliar way by purely computation means, rather than through the use of mathematical formulas ([Maitra & Yan, 2008, p. 90](#); [Abdi & Williams, 2013, p. 568](#) ). While the bootstrap concept has been developed based on comprehensive mathematical notions, this is past this study scope. [Abdi and Williams \(2013, p. 569\)](#) stress that “the bootstrap interval’s lower and upper limits should not include 0”.

A detailed discussion about the descriptive and inferential statistics that this study used was provided in this section. The section that follows elaborates on how the reliability and validity of the research instrument were evaluated.

### **3.6 Validity and Reliability**

The importance of evaluating the research instrument based on the “validity and reliability” criteria has been underscored (Cooper & Schindler, 2006). As stated by Scheepers (2007, p. 116), “the data gathered in a research survey needs to be reliable and valid if the survey results are to be credible”.

#### **3.6.1 Validity**

According to Cooper and Schindler (2006, p. 37), “validity refers to the extent to which a measure or set of measures correctly represent the constructs of the study. It is thus concerned with how well the construct is defined by the measure(s).” A further definition is provided by Bhattacharjee (2012, p. 12) who suggests that validity “could be defined as the extent to which differences in observed scale scores reflect true differences between objects on the characteristics being measured, rather than systematic or random error surveys”. In other words, “validity is the extent to which a set of measured items actually reflects the theoretical latent construct that those items are designed to measure” (Hair et al., 2006, p. 18).

Through the use of notional definitions and corroborated measuring instruments, face validity was realized for this study (Bhattacharjee, 2012; Scheepers, 2007). According to Maitra and Yan (2008, p. 87), “face validity is established when the measurement items are conceptually consistent with the definition of a variable, and this type of

validity has to be established prior to any theoretical testing”. At an elementary level, the establishment of face validity is realized through the development of measures based on well-founded theory surveys (Bhattacharjee, 2012; Scheepers, 2007).

### **3.6.2 Reliability**

According to Maitra and Yan (2008, p. 88), “reliability reflects that the research instrument would yield the same findings if used at different times, or if administered to the same group over and over again”. Every measurement is prone to some degree of error and the amount of obtainable information is determined by this. In light of the above, Scheepers (2007, p. 17) argues that “reliability refers to the consistency and stability of a score from a measurement scale, i.e. whether the results in the survey could be duplicated in similar surveys.” The reliability of variables in the research instruments is only confirmed by their clear ability to produce stable responses over several measurements of the instrument surveys (Bhattacharjee, 2012; Scheepers, 2007).

This study made use of Cronbach’s alpha coefficient to assess the internal consistency-reliability of the scale used. Cronbach’s alpha is “a measure of internal reliability for multi-item summated rating scales, and its values range between 0 and 1, where the higher the score, the more reliable the scale” (Scheepers, 2007, p. 118). At a minimal level, scores ranging from 0.5 to 0.6 are deemed acceptable, while scores above 0.6 mean that the instrument is highly reliable (Bhattacharjee, 2012; Scheepers, 2007). The scores summarized in Table 3-3 show that the scale utilized was reliable.

**Table 3-3 Reliability statistics for the scale used in this study**

<b>Construct</b>	<b>Cronbach's Alpha</b>	<b>Number of Items</b>
Cash Management	0.81	10
Debtor Management	0.79	10
Creditor Management	0.68	6
Stock Management	0.71	7
Profitability	0.67	6

**Source:** SPSS reliability results.

### **3.7 Chapter Summary**

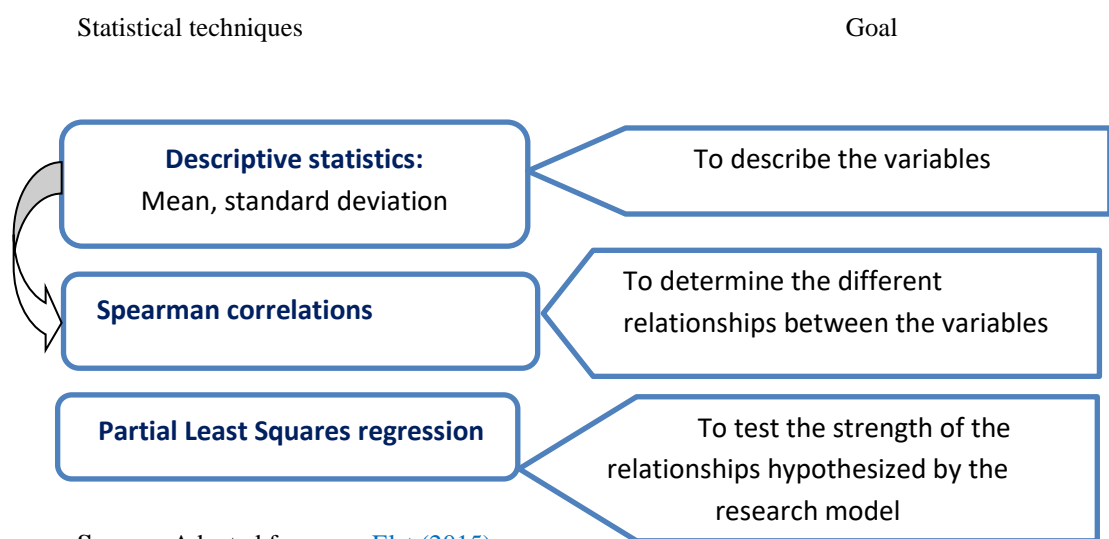
The methodology used in the study was discussed in this Chapter. The research model and hypotheses were presented. The research hypotheses were that, in Namibian State-Owned commercial institutions, there is a positive association between cash management and profitability; there is a positive relationship between debtor management and profitability; there is a positive link between creditor management and profitability; and stock management is likely to be positively associated with profitability. The research used an e-mail survey to collect data. The respondents were finance employees from 23 State-owned institutions countrywide. The research instrument was found to be reliable.

## CHAPTER 4 DATA ANALYSIS AND INTERPRETATION

### 4.1 Introduction

This chapter reports the findings of the study. Descriptive statistics, including mean and standard deviation, are presented in the first part of the chapter. Given that ordinal data was collected, the relationships among the study variables were assessed using Spearman's correlation. As inferential statistics, the study used *Partial Least Squares* (PLS) regression analysis to determine the strength of each relationship hypothesized by the study model. The preference for this regression method was motivated by the fact that it is an appropriate method when the study variables are numerous and characterized by high levels of collinearity. Furthermore, “the method does not necessitate a vast sample or data which is normally distributed” (Maitra & Yan, 2008, p. 86; Abdi & Williams, 2013, p. 567). Figure 4.1 shows the statistical techniques used in this chapter and the intended outcome of each technique.

**Figure 4-1** Statistical techniques used in the study



## 4.2 Descriptive Analysis

This section describes the perceptions about cash management, debtor management, creditor management, stock management, and profitability. The first step was to compute a composite score for each variable. To do this, the individual scores were totalled and an average score was calculated. Descriptive statistics of the composite variables are summarized in table 4.1.

**Table 4-1 Descriptive statistics of the composite variables (n=100)**

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Average %</b>
Cash Management	100	1.200	3.000	1.808	0.330	60.27%
Debtor Management	100	1.000	2.900	1.770	0.365	61.03%
Creditor Management	100	2.500	4.333	3.627	0.408	83.69%
Stock Management	100	1.000	2.857	1.770	0.357	61.95%
Profitability	100	1.000	2.833	1.768	0.319	62.41%
Valid N (listwise)	100					

**Source:** SPSS results

The minimum and maximum scores are different for different constructs as shown in Table 4.1. For instance, the minimum for cash management was 1.2, while it was 1 for debtor management. The meaning of this is that on a scale of 1 to 6, the lowest score for cash management was 1.2 while 1 was the lowest score for debtor management. In the subsequent sections, each variable is explored in line with the mean scores and data dispersion.

#### 4.2.1 Dependent Variable: Profitability

In this study, *profitability* is the dependent variable and it was defined as “an organization’s ability to earn financial profit or gain” (Tauringana & Afrifa, 2013, p. 454). It was assessed by the respondents’ perceptions on whether the organisation enjoys a gradual increase of the profit margin for the past few years; a steady increase operating profit margin for the past few years; a stable increase in net profit margin for the past few years; a steady improvement of overall profitability ratios for the past few years; a constantly above-industry average profitability for the past five years; and good prospects for income and sustained growth. The maximum score was **2.833** and the mean score was **62.41%** as shown in table 4.1.

This means that 62.41% of respondents were not satisfied with the profitability in their organisation. Table 4.2 presents the descriptive statistics for the constructs of profitability.

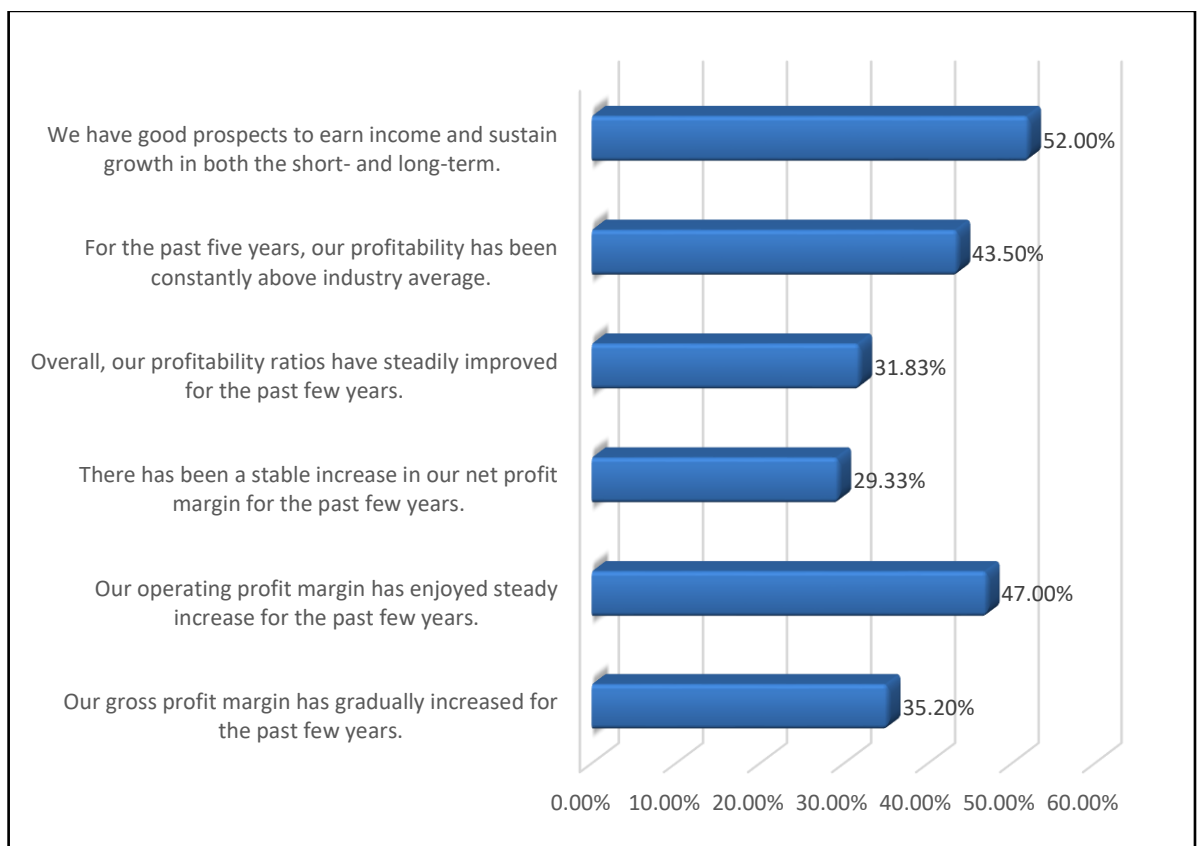
**Table 4-2 Descriptive statistics for the constructs of profitability**

	N	Minimum	Maximum	Mean	Std. Deviation	Average %
Our gross profit margin has gradually increased for the past few years.	100	1.000	5.000	1.760	0.854	35.20%
Our operating profit margin has enjoyed steady increase for the past few years.	100	1.000	4.000	1.880	0.769	47.00%
There has been a stable increase in our net profit margin for the past few years.	100	1.000	6.000	1.760	0.818	29.33%
Overall, our profitability ratios have steadily improved for the past few years.	100	1.000	6.000	1.910	0.954	31.83%
For the past five years, our profitability has been constantly above industry average.	100	1.000	4.000	1.740	0.719	43.50%
We have good prospects to earn income and sustain growth in both the short- and long-term.	100	1.000	3.000	1.560	0.625	52.00%
Valid N (listwise)	100					

Source: SPSS results.

The mean score percentages for the constructs of profitability are depicted in figure 4.2. These scores are a representation of respondents who **are satisfied** with each construct.

**Figure 4-2 Mean score percentages for profitability**

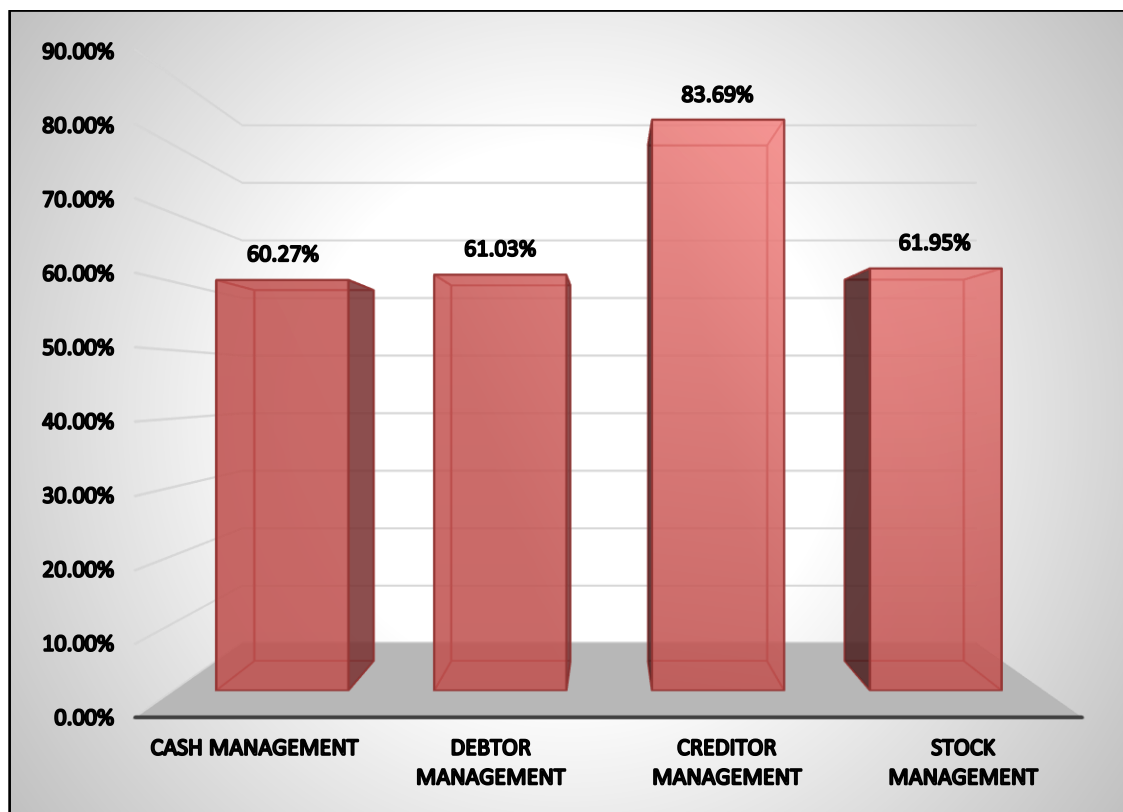


**Source:** SPSS results

## 4.2.2 Independent Variables

The independent variables were cash management, debtor management, creditor management, and stock management. Figure 4.3 depicts the mean score percentages for the independent variables which are discussed below.

Figure 4-3 A bar chart of the mean score percentage for independent variables



Source: SPSS results.

### 4.2.2.1 Cash Management

Cash management refers to the “management of an entity’s cash to ensure sufficient cash to sustain the entity’s daily operations, finance continued growth and provide for

unexpected payments while not unduly forfeiting profit owing to excess cash holdings” (Mbroh, 2012, p. 40). As table 4.1 shows, the maximum score for cash management was 3.000 and the mean score was 60.27%. This means that 60.27% of respondents were not satisfied with the current cash management practices.

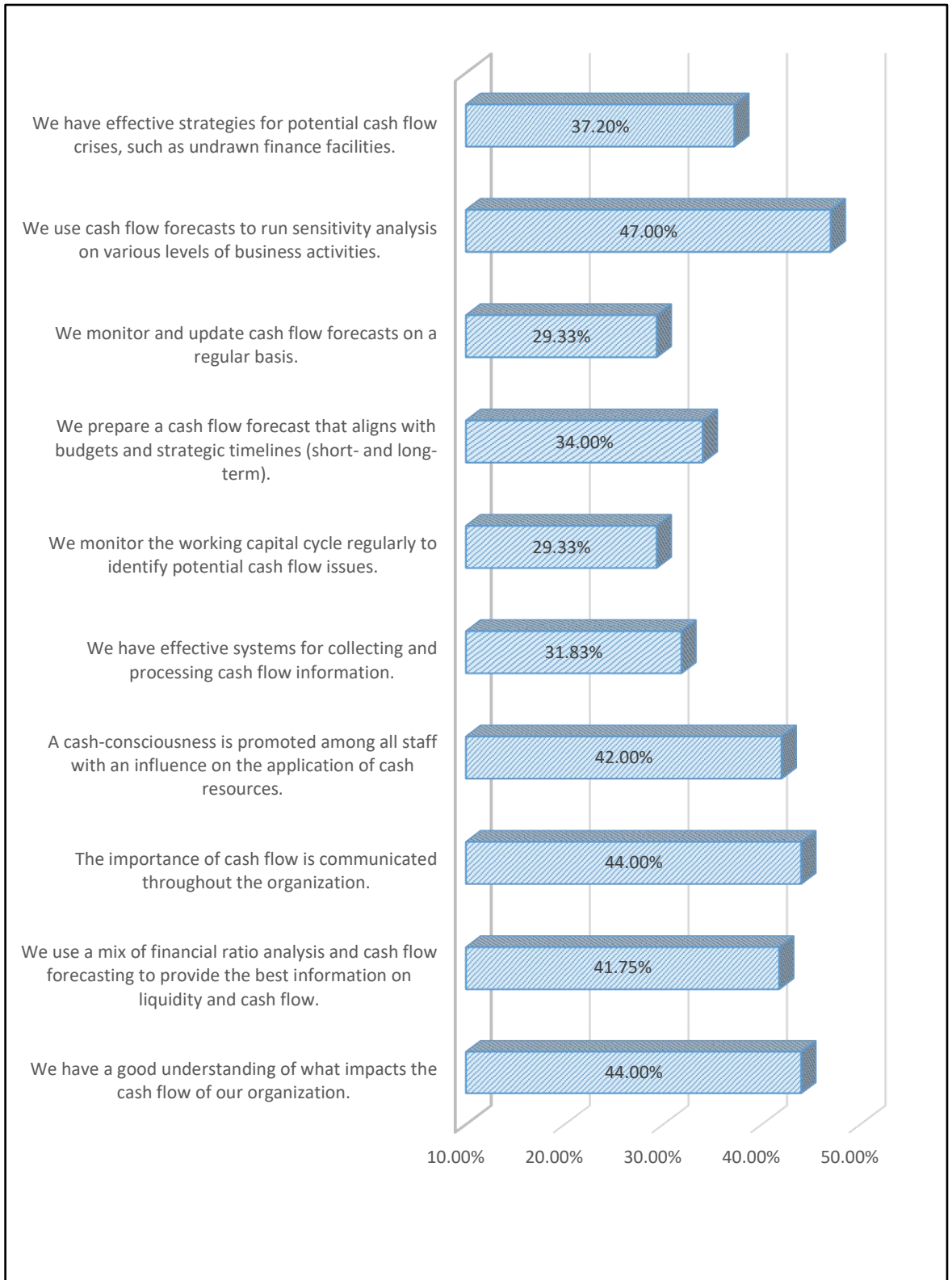
This variable was measured by the respondents’ perceptions about the existence of, a good understanding of what impacts the cash flow of the organisation; use of a mix of financial ratio analysis and cash flow forecasting; communication of the importance of cash flow throughout the organisation; promotion of a cash-consciousness among all staff with an influence on the application of cash resources; effective systems for collecting and processing cash flow information; regular monitoring of the working capital cycle to identify potential cash flow issues; preparation of a cash flow forecast that aligns with budgets and strategic timelines; regular monitoring and updating of cash flow forecasts; use of cash flow forecasts to run sensitivity analysis on various levels of business activities; and effective strategies for potential cash flow crises. Descriptive statistics and mean score percentages for the constructs of cash management are provided in table 4.3 and figure 4.4 respectively.

**Table 4-3 Descriptive statistics for the constructs of cash management**

	N	Minimum	Maximum	Mean	Std. Deviation	Average %
We have a good understanding of what impacts the cash flow of our organization.	100	1.000	4.000	1.760	0.726	44.00%
We use a mix of financial ratio analysis and cash flow forecasting to provide the best information on liquidity and cash flow.	100	1.000	4.000	1.670	0.753	41.75%
The importance of cash flow is communicated throughout the organization.	100	1.000	4.000	1.760	0.712	44.00%
A cash-consciousness is promoted among all staff with an influence on the application of cash resources.	100	1.000	4.000	1.680	0.750	42.00%
We have effective systems for collecting and processing cash flow information.	100	1.000	6.000	1.910	0.954	31.83%
We monitor the working capital cycle regularly to identify potential cash flow issues.	100	1.000	6.000	1.760	0.818	29.33%
We prepare a cash flow forecast that aligns with budgets and strategic timelines (short- and long-term).	100	1.000	6.000	2.040	1.082	34.00%
We monitor and update cash flow forecasts on a regular basis.	100	1.000	6.000	1.760	0.818	29.33%
We use cash flow forecasts to run sensitivity analysis on various levels of business activities.	100	1.000	4.000	1.880	0.769	47.00%
We have effective strategies for potential cash flow crises, such as undrawn finance facilities.	100	1.000	5.000	1.860	0.841	37.20%
Valid N (listwise)	100					

**Source:** SPSS results

**Figure 4-4 Mean score percentages for the constructs of cash management**



**Source:** SPSS results

#### **4.2.2.2 Debtor Management**

The maximum score for debtor management was 2.900 and the mean score 61.03%, which means that 61.03% of the respondents were not satisfied with the current debtor management practices. In this study, debtor management is defined as “a collection of steps and procedures required to properly weigh the costs and benefits attached with the credit policies” (Akoto et al., 2013, p. 375). It was assessed by the respondents’ perceptions regarding the presence of a credit control policy that includes credit checks for all customers prior to offering credit; credit limits for each customer; strictly negotiated payment terms before an order is taken; documentation of payments terms on every invoice; adequate controls to ensure adherence to the agreed terms; recognition of people’s capabilities as an important source of competitive advantage; invoices sent to customers as soon as product/service is delivered; regular reports to identify when payments are due; regular reports to identify slow paying customers; and a policy to stop supplying a customer until all debts are cleared. The descriptive statistics for the constructs of debtor management are presented in table 4.4 below.

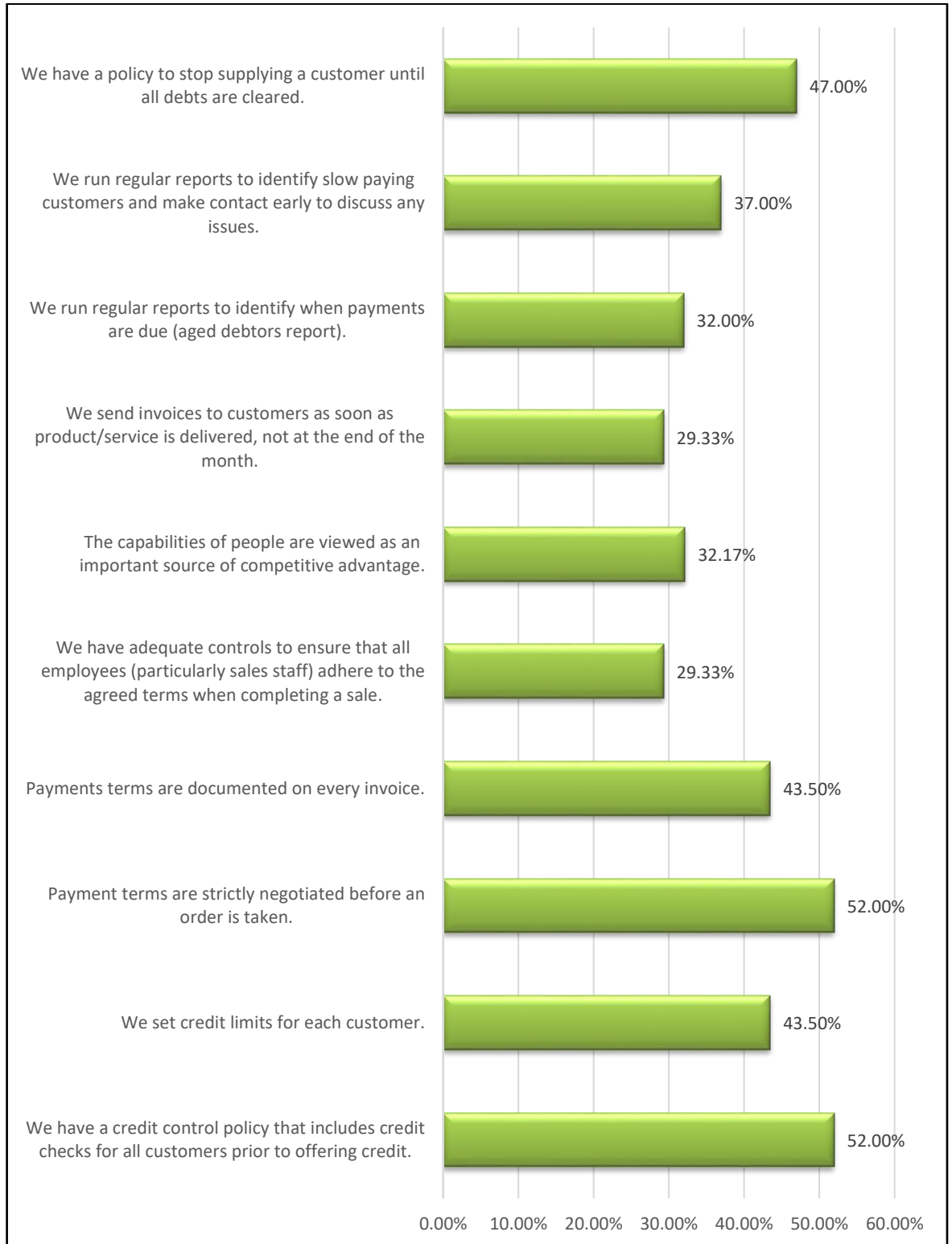
**Table 4-4 Descriptive statistics for the constructs of debtor management**

	N	Minimum	Maximum	Mean	Std. Deviation	Average %
We have a credit control policy that includes credit checks for all customers prior to offering credit.	100	1.000	3.000	1.560	0.625	52.00%
We set credit limits for each customer.	100	1.000	4.000	1.740	0.719	43.50%
Payment terms are strictly negotiated before an order is taken.	100	1.000	3.000	1.560	0.625	52.00%
Payments terms are documented on every invoice.	100	1.000	4.000	1.740	0.719	43.50%
We have adequate controls to ensure that all employees (particularly sales staff) adhere to the agreed terms when completing a sale.	100	1.000	6.000	1.760	0.818	29.33%
The capabilities of people are viewed as an important source of competitive advantage.	100	1.000	6.000	1.930	0.977	32.17%
We send invoices to customers as soon as product/service is delivered, not at the end of the month.	100	1.000	6.000	1.760	0.818	29.33%
We run regular reports to identify when payments are due (aged debtors report).	100	1.000	6.000	1.920	0.961	32.00%
We run regular reports to identify slow paying customers and make contact early to discuss any issues.	100	1.000	5.000	1.850	0.936	37.00%
We have a policy to stop supplying a customer until all debts are cleared.	100	1.000	4.000	1.880	0.769	47.00%
Valid N (listwise)	100					

**Source:** SPSS results

The mean score percentages for the constructs of debtor management are graphically presented in figure 4.5.

**Figure 4-5 Mean score percentages for the constructs of debtor management**



Source: **SPSS results**

#### **4.2.2.3 *Creditor Management***

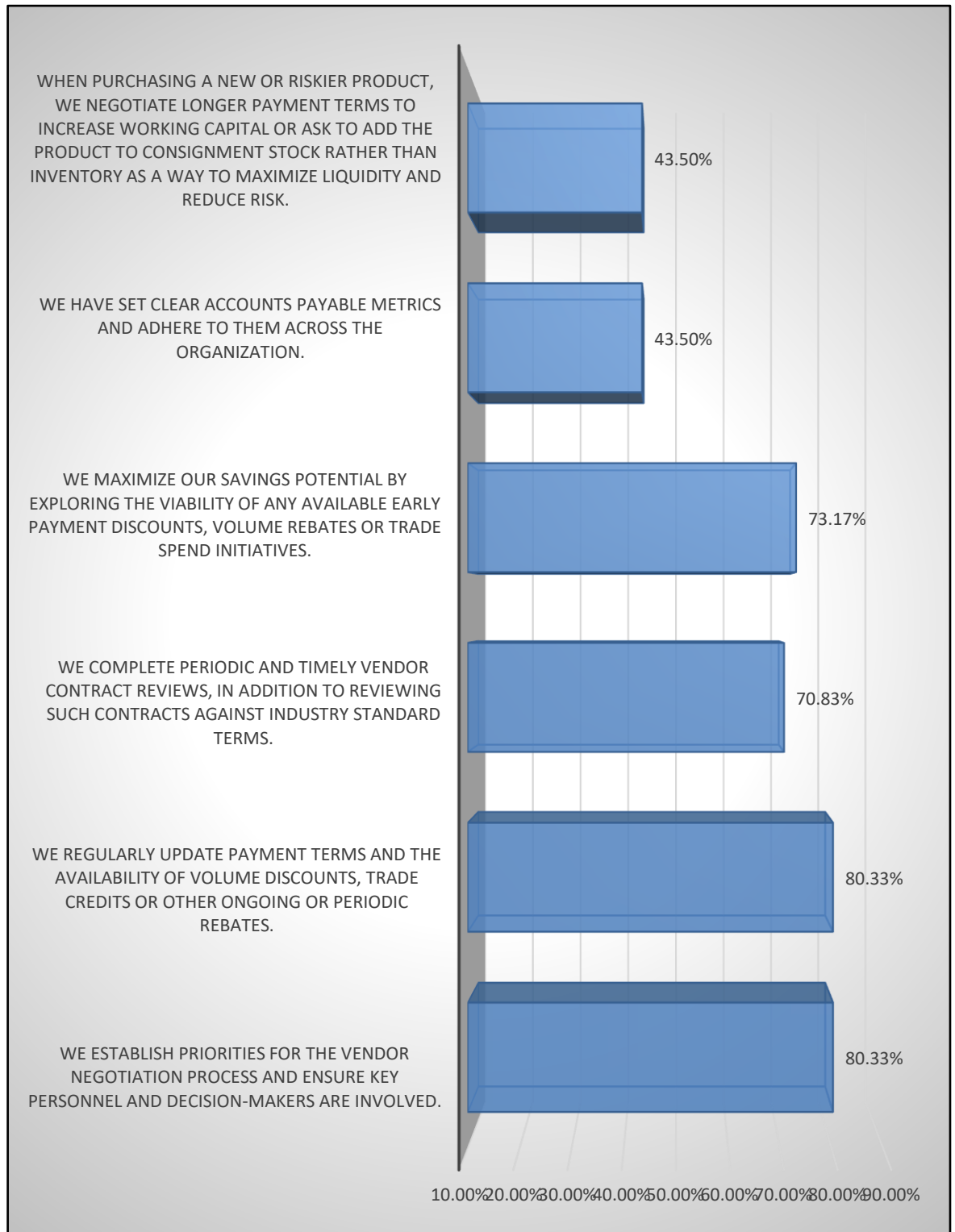
The maximum score for resources was 4.333 and the mean score 83.69%, which means that 83.69% of the respondents were satisfied with the prevailing creditor management mechanisms. Creditor management was defined in this study as a “set of policies, procedures, and practices employed by an organization with respect to managing its trade credit purchases” (Arshad & Gondal, 2013, p. 387). It was assessed by the establishment of priorities for the vendor negotiation process and insurance that key personnel and decision-makers are involved; regular update of payment terms; periodic and timely vendor contract reviews; maximisation of savings potential by exploring the viability of various discounts; clear accounts payable metrics; and the negotiation of adequate payment terms to maximize liquidity and reduce risk. Descriptive statistics and mean score percentages for the constructs of creditor management are provided in table 4.5 and figure 4.6 respectively.

**Table 4-5 Descriptive statistics for the constructs of creditor management**

	N	Minimum	Maximum	Mean	Std. Deviation	Average %
We establish priorities for the vendor negotiation process and ensure key personnel and decision-makers are involved.	100	3.000	6.000	4.820	0.869	80.33%
We regularly update payment terms and the availability of volume discounts, trade credits or other ongoing or periodic rebates.	100	3.000	6.000	4.820	0.869	80.33%
We complete periodic and timely vendor contract reviews, in addition to reviewing such contracts against industry standard terms.	100	2.000	6.000	4.250	0.947	70.83%
We maximize our savings potential by exploring the viability of any available early payment discounts, volume rebates or trade spend initiatives.	100	1.000	6.000	4.390	1.188	73.17%
We have set clear accounts payable metrics and adhere to them across the organization.	100	1.000	4.000	1.740	0.719	43.50%
When purchasing a new or riskier product, we negotiate longer payment terms to increase working capital or ask to add the product to consignment stock rather than inventory as a way to maximize liquidity and reduce risk.	100	1.000	4.000	1.740	0.719	43.50%
Valid N (listwise)	100					

**Source:** SPSS results

**Figure 4-6 Mean score percentages for creditor management**



Source: SPSS results

#### **4.2.2.4 Stock Management**

Stock management is defined as “the art and science of maintaining stock levels of a given group of items incurring the least cost consistent with other relevant targets and objectives set by management” (Raza et al., 2015, p. 287). The maximum score for stock management was 2.857 and the mean score 61.95%, which means that 61.95% of respondents showed a slow level of satisfaction with the current stock management practices. It was assessed by the respondents’ perceptions about the existence of adequate understanding of stock items; effective stock management systems; sound physical controls; effective stock management record-keeping system; effective buying policy; prohibition to staff from processing their own purchases; and processing of all staff purchases by senior management. The descriptive statistics for the constructs of stock management are presented in table 4.6.

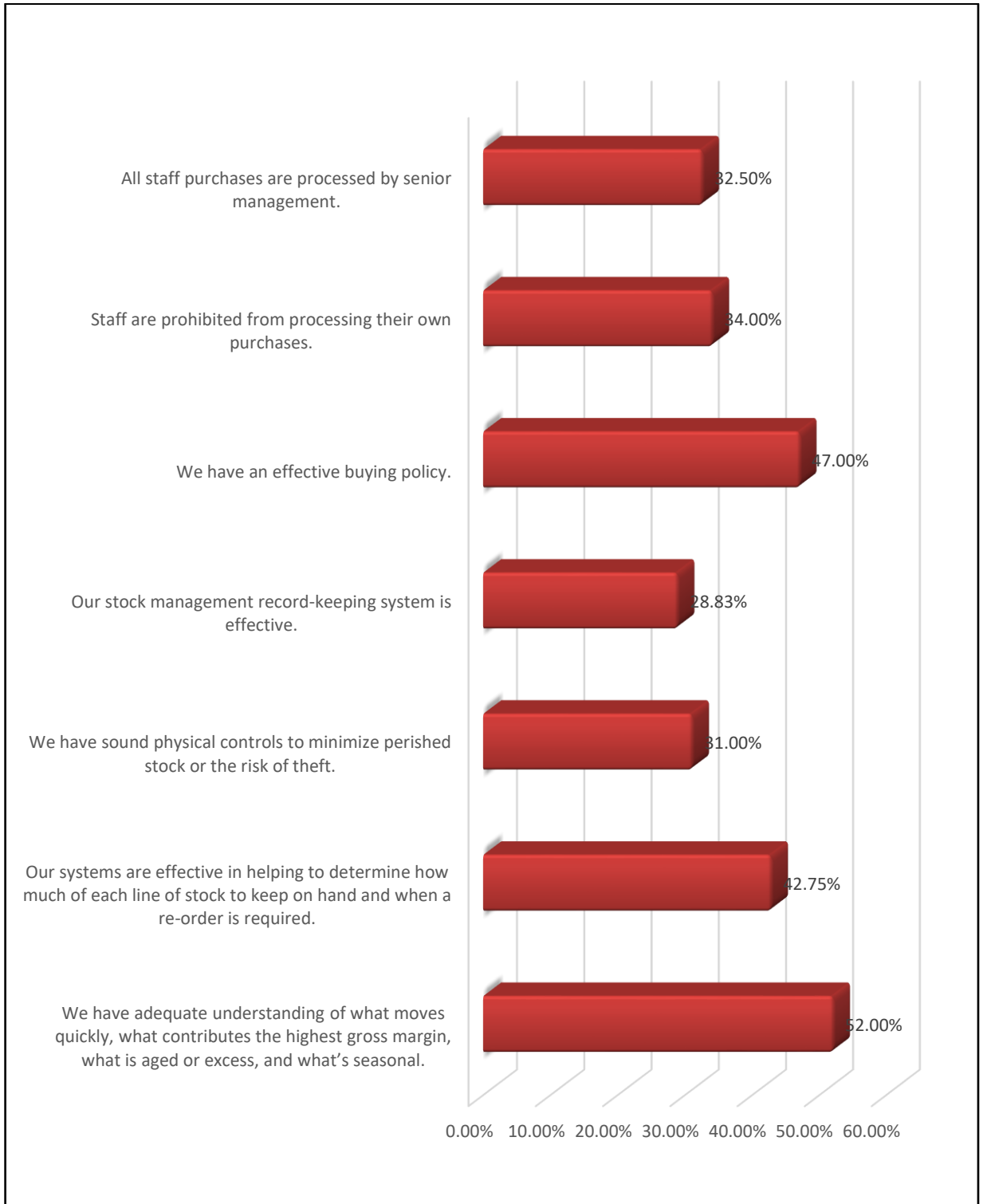
**Table 4-6 Descriptive statistics for the constructs of stock management**

	N	Minimum	Maximum	Mean	Std. Deviation	Average %
We have adequate understanding of what moves quickly, what contributes the highest gross margin, what is aged or excess, and what's seasonal.	100	1.000	3.000	1.560	0.625	52.00%
Our systems are effective in helping to determine how much of each line of stock to keep on hand and when a re-order is required.	100	1.000	4.000	1.710	0.686	42.75%
We have sound physical controls to minimize perished stock or the risk of theft.	100	1.000	6.000	1.860	0.943	31.00%
Our stock management record-keeping system is effective.	100	1.000	6.000	1.730	0.827	28.83%
We have an effective buying policy.	100	1.000	4.000	1.880	0.769	47.00%
Staff are prohibited from processing their own purchases.	100	1.000	5.000	1.700	0.893	34.00%
All staff purchases are processed by senior management.	100	1.000	6.000	1.950	0.978	32.50%
Valid N (listwise)	100					

**Source:** SPSS results

The mean score percentages for the constructs of stock management are graphically presented in figure 4.7.

**Figure 4-7 Mean score percentages for the constructs of stock management**



**Source:** SPSS results

### 4.3 Correlations

The relationships among the variables were assessed using Spearman's correlation. Table 4.7 summarises the Spearman correlation coefficients ( $\rho$ ) and p-values for the different variables.

**Table 4-7 A summary of the Spearman correlation coefficients and p-values (n=100)**

Variable 1	Variable 2	Spearman correlation ( $\rho$ )	P-value
Cash Management	Profitability	0.744**	<0.01
Debtor Management	Profitability	0.876**	<0.01
Creditor Management	Profitability	0.366**	<0.01
Stock Management	Profitability	0.872**	<0.01

*\*\*Correlation is significant at the 0.01 level (2-tailed)*

**Source:** SPSS results

Table 4.7 shows the statistically significant positive correlation between cash management and profitability ( $\rho = 0.744$ ); debtor management and profitability ( $\rho = 0.8766$ ); creditor management and profitability ( $\rho = 0.366$ ); and between stock management and profitability ( $\rho = 0.872$ ).

### 4.4 Partial Least Squares (PLS) regression analysis

The study made use of Partial Least Squares (PLS) regression analysis to determine the strength of each relationship hypothesized by the study model (Maitra & Yan, 2008; Abdi & Williams, 2013). The bootstrap confidence intervals utilised to gauge

the statistical significance for the paths and path coefficients are presented in table 4.8 below.

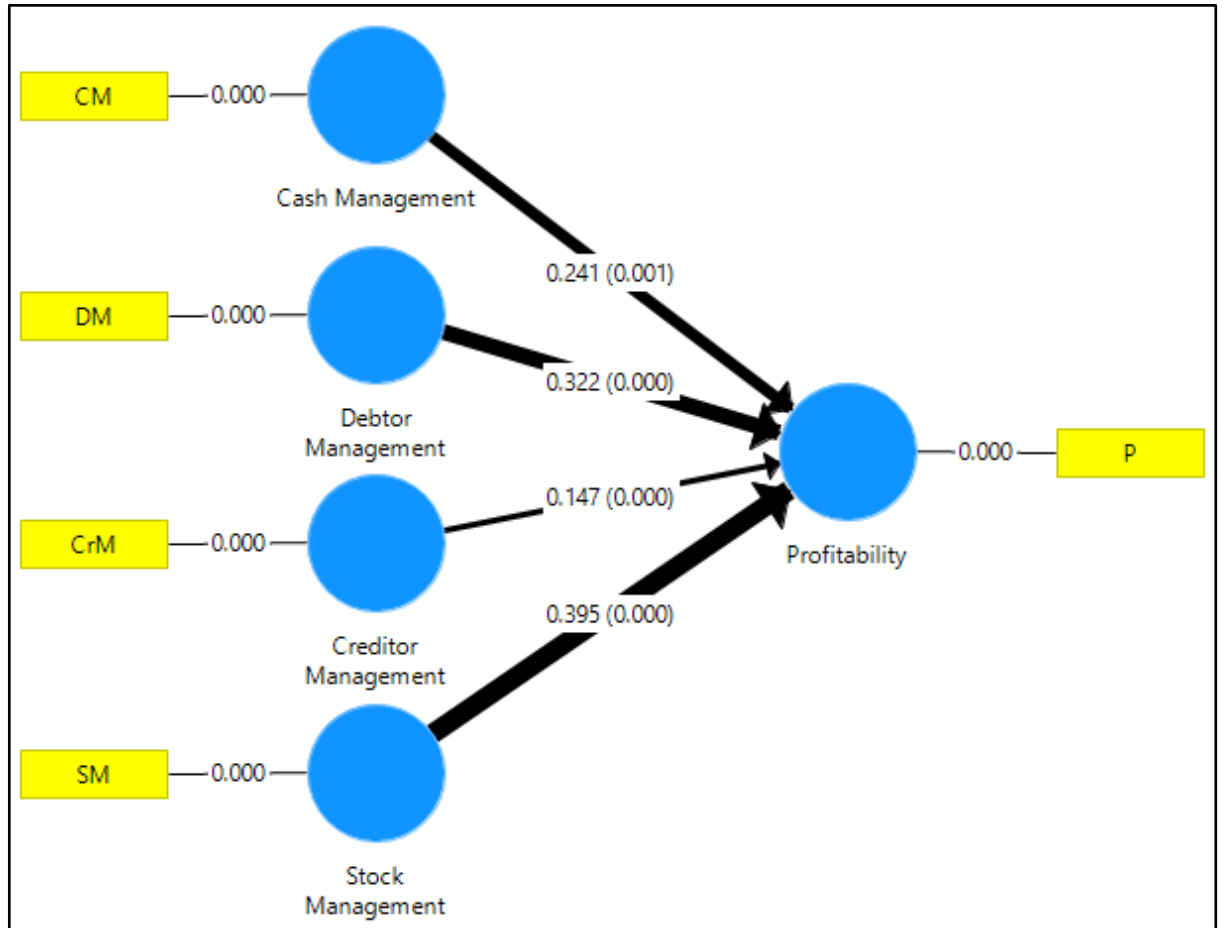
**Table 4-8 Bootstrap confidence intervals and paths coefficients (PLS, n=100)**

<b>Path</b>	<b>Bootstrap lower (2.5%)</b>	<b>Bootstrap upper (97.5%)</b>	<b>Bootstrap mean</b>	<b>Path coefficients</b>
Cash Management -> Profitability	0.098	0.378	0.237	0.241
Debtor Management -> Profitability	0.151	0.498	0.320	0.322
Creditor Management -> Profitability	0.062	0.223	0.142	0.147
Stock Management -> Profitability	0.253	0.599	0.402	0.395

**Source:** Smart PLS results

The paths and path coefficients determined using the Partial Least Squares regression analysis are depicted in figure 4.8.

Figure 4-8 Path, strength and significance of the path coefficients assessed by PLS (n=100)



Source: Smart PLS results

The first hypothesis, namely that there is a positive association between cash management and profitability in Namibian State-Owned commercial institutions, is confirmed by statistically significant path coefficients ( $\gamma = 0.241$ ).

The second hypothesis, which suggested that debtor management is likely to positively influence profitability in Namibian State-Owned commercial institutions, is also confirmed by statistically significant path coefficients ( $\gamma = 0.322$ ).

The third hypothesis, namely that there is a positive link between creditor management and profitability in Namibian State-Owned commercial institutions, is confirmed by statistically significant path coefficients ( $\gamma = 0.147$ ).

And finally, the fourth hypothesis which advanced that stock management is likely to be positively associated with profitability in Namibian State-Owned commercial institutions, is also confirmed by statistically significant path coefficients ( $\gamma = 0.395$ ).

#### **4.5 Chapter Summary**

The findings of the study were reported in this chapter. The description of the gathered data was done using descriptive analysis through the comparison and discussion of the mean scores. A statistically significant positive correlation analysis was found between cash management and profitability; debtor management and profitability; creditor management and profitability; and between stock management and profitability.

Finally, PLS regression analysis was used to determine the strength of each relationship hypothesized by the study model. The implications of the PLS model are that profitability is positively influenced by cash management, debtor management, creditor management, and stock management in Namibian State-Owned commercial institutions. This is consistent with the literature reviewed in Chapter 2, which underscored a positive relationship between these variables.

## **CHAPTER 5 CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Introduction**

As elucidated in Chapter 1, the objective of the study was to determine how profitability is influenced by cash management, debtor management, creditor management, and stock management in Namibian state-owned commercial institutions. This chapter summarizes the study findings, draws conclusions and provides relevant recommendations.

### **5.2 Aim and Objectives of the Study**

The aim of this research was to deepen the body of knowledge in the area of working capital management by gauging the influence thereof on profitability in Namibian State-Owned commercial institutions, and in so doing serve as a guiding instrument for SOE managers and relevant stakeholders to formulate appropriate policies and programmes for the enhancement of working capital management and profitability in the SOE sector. To attain this core research aim, the following objectives of the study needed to be realized:

- To determine the influence of cash management on profitability in Namibian State-Owned commercial institutions;
- To assess the impact of debtor management on profitability in Namibian State-Owned commercial institutions;

- To determine the link between creditor management and profitability in Namibian State-Owned commercial institutions; and
- To gauge the effect of stock management on profitability in Namibian State-Owned commercial institutions.

### **5.3 Theoretical Overview**

A review of literature was undertaken to build a theoretical model of profitability and its determinants. On the basis of this, hypotheses were developed to evaluate how these determinants (cash management, debtor management, creditor management, and stock management) are likely to influence profitability in Namibian State-Owned commercial institutions. Thus, Chapter 2 analysed and discussed the research paradigms in line with prior studies.

Profitability was defined as “an organization’s ability to earn financial profit or gain” (Tauringana & Afrifa, 2013, p. 454). It was assessed by the respondents’ perceptions on whether the organisation enjoys a gradual increase of profit margin for the past few years; a steady increase in operating profit margin for the past few years; a stable increase in net profit margin for the past few years; a steady improvement of overall profitability ratios for the past few years; a constantly above-industry average profitability for the past five years; and good prospects for income and sustained growth in both the short- and long-term.

Cash management was defined as the “management of an entity’s cash to ensure sufficient cash to sustain the entity’s daily operations, finance continued growth and provide for unexpected payments while not unduly forfeiting profit owing to excess

cash holdings” (Mbroh, 2012, p. 40). It was measured by the respondents’ perceptions about the existence of, in the organisation, a good understanding of what impacts the cash flow of the organisation; use a of mix of financial ratio analysis and cash flow forecasting; communication of the importance of cash flow throughout the organisation; promotion of a cash-consciousness among all staff with an influence on the application of cash resources; effective systems for collecting and processing cash flow information; regular monitoring of the working capital cycle to identify potential cash flow issues; preparation of a cash flow forecast that aligns with budgets and strategic timelines; regular monitoring and updating of cash flow forecasts; use of cash flow forecasts to run sensitivity analysis on various levels of business activities; and effective strategies for potential cash flow crises.

Debtor management was defined as “a collection of steps and procedures required to properly weigh the costs and benefits attached with the credit policies” (Akoto et al., 2013, p. 375). It was assessed by the respondents’ perception regarding the presence of a credit control policy that includes credit checks for all customers prior to offering credit; credit limits for each customer; strictly negotiated payment terms before an order is taken; documentation of payments terms on every invoice; adequate controls to ensure adherence to the agreed terms; recognition of people’s capabilities as an important source of competitive advantage; invoices sent to customers as soon as product/service is delivered; regular reports to identify when payments are due; regular reports to identify slow paying customers; and a policy to stop supplying a customer until all debts are cleared.

Creditor management was defined as a “set of policies, procedures, and practices employed by an organization with respect to managing its trade credit purchases” (Arshad & Gondal, 2013, p. 387). It was assessed by the establishment of priorities for the vendor negotiation process and assurance that key personnel and decision-makers are involved; regular update of payment terms; periodic and timely vendor contract reviews; maximisation of savings potential by exploring the viability of various discounts; clear accounts payable metrics; and negotiation of adequate payment terms to maximize liquidity and reduce risk.

Stock management was defined as “the art and science of maintaining stock levels of a given group of items incurring the least cost consistent with other relevant targets and objectives set by management” (Raza et al., 2015, p. 287). It was assessed by the respondents’ perceptions about the existence of an adequate understanding of stock items; effective stock management systems; sound physical controls; effective stock management record-keeping systems; effective buying policies; prohibition to staff from processing their own purchases; and processing of all staff purchases by senior management.

#### **5.4 Research Methodology**

This study used an empirical survey design approach. The population for this study comprised of finance employees from 23 State-owned institutions (namely Air Namibia, Epangelo Mining; Lüderitz Water front; Meat Corporation of Namibia; Namibia Airports Organization; Namibia Institute of Pathology; Namibia Ports Authority; Namibia Posts and Telecommunications Holdings; NAMPOWER; Namibia Wild Resort; National Fishing Corporation of Namibia; NAMCOR; Roads

Authority; RCC; Trans Namib; Zambezi Water Front; Agricultural Bank of Namibia; Development Bank of Namibia; Namibia National Reinsurance Corporation; Road Fund Administration; Environmental Investment fund; MVA, and Games Products Trust Fund). These institutions had a combined total of 120 finance employees countrywide and a questionnaire survey was administered to all of them via e-mail.

The gathered data were analysed using the SPSS application. Data were described through the use of statistics and PLS regression analysis was utilized to determine the strength of each relationship hypothesized by the study model. Reliability and validity issues were addressed in Section 3.6.

## **5.5 Summary of Key Findings**

This section summarizes the key findings of the study, in light of the hypotheses

### ***5.5.1 Influence of Cash Management on Profitability***

The first hypothesis, namely that there is a positive association between cash management and profitability in Namibian State-Owned commercial institutions was confirmed by statistically significant path coefficients ( $\gamma = 0.241$ ). These findings are consistent with the literature in Chapter 2. The managerial implications are that ensuring that there is good understanding of what impacts the cash flow of the organisation; use a mix of financial ratio analysis and cash flow forecasting; communication of the importance of cash flow throughout the organisation; promotion of a cash-consciousness among all staff with an influence on the application of cash resources; effective systems for collecting and processing cash flow information; regular monitoring of the working capital cycle to identify potential cash flow issues;

preparation of a cash flow forecast that aligns with budgets and strategic timelines; regular monitoring and updating of cash flow forecasts; use of cash flow forecasts to run sensitivity analysis on various levels of business activities; and effective strategies for potential cash flow crises, will lead to enhanced profitability in Namibian State-Owned commercial institutions.

### **5.5.2 *Influence of Debtor Management on Profitability***

The hypothesis that debtor management is likely to positively influence profitability in Namibian State-Owned commercial institutions was also confirmed by statistically significant path coefficients ( $\gamma = 0.322$ ). This means that an appropriate credit control policy that includes credit checks for all customers prior to offering credit; credit limits for each customer; strictly negotiated payment terms before an order is taken; documentation of payments terms on every invoice; adequate controls to ensure adherence to the agreed terms; recognition of people's capabilities as an important source of competitive advantage; invoices sent to customers as soon as the product/service is delivered; regular reports to identify when payments are due; regular reports to identify slow paying customers; and a policy to stop supplying a customer until all debts are cleared, will contribute in enhancing profitability in Namibian State-Owned commercial institutions. This is also in line with the literature reviewed in Chapter 2.

### **5.5.3 *Influence of Creditor Management on Profitability***

The third hypothesis, namely that there is a positive link between creditor management and profitability in Namibian State-Owned commercial institutions, is confirmed by

statistically significant path coefficients ( $\gamma = 0.147$ ). These findings are consistent with the literature in Chapter 2. The managerial implications are that the establishment of priorities for the vendor negotiation process and assurance that key personnel and decision-makers are involved; regular update of payment terms; periodic and timely vendor contract reviews; maximisation of savings potential by exploring the viability of various discounts; clear accounts payable metrics; and negotiation of adequate payment terms to maximize liquidity and reduce risk, will lead to improved profitability in Namibian State-Owned commercial institutions.

#### **5.5.4 *Influence of Stock Management on Profitability***

Consistent with the literature reviewed in Chapter 2, the hypothesis which advanced that stock management is likely to be positively associated with profitability in Namibian State-Owned commercial institutions was also confirmed by statistically significant path coefficients ( $\gamma = 0.395$ ). What this implies is that ensuring an adequate understanding of stock items; effective stock management systems; sound physical controls; effective stock management record-keeping system; effective buying policy; prohibition to staff from processing their own purchases; and processing of all staff purchases by senior management, will enhance the profitability of Namibian State-Owned commercial institutions.

## **5.6 Conclusions**

Working capital management is a crucial business dimension for enhanced profitability. Any firm requires enough resources to sustain its operations and needs to ensure that such resources are efficiently and effectively utilised to enhance its

profitability and overall performance. Acknowledging the shortage of literature in this regard in the context of Namibian State-Owned Enterprises (SOE), this study has contributed in supplementing the body of knowledge in the field of working capital management by gauging the influence thereof on profitability in Namibian State-Owned commercial institutions, and it is expected to serve as a guiding instrument for SOE managers and relevant stakeholders to formulate appropriate policies and programmes for the enhancement of working capital management and profitability in the SOE sector.

The findings of this study show that profitability is positively influenced by cash management, debtor management, creditor management, and stock management. The study also found that, except for creditor management, the respondents were not satisfied with the current practices in terms of cash management, debtor management, and stock management. Without further organisational strategies aimed at enhancing these factors, the achievement of organisational objectives and goals will continue to raise concerns in the SOE sector. These aspects are measurable and consequently manageable. SOE managers and policy-makers should therefore ensure due improvement in this regard, and thus they will require relentless support from researchers and other pertinent stakeholders.

## **5.7 Recommendations**

Based on the findings of this study, managerial interventions should focus on enhancing cash management, debtor management, creditor management, and stock management. Although the findings of the study indicated high respondents' satisfaction level with the existing creditor management practices, there is always

room for improvement. Steps that can be immediately taken to address the current situation can include but are not limited to the following: strategic planning incorporated into all stages and aspects of working capital management ; ensuring that key personnel have the required and relevant academic or professional training in the aspects of working capital management; comprehension of contemporary working capital management concepts and principles by the top management of relevant departments; objectively measuring performance in terms of working capital management activities; and ensuring that there is appropriate technology to effectively support contemporary working capital management.

These recommendations will only be effective if there is a strong desire and commitment on the part of the SOE managers to actively work towards improvement in this regard and to avoid any political pressure that may seek to undermine these efforts. It is the hope of this study that by evaluating the present working capital management practices in Namibian State-Owned commercial institutions, an avenue for change and transformation is possible.

## **5.8 Limitations of the Study and Opportunities for Future Research**

Grounded on this research results, the following limitations are identified and opportunities for future research are drawn:

- Only Namibian State-Owned commercial institutions were studied, therefore the findings cannot be generalised to all other public or private institutions in and/or outside Namibia. Future research should cover other public organisations and sectors in and/or outside Namibia.

- It would be worthwhile to replicate this study in other countries to establish the extent to which profitability is influenced by working capital management in these countries' SOE sector, especially developing countries.
- Future researchers should use the measurement instrument developed and verified in this study as it was shown to be reliable. Nevertheless, a refinement of the instrument through the use of bigger samples and enhanced measures may lead to improved results.

## REFERENCES

- Abdi, H., & Williams, L. (2013). Partial least squares methods: Partial least squares. In B. Reisfeld, & R. Mayeno (Eds.), *Computational toxicology: Volume II, methods in molecular biology*, 930. Springer Science & Business Media, LLC. doi:DOI 10.1007/978-1-62703-059-5\_23
- Abbasali, P., & Milda, E. (2012). Impact of working capital management on profitability and market evaluation: Evidence from Tehran Stock Exchange. *International Journal of Business and Social Science*, 3(10), 311-318.
- Abuzayed, B. (2012). Working capital management and firm performance in emerging markets: The case of Jordan. *International Journal of Managerial Finance*, 8(2), 155-179.
- Ahmet, G. S., & Emin, H. C. (2012). Effects of working capital management on firms performance. *International Journal of Economics and Financial Issues*, 2(4), 488-495.
- Al-Debi'e, M. M. (2011). Working capital management and profitability: The case of Industrial Firms in Jordan. *European Journal of Economics, Finance and Administrative Sciences*, 36, 75-86.
- Ali, A., & Ali, S. A. (2012). Working capital management: Does it really affect the profitability? Evidence from Pakistan. *Global Journal of Management and Business Research*, 12, 2249-4588.

- Al-Mwalla, M. (2012). The impact of working capital management policies on firm's profitability and value: The case of Jordan. *International Research Journal of Finance and Economics*, 85,147-153.
- Agyei, S. K., & Yeboah, B. (2011). Working capital management and profitability of banks in Ghana. *British Journal of Economics, Finance and Management Sciences*, 2(2), 1-12.
- Akinyomi, O. J. (2014). Effect of cash management on firm profitability of Nigerian manufacturing firms. *International Journal of Marketing and Technology*, 4(1), 129-140.
- Akoto, R. K., Awunyo, V. D. & Angmor P. L. (2013). Working capital management and profitability: Evidence from Ghanaian listed manufacturing firms. *Journal of Economics and International Finance*, 5(9), 373-379.
- Amalendu, B.I & Sri, B.B (2011). Importance of liquidity management on profitability. *Asian Journal of Business Management*, 3(2), 108-117.
- Amoako, K. O., Marfo, E. O., Gyau, K. E. & Asamoah. F. O. (2013). Cash budgeting imperative element of effective financial management. *Canadian Social Science*, 9(5), 188-191.
- Anichebe, N. A. & Agu, O. A. (2013). Effect of inventory management on organizational effectiveness. *Information and Knowledge Management*, 3 (8), 92-100.

- Arshad, Z., & Gondal, M. (2013). Impact of working capital management on profitability: A case of the Pakistan cement industry. *Interdisciplinary Journal of Contemporary Research in Business*, 5(2), 384-390.
- Aruldoss, S. P. S., Rajan, A. D., Jesus, R. F., & Mohamed, M. (2013). A study on the working capital management of Bharat Petroleum Corporation Limited. *International Journal of Research in Finance and Marketing*, 2(5), 1-14.
- Barine, M. N. (2012). Working capital management efficiency and corporate profitability: Evidence from quoted firms in Nigeria. *Journal of Applied Banking and Finance*, 2(2), 215-237.
- Bartlett, C., Beech, G., Hart, F., Jager, P., Lange, J., Erasmus, P., Hefer, J., Madiba, T., Middelberg, S., Plant, G., Streng, J., Thayser, D. & Rooyen, S. (2014). *Financial Management –Turning theory into practice*. Cape town, South Africa: Oxford University Press.
- Bhattacharjee, A. (2012). *Social science research: Principles, methods, and practices*. Retrieved from [http://scholarcommons.usf.edu/oa\\_textbooks/3](http://scholarcommons.usf.edu/oa_textbooks/3).
- Bobitan, N., & Mioc, A. D. (2011). Using information on the cash flow situation in substantiating entities' decisions. *Agricultural management*, 13 (3): 299-306.
- Cooper, D., & Schindler, P. (2006). *Marketing research*. New York, NY: McGraw-Hill.
- Dong, H. P., & Su, J. (2010). The relationship between working capital management and profitability: A Vietnam Case. *International Research Journal of Finance and Economics*, 49, 59-67.

- Eljelly, A. (2004). Liquidity-profitability trade off: An empirical investigation in an emerging market. *International Journal of Commerce and Management*, 14, 48-61.
- Eneje, B. C., Nweze, A .U., & Udeh, A. (2012). Effect of efficient inventory management on profitability: Evidence from selected brewery firms in Nigeria. *International Journal of Current Research*, 4 (11), 350-354.
- Enow, S.T., & Kamala, P. (2016). The accounts payable management practices of small, medium and micro enterprises in the Cape Metropolis, South Africa. *Investment Management and Financial Innovations*, 13(1), 77-83.
- Ghaziani, B., & Zadeh (2012). Investigation of the relationship between components of working capital management with market valuation and profitability in firms listed in Tehran Stock Exchange. *Trends in Social Science*, 1(5), 55-63.
- Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2006). *Multivariate data analysis* (6th ed.). New Jersey, NJ: Prentice Hall.
- Jauch, H. (2012). *Reforming State-owned Enterprises: Past experiences and challenges ahead*. Panel Discussion, 16 August 2012. Windhoek, Namibia:.
- Jose, M. L., Lancaster, C. & Stevens, J. L. (1996). Corporate returns and cash conversion cycles. *Journal of Economics and Finance*, 20(1), 33-46.
- Hamid, B., & Waqar, A. (2013). Does efficient working capital management enhance profitability of Pakistani Firms? *Management and Administrative Sciences Review*, 2, 715-720.

- Hayajneh, O. S., & Yassine, F. L. A. (2011). The impact of working capital efficiency on profitability-an empirical analysis on Jordanian manufacturing firms. *International Research Journal of Finance and Economics*, 66, 61-76.
- Kangueehi, T. (2007). The performance of State-Owned Enterprises in Namibia. (Master's thesis, University of Namibia, Windhoek, Namibia).
- Karaduman, H. A., Akbas, H. E., Caliskan, A. O., & Durer, S. (2011). The relationship between working capital management and profitability: Evidence from an emerging market. *International Research Journal of Finance and Economics*, 62, 61-67.
- Maitra, S., & Yan, J. (2008). Principle component analysis and partial least squares: Two dimension reduction techniques for regression. *Casualty Actuarial Society*. Discussion Paper Program.
- Malik, M., Waseem, J. U., & Kifayat, U. (2011). Working capital management and profitability analysis of firms of textile industry of Pakistan. *Journal of Managerial Sciences*, 6(2), 155-165.
- Mary, M. R., John, S., & Laurie, S. (2010). The relationship between inventory management and firm profitability: Sector consequences of catastrophic supply chain disruptions. *California Journal of Operations Management*, 8(2), 39-54.
- Mathuva, D. M. (2010). The influence of working capital management components on corporate profitability: A survey on Kenyan listed firms. *Research Journal of Business Management*, 4(1), 1-11.

- Mbawuni, J., Mbawuni, M. H., & Nimako, S. G. (2014). The impact of working capital management on profitability of petroleum retail firms: Empirical evidence from Ghana. *International Journal of Economics and Finance*, 8(6), 49-62.
- Mbroh, J.K. 2012. Cash management practices of small business owners in the Cape Coast Metropolitan area of Ghana. *Asian Economic and Financial Review*, 2(1):40-58.
- Mbroh, K.J. & Attom, B.E. (2012). Accounting and control systems practices by small and micro enterprises owners within the Cape coast Metropolitan area of Ghana. *Asian Journal of Business and Management Science*, 1 (9), 28-47.
- Mbula, K.J., Memba, S.F, & Njeru, A. (2016). Effect of accounts receivable on financial performance of firms funded by Government Venture Capital in Kenya. *IOSR Journal of Economics and Finance*, 7(1), 62-69.
- McDaniel, C., & Gates, R. (2001). *Marketing research essentials* (3rd ed.). Cincinnati, OH: South-Western College.
- Mensah-Agyei, B.K. (2012). Working capital management practices of small firms in the Ashanti region of Ghana. *International Journal of Academic Research in Business and Social Science*, 2(1), 3781-3789.
- Muninarayanaappa & Aggarwal, S. (2013). Impact of cost of holding inventory on the profits and sales of the BHEL with the help of ABC analysis & EOQ - A study. *Journal of Business Management and Social Sciences Research*, 2(1), 70-80.
- Mutuku, C. K. & Mathooko, P. (2014). Effects of organizational communication on employee motivation: A case study of Nokia Siemens Networks Kenya.

*International Journal of Social Sciences and Project Planning Management*, 1(3), 28-62.

Ndayanale, E. (2013). Namibia crawls to profitability. Master's thesis. University of Namibia, Windhoek, Namibia.

Ogbo, A. I., Onekanma, I. V. & Ukpere, W. I. (2014). The impact of effective inventory control management on organizational performance: A study of 7up bottling Company Nile Mile Enugu, Nigeria. *Mediterranean Journal of Social Sciences*, 5 (10), 109-118.

Oladipupo, A. O., & Okafor, C. A. (2013). Relative contribution of working capital management to corporate profitability and dividend payout ratio: Evidence from Nigeria. *International Journal of Business and Finance Research*, 3(2), 11-20.

Onwumere, J. U. J., Ibe I. G., & Ugbam O. C. (2012). The impact of working capital management on profitability of Nigerian Firms: A preliminary Investigation, *European Journal of Business and Management*, 4(15), 192-201.

Owolabi, S. A., & Alu, C. N. (2012). Effective working capital management and profitability: A study of selected quoted manufacturing companies in Nigeria. *Economic and Finance Review*, 6, 55-67.

Palys, T. (2008). Purposive sampling. In L. M. Given (Ed.) *The Sage Encyclopaedia of qualitative research methods*, 2, 697-698.

- Panigrahi, A. K. (2013). Relationship between inventory management and profitability: An empirical analysis of Indian cement companies. *Asia Pacific Journal of Marketing & Management Review*, 2(7), 107-120.
- Qazi, H.A., et al. (2011). Impact of working capital on firms' profitability. *African Journal of Business Management*, 5(27), 11005-11010.
- Rahman, M. M. (2011). Working capital management and profitability: A study on textiles industry. *ASA University Review*, 5(1), 115-132.
- Raza, M. Y., Bashir, M., Latif, K., & Shah, T. S. (2015). Impact of working capital management on profitability: Evidence from Pakistan oil sector. *International Journal of Accounting and Financial Reporting*, 5(1), 286-299.
- Sarkar, C. R., & Sarkar, A. (2013). Impact of working capital management on corporate performance: An empirical analysis of selected public sector oil and gas companies in India. *International Journal of Financial Management*, 3(2), 17-28.
- Saunders, M., Lewis, P., & Thornhill, A. (1997). *Research methods for business students*. London, UK: Financial Times Publishing.
- Scheepers, M. (2007). Entrepreneurial intensity: The influence of Antecedents to corporate entrepreneurship in firms in South Africa. 130-279. Unpublished Philosophiae Doctor Thesis.
- Sekeroglu, G. & Altan M. (2014). The relationship between inventory management and profitability: A comparative research on Turkish firms operated in weaving industry,

- Eatables Industry, wholesale and detail industry. *International Journal of Social, Management, Economics and Business Engineering*, 8(6), 1665-1670.
- Shin, H. H. & Soenen, L. (1998). Efficiency of working capital and corporate profitability. *Financial Practice and Education*, 8(2) 37-45.
- Singleton, R.A., & Straits, B.C. (2010). *Approaches to Social Research* (5th ed.). New York, NY: Oxford University Press.
- Sitienei, E. & Memba, F. (2015). The effect of inventory management on profitability of cement manufacturing companies in Kenya: A case study of listed cement manufacturing companies in Kenya. *International Journal of Management and Commerce Innovations*, 3(2), 111-119.
- Stephen, M., & Elvis, K. (2011). Influence of working capital management on firms profitability: A case study of SMEs in Kenya. *International Business Management*, 5(5), 279-286.
- Tauringana, V., & Afrifa, A. (2013). The relative importance of working capital management and its components to SMEs' profitability. *Journal of Small Business and Enterprise Development*, 20(3), 453-469.
- Usama, M. (2012). Working capital management and its effect on firm's profitability and liquidity in other foods sector of Karachi Stock Exchange. *Arabian Journal of Business and Management Review*, 1(12), 62-73.
- Uwuigbe, O., Uwalomwa, U., & Egbide, B. (2012). Cash management and corporate profitability: A study of selected listed manufacturing firms in Nigeria, 8(1), 49-59.

van Elst, H. (2015). *Foundations of descriptive and inferential statistics (version 3)*.

Karlshochschule International University: Karlsruhe.

DOI: 10.13140/RG.2.1.2112.3044.

Vijayakumar, A. (2011). Management of corporate liquidity and profitability: An empirical study. *International Journal of Marketing and Technology*, 1(6), 168-169.

Zubair A., & Muhammad, Y. G. (2013). Impact of working capital management on profitability: A case of the Pakistan Cement Industry. *Interdisciplinary Journal of Contemporary Research in Business*, 5(2), 384-390.

## APPENDIX 1: RESEARCH QUESTIONNAIRE

### Analysing the Relationship Between Working Capital Management and Profitability in Namibian State-Owned Commercial Institutions

The aim of this research is to enrich the body of knowledge in the area of Working Capital Management by gauging the influence thereof on profitability in Namibian State-Owned Commercial Institutions, and thereby serving as a tool for policymakers and relevant stakeholders to design effective policies and programmes to enhance Working Capital Management and profitability in the SOE sector. This research forms part of the requirements for the Degree of Master of Business Administration (MBA) at the Namibia Business School. Your responses will be treated as confidential and the information will not be used for commercial purposes or any other purpose.

For each of the statements below, please rate your answer and mark with (x) the appropriate box as follows:

*Strongly disagree (1); Disagree (2); Disagree moderately (3); Agree moderately (4); Agree (5); Strongly agree (6)*

There are no “right or wrong” answers to these questions; so please be as honest and thoughtful as possible in your responses. All responses will be kept strictly confidential.

		1	2	3	4	5	6
<b>Cash Management</b>							
CM1	We have a good understanding of what impacts the cash flow of our organization.						
CM2	We use a mix of financial ratio analysis and cash flow forecasting to provide the best information on liquidity and cash flow.						
CM3	The importance of cash flow is communicated throughout the organization.						
CM4	A cash-consciousness is promoted among all staff with an influence on the application of cash resources.						
CM5	We have effective systems for collecting and processing cash flow information.						
CM6	We monitor the working capital cycle regularly to identify potential cash flow issues.						
CM7	We prepare a cash flow forecast that aligns with budgets and strategic timelines (short- and long-term).						
CM8	We monitor and update cash flow forecasts on a regular basis.						
CM9	We use cash flow forecasts to run sensitivity analysis on various levels of business activities.						
CM10	We have effective strategies for potential cash flow crises, such as undrawn finance facilities.						
<b>Debtor Management</b>							
DM1	We have a credit control policy that includes credit checks for all customers prior to offering credit.						
DM2	We set credit limits for each customer.						
DM3	Payment terms are strictly negotiated before an order is taken.						

DM4	Payments terms are documented on every invoice.							
DM5	We have adequate controls to ensure that all employees (particularly sales staff) adhere to the agreed terms when completing a sale.							
DM6	The capabilities of people are viewed as an important source of competitive advantage.							
DM7	We send invoices to customers as soon as product/service is delivered, not at the end of the month.							
DM8	We run regular reports to identify when payments are due (aged debtors report).							
DM9	We run regular reports to identify slow paying customers and make contact early to discuss any issues.							
DM10	We have a policy to stop supplying a customer until all debts are cleared.							
<b>Creditor Management</b>								
CrM1	We establish priorities for the vendor negotiation process and ensure key personnel and decision-makers are involved.							
CrM2	We regularly update payment terms and the availability of volume discounts, trade credits or other ongoing or periodic rebates.							
CrM3	We complete periodic and timely vendor contract reviews, in addition to reviewing such contracts against industry standard terms.							
CrM4	We maximize our savings potential by exploring the viability of any available early payment discounts, volume rebates or trade spend initiatives.							
CrM5	We have set clear accounts payable metrics and adhere to them across the organization.							

CrM6	When purchasing a new or riskier product, we negotiate longer payment terms to increase working capital or ask to add the product to consignment stock rather than inventory as a way to maximize liquidity and reduce risk.								
<b>Stock Management</b>									
SM1	We have adequate understanding of what moves quickly, what contributes the highest gross margin, what is aged or excess, and what's seasonal.								
SM2	Our systems are effective in helping to determine how much of each line of stock to keep on hand and when a re-order is required.								
SM3	We have sound physical controls to minimize perished stock or the risk of theft.								
SM4	Our stock management record-keeping system is effective.								
SM5	We have an effective buying policy.								
SM6	Staff are prohibited from processing their own purchases.								
SM7	All staff purchases are processed by senior management.								
<b>Profitability</b>									
P1	Our gross profit margin has gradually increased for the past few years.								
P2	Our operating profit margin has enjoyed steady increase for the past few years.								
P3	There has been a stable increase in our net profit margin for the past few years.								
P4	Overall, our profitability ratios have steadily improved for the past few years.								

P5	For the past five years, our profitability has been constantly above industry average.						
P6	We have good prospects to earn income and sustain growth in both the short- and long-term.						