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Financial Management Maturity Level assessment of SIOC, in the context of the South African Mining Industry

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Research Report

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ABSTRACT

This qualitative research endeavored to investigate the financial maturity level of the South African mining company SIOC, with the aim of enhancing organisational performance and identifying areas that require further maturation. The research was conducted within the specific context of SIOC in the mining industry of South Africa. The organisation launched a strategic initiative focused on four key pillars, namely, achieving zero fatalities, prolonging the lifespan of operations, attaining an additional $10 per ton margin by 2022 to reach a breakeven point at $35 per ton (in 2017 real terms), and becoming the Employer of Choice in South Africa. Three of the four strategic pillars were successfully achieved, except the breakeven objective. The primary objective of this research was to contribute to the current body of literature, and to advance knowledge of financial maturity models, as well as the relationship between financial maturity levels, organisational performance, and profitability. To assess the financial maturity of the organisation and enhance its performance and competitive advantage, a relevant financial maturity model was employed as a guide. Primary data was acquired through face-to-face semi-structured interviews and a questionnaire completed by all interviewees. The research included 20 interviews conducted with four financial management experts and 16 managers from various operational functions. The primary findings of the analysis suggested that the financial maturity level of the organisation is intermediate to good. The study recommends focusing on the simplification and accessibility of financial information, as well as the development of financial management at the junior to middle management levels.

STUDENT DECLARATION

By submitting this thesis electronically, I, Ms.SB Mbatha (9613808J), declare that I understand the university's rules on plagiarism and that the entirety of the work contained herein is my own, original work, that I am the sole author thereof (except where expressly stated otherwise), Where other people's work has been utilised this has been referenced in line with the schools' guidelines, furthermore, that reproduction and publication of this paper by the University of the Witwatersrand will not infringe third-party rights. Lastly, I declare that I have not previously submitted it in its entirety or in part to obtain any qualification.

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18 October 2023
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CHAPTER 1: INTRODUCTION TO THE STUDY

1.1 Background of the study

Financial management and cost accounting are generally viewed as industry-specific functions that are internal to an organisation and serve as strategic business management tools (Patil & Kshatriya, 2016). Financial management tools, processes, and systems can be a source of competitive advantage and are, therefore, of strategic importance to any organisation (Haghighat, Javanmard, & Horri, 2022). Good financial management is essential for all organisations and may be used to enhance financial planning forecasts, promote genuine accountability, and improve risk management (Haghighat et al., 2022). A maturity evaluation is one method by which a company can evaluate its financial management capacity and capability.

Maturity assessments can be used to measure the current maturity level of a particular area of an organization or even the full company capabilities in an organized manner (Akinpelu, Eck, & Zuva, 2021). These assessments enable organisations to identify areas of strengths and improvement across all business aspects, such as people, processes, systems, and organisational strategy, and can, therefore, be utilised to improve overall organisational performance. The literature further supports the causal link between a higher maturity level and the delivery of desired strategic performance objectives.

This study aims to evaluate the level of financial management maturity in the mining industry, using the case of SIOC and suggests that the outcome of this evaluation may help the organisation accomplish its financial strategic target and contribute towards the organisation accomplishing its financial strategic target.

1.2 Context of the study

Over the past decade, mining businesses have faced declining revenues due to reducing global commodity prices, increasing geological inflationary pressures from aging infrastructure, such as deeper mines and longer ore transport distances, and high inflation. SIOC operations are nearing the end of their mining activities since its inception in 1953, making financial management increasingly important. Financial

maturity assessments evaluate cost management maturity holistically and identify gaps that may require management action.

In South Africa, this issue has been exacerbated by the rising cost of energy (electricity and fuel). SIOC has implemented several cost-cutting measures in response to dropping prices and growing expenses since the implementation of its Tswelelopele plan in 2017. According to the 2021 Annual Financial Statements of KIO, costs in SIOC increased by 19% annually, and the company has not been able to achieve a step-reduction in its unit cost, calculated as operating cost per tonne of product supplied.

The organisation's mining operations cost per metric tonne rose by 19% in 2021 (Kumba Iron Ore: Integrated Financial Report, 2021). The organisation attributes R432/ton unit costs to COVID-19 and greater stripping ratios. The organization rolled out multiple cost optimisation initiatives since 2017 at the start of its Tswelelopele strategy and delivered R1 billion on its saving programme (by 2021), but its unit cost profile has steadily increased and it has not been able to lock in a step change or decline in its cost profile (in real terms), KIO (2021). This supports the need for the organisation to assess and develop methods to strengthen financial management processes.

1.3 Overview of Literature on financial maturity models

According to Akinpelu et al. (2021), maturity assessment models are an effective method for measuring business processes or organisational capacities. The most common definitions of maturity models can be summed up as a comprehensive capacity evaluation tool, Akinpelu et al. (2021).

Maturity models have been studied in the humanities, engineering, technology, and strategic business applications (Proença, 2016). There is a vast literature on maturity models in project management, risk management, human capital management (talent management, performance management, employee value proposition, etc.), and many technical fields like engineering and information technology, but financial maturity models are scarce. Margarido, Faria, Vieira, & Vidal, (2013), p5, demonstrated that there is no clear guideline for developing or applying maturity models, even if numerous are documented in scientific and non-science literature

because of difficulty in collecting data and understanding strength of relationship between variables.

Analysis of the literature was applied to identify the most suitable financial maturity evaluation model available in literature. Analysis of multiple models in literature identified multiple financial maturity models of interest: first, the model developed in the United Kingdom's National Audit Office, and the second model developed by the International Federation of Accountants in the United States. The most commonly applied model in literature was the one designed by the National Audit Office (NAO) of the United Kingdom Government and was introduced in 2009. Several financial maturity models cited in the literature either utilised this model or an adaptation of it (Margarido et al.,2013).

1.4 Problem statement

The organisation's Tswelelopele strategy rollout plan (2017) outlined four key factors that form the basis of the organisation's burning ambition, namely, to achieve zero fatalities, sustainably extend the life of the Northern Cape operations ppost-2040 unlock an additional $10 per ton margin by 2022 to breakeven at $35 per ton (in 2017 real terms), and become the Employer of Choice in South Africa.

As of June 2022, the organisation had delivered on three of the four strategic imperatives, failing only to unlock an additional $10 per ton margin to breakeven at $35 per ton (in 2017 real terms) KIO's interim results for the six months ended 30 June 2022 (2022). This strategic imperative was reliant on the delivery of improved operational efficiencies and cost-saving initiatives, both of which had a target to deliver R2.6 billion by 2022. However, the organisation's breakeven point per ton was still $70 per ton as of June 2022.

The aim of this study was to assess the maturity level of SIOC's financial management systems and processes, which are essential to maintaining competitiveness and are a direct enabler of its cost optimisation strategic goal.

It is important to understand financial maturity level of an organisation, as "Maturity models are popular instruments used, to rate capabilities. Their application areas are

wide spread and range from cognitive science to business applications and engineering.” Kohlegger, M., Maier, R., & Thalmann, S. (2009).

The outcome of the maturity assessment can be an input into the organisation’s chosen strategic planning model /framework which will help SIOC to identify and overcome obstacles specific to its financial management processes and system which can assist SIOC streamline it’s operations. This financial maturity assessments can be utilised to evaluate the organisations capabilities that are critical to ensure competitive advantage, therefore outcome from a maturity assessment can be an input into an organisations SWOT analysis.

Specifically, this paper focuses on the maturity of financial reporting/costing systems, processes, practices, and financial management awareness at SIOC. The study seeks to establish whether there is a correlation between the maturity level of financial management systems and processes and the inability to deliver the financial strategic pillar outlined in the Tswelelopele strategy.

1.5 Aim of the study

This study aims to evaluate the level of financial management maturity in the South African mining industry, using SIOC (Pty) Ltd as a case study. The study examines financial maturity as a tool to enhance organisational financial performance, with the understanding that identifying areas of lower maturity can help the organisation allocate necessary resources to close such gaps.

This qualitative study identified an appropriate financial maturity model through a review of literature. This identified model was then utilised as a guide for conducting semi-structured interviews with financial management experts, organisational leadership teams, and financial budget controllers to assess the level of financial management maturity in the organisation.

1.6 Research questions

The following questions will be investigated in this study:

- Which financial maturity assessment tool is most relevant to evaluate SIOC's financial management maturity in a meaningful way?
- What is the perceived level of SIOC financial management maturity in line with the four pillars of financial maturity, prescribed by NAO (2009) namely: financial leadership and development, financial planning, financial decision-making, and financial monitoring and forecasting".
- Does the perception of SIOC's financial maturity change between the organisation's financial professionals (experts) and the management population as a whole?
- Where might the organisation invest resources to enhance its perceived degree of financial maturity?

1.7 Objectives of the study

The objectives of the study are the following:

- To identify a literature-based model that is most relevant to evaluate SIOC's financial management maturity in a meaningful way?
- To evaluate the perceived level of SIOC financial maturity as prescribed by NAO (2009) the four pillars of financial maturity: financial leadership and development, financial planning, financial decision-making, and financial monitoring and forecasting.
- To identify disparities in the perceived level of maturity between financial management specialists and the general management population.
- To provide feedback to the organisation on areas that can be explored and developed further to improve the organisation's financial maturity level.

1.8 Delimitations of the study

This study will not attempt to unpack the relationship between the level of financial maturity and the financial performance of the target organisation, or the impact of the organisation's cost management maturity level on its performance or profitability.

Furthermore, the prevailing cost culture within the organisation is outside the scope of the study; hence, the cost culture and its perceived impact on financial maturity or financial performance will not be assessed. This paper will also not provide a detailed action plan on how the organisation can improve its identified maturity level.

This study is limited to the financial maturity of Sishen Iron Ore Company – SIOC only due to time and capacity constraint as such it does not attempt to unpack the industry financial maturity level, which remains a potential focus area for future researchers.

1.9 Limitations of the study

The sample population in this research was non-randomised and is limited to budget owners in Sishen Iron Ore Company - SIOC who may give subjective perspective and thereby influence the outcome. To address this risk the sample population included financial experts in the population to test the validity of the research.

Furthermore, given the nature of qualitative research the outcome of the research may have a degree of bias attributable to the researcher interview style and technical background may have an influence on the interpretation of the population's responses. To address this the researcher utilised a structured questionnaire (based on the NAO financial maturity model) to guide the researcher.

To address the inherent limitations to the study it is recommended that future quantitative studies be undertaken to further validate the outcome of the research.

2.0 Significance of the study

There was sufficient literature available on previous research conducted on maturity models in the humanities, engineering, technology, and strategic business applications Proença, (2016) but research on financial maturity models was limited. Furthermore, there was also limited guideline for developing or applying maturity models, (Margarido et. al., 2013).

Therefore, this study will contribute to building a body of knowledge with respect to financial management maturity assessments, especially in the South African mining industry which justifies the relevance of this study. Although maturity assessments are a well-developed topic in the literature, only a small number of organisations have

been identified as having conducted a study on the maturity of their current financial management systems and procedures. There is a paucity of material on the financial maturity level within the mining business.

The study will contribute to both local findings and the pool of international research in with respect to financial management maturity. It will also assist in starting to understand and evaluate the level of financial management maturity in the mining industry and contribute to the field of strategic financial management.

Evidence existed in literature which showed that the is a significant relationship between purchasing maturity level and successful cost-reduction efforts, and resulted in larger saving potential, Schiele (2007). “The study by Schiele concluded that where an organisation’s maturity is too low, the introduction of best practices, such as an innovative cost reduction method, may fail” Schiele (2007). This research will contribute to future field of study towards evaluating causal links between financial management maturity and overall financial performance of an organisation.

The differentiator of the study is that this research was undertaken in a global international mining company in the Northern Cape. The mine is a mega-mine and a strategic asset of a dual-listed organisation both on the Johannesburg Stock exchange and the London stock exchange. This global perspective gave access to a diverse sample and research results.

The study may also benefit the mining industry, as there is currently limited research on financial management maturity levels both internationally and in the South African mining industry. The results of the study may also influence organisations to invest more focus time and resources in financial management training systems and processes to improve overall financial maturity. Finally, the study enhances and improves an existing body of knowledge on understanding the organisational financial management maturity and utilising this as a tool to improve individual and business performance.

1.10 Outline of chapters

The final research report comprises six chapters, constructed as follows:

Chapter One

Chapter one introduces the topic and provide an overview of the financial management maturity assessment concepts.

Chapter Two

This chapter will present a comprehensive literature review of financial management maturity level assessment tools, including their similarities, differences, and limitations, and explain the rationale for the chosen model.

Chapter Three

Chapter three details the design and methodology applied in this research, including the rationale for the qualitative research model, including target population, and the data collection and analysis methods applied.

Chapter Four

Chapter four will contain the analysis and interpretation of the normative imperatives as set out in Chapter 3 and an analysis of the financial management maturity level assessment outcome and interview outcomes.

Chapter Five

Chapter five presents all findings from the data collection related to the research objectives and questions. It links empirical findings and significant statements collected from data to key themes outlined in the literature review.

Chapter Six

This final chapter will provide a summary, recommendations, and conclusion on the significance of the main findings and potential future research or gaps that remain.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The preceding chapter presented an introduction and background to the research topic as well as the organisational context. The study aims to assess the level of financial maturity in the mining industry and the available models. Furthermore, it explores the relevance of financial maturity level to financial performance management.

This section provides a systematic and comprehensive evaluation and synthesis of the literature on financial management maturity and strategic cost management. It covers international models, local studies, and mining sector research in South Africa, starting with an analysis of available international models and local studies.

2.2 Overview of the Literature on financial management maturity level assessments

The concept of maturity evaluation has a long history and can be traced back to the early 1970s, specifically in the work of Nolan (1973) in the domain of software engineering. Over the years, numerous maturity models have been developed across a wide range of topics, from scientific technical disciplines to non-scientific subjects such as leadership (Kohlegger, Maier, & Thalmann, 2009). While these models differ across various subjects, there is an overwhelming level of similarity in their characteristics, which suggests that many researchers drew from prior research without focusing on the appropriateness of their design decisions for a specific subject (De Bruin, Freeze, Kulkarni, & Rosemann, 2005). This indicates the need for continuous examination and modification of maturity modelling to meet subject-specific requirements and an evolving business environment.

The Project Management Maturity Models (PMMMs) are among the most well-developed, comprehensive, and extensively researched models in project management (Sanchez, Bonjour, Micaelli, & Monticolo, 2020). These maturity assessment methods can predict project outcomes and a higher level of “Project Management Maturity (PMM)” has been shown to result in operational performance that meets the required quality standards, schedule, and budget, and fewer

performance failures (Sanchez et al., 2020). This study evaluates the level of financial management maturity in the mining industry, assuming that a higher maturity level is likely to enable an organisation to deliver on its financial strategic imperative.

Most maturity level assessment tools in literature have multiple “maturity levels”, typically a five-step process that ranks the level of maturity from the lowest to the highest (Margarido et al.,2013). However, “the number of levels varies depending on the domain and the characteristics of the model both within and across domains”

The literature indicates that financial management maturity is influenced by both the cost management approach and the scope of the technique’s implementation (Patil & Kshatriya, 2016). However, there is limited literature on financial management maturity level evaluation in general, and none on financial maturity assessments in the South African mining industry.

According to Haghighat et al. (2022), the maturity level of cost management provides a reliable evaluation of the effectiveness of the entire organisation in managing or optimising design and consumption over time. “One-time” processes or business changes, environmental and market changes, and political legislative landscapes, as well as systematic changes made over time, introduce additional complexity (Margarido et al., 2013). Thus, the assessment of an organisation’s cost management maturity is a complex process that requires a multidimensional approach that considers, at a minimum, three different dimensions: the type of technique or model employed, the scale of the organisation, and the availability and accessibility of data Margarido et al., 2013).

2.2.1 Definition of financial management maturity level found in the literature

The financial management maturity level is commonly evaluated based on the measurement, management, and optimisation of processes, systems, practices, and people that contribute to overall organisational performance (Kohlegger et al., 2009; Patil & Kshatriya, 2016). Numerous studies on maturity level models across different domains have consistently demonstrated a positive correlation between higher maturity levels and the likelihood of delivering desired outcomes, as evidenced in the field of project management (Akinpelu et al., 2021). Therefore, it can be generally

assumed that a higher financial management maturity level increases the probability of achieving the desired targets.

2.3 Theoretical literature relating to financial management maturity assessment models/tools

A financial management maturity assessment tool is a valuable self-assessment tool that can be utilised to identify capability levels in an organisation's strategic financial management processes and systems (Haghighat et al., 2022). This tool enables management to identify and safeguard existing financial management strengths, as well as pinpoint areas that require improvement.

The literature indicates that various maturity models for different domains of study have been developed furthermore these models can enable organisations to gain and retain competitive advantage and serve as an evaluative and comparative basis for improvement (De Bruin et al., 2005). However, De Bruin et al. (2005) also argues that "there is little documentation on how to develop a maturity model that is theoretically sound, rigorously tested, and widely accepted".

A financial management maturity assessment tool is a valuable self-assessment tool that can be utilised to identify capability levels in an organisation's strategic financial management processes and systems (Haghighat et al., 2022). This tool enables management to identify and safeguard existing financial management strengths, as well as pinpoint areas that require improvement.

Assessment of the maturity level of strategic cost management (SCM) is a tool that management can use to evaluate the effectiveness of its cost management functionality and overall cost culture (Haghighat et al., 2022). To assess the maturity level, the entire framework from input, process, and output of the system, including strategic management of the system outputs, must be evaluated to improve the competitive position of the organisation and inform its strategic direction (Haghighat et al., 2022).

Multiple studies demonstrate that no single approach or technique is sufficient for comprehending and researching culture or maturity levels, and businesses must evaluate several aspects. Therefore, a multi-method and holistic approach should be

taken towards evaluating culture Antonsen, (2009), Bentley, W. R., & Teeguarden, D. E. 2018; Guldenmund, (2007), also called ‘triangulation’. For this research, a model will be applied to evaluate the cost management culture and accountability framework and current ways of working (process and systems) in line with the suggested multi-strategies triangulation approach.

To identify the best and most applicable financial maturity model for testing the maturity level of SIOC, multiple models were assessed, including the financial maturity model developed by NAO (2009), the Cost Continuum model developed by the International Federation of Accountants (IFAC) (2009), and the 5-Step Maturity Assessment model provided by Performance Improvement Partners (PIP – UK) 2021. The Financial Management and Capability Maturity Model (FMCMM) was developed by the South African National Treasury and the Strategic financial management maturity model was developed by (Strategic Management Group, 2019).

Most of the models found and used in the literature were adaptations of the IFAC (2009) Financial Maturity model (Proença, 2016). Researchers found this model to be less complicated and easier to apply, which is why it will be used for this study. A summary of the model’s description and functionality is included in sections 2.3.1 to 2.3.5.

Further assessment of the literature found two financial maturity models most suitable to this study to be the NAO (2009) maturity assessment model developed by the national audit office of the United Kingdom Government and the second one was developed by the International Federation of Accountants in the United States of America. The model that is found to be, commonly used in literature is the financial management maturity model available and used on multiple research studies, this model is developed by the National Audit Office (NAO) of the Government of the United Kingdom launched in 2009, (UK Government NAO ,2009). Many Financial Maturity Models referenced in literature were either utilising this model or were an adaptation of this model.

The closest research done in this field of study in South Africa is the study that assessed “the maturity of financial management practices in the Judicial Inspectorate for Correctional Services” Lesch A.W. (2021) focused on the application of (FMCMM),

in 2008, developed by the national treasury of the South African government, specifically designed for government departments.

It was also found that while these models differ across various subjects, there was an overwhelming level of similarity in their characteristics, this indicates the need for continuous examination and modification of maturity modelling to meet subject-specific requirements and an evolving business environment. Furthermore, a comparative analysis by Kohlegger et al. (2009) found that all models aim to assess quantitative or qualitative capability and capacity, despite having different designs and focus areas. All financial management maturity models assessed evaluated capability across people, processes, systems, and leadership.

Similarities exist between the NAO (2009) model and other financial management maturity level assessment models used in Ireland and Japan. For this study, the NAO (2009) model was found to be the most relevant and easier to apply as it undertakes a holistic evaluation of financial governance, ethical culture, and effective leadership. This is achieved through a “5-step evaluation process that evaluates maturity in financial governance and leadership, financial planning, financial information for decision-making, financial monitoring and forecasting, and financial performance and reporting” NAO (2009).

2.3.1 Financial Management Maturity Model 1: A costing levels continuum maturity model developed by the International Federation of Accountants

The International Federation of Accountants (IFAC) – USA (2009) has developed a “Costing Levels Continuum Maturity Model” which is a 12-step model that can assist organisations in assessing their cost management maturity level. The outcomes of this continuum assessment can inform the ongoing enhancement of costing methodologies, data gathering, and systems by supporting organisations. The IFAC suggests using this model as an internal tool to help managerial examination of present practices and to consider suitable action to improve financial management performance evaluation and analysis in interpretative, diagnostic, analytical, and predictive capabilities. The International Federation of Accountants (IFAC) – USA (2009)

The IFAC continuum measures two key capabilities of costing systems. Namely system capability and business decision making processes. In respect to system capability the assessment looks at ability to analyse historic cost performance, run costing scenarios as well as make projections of expected financial performance in the future ones. The second aspect assesses the effectiveness of available data in supporting the business decision-making process.

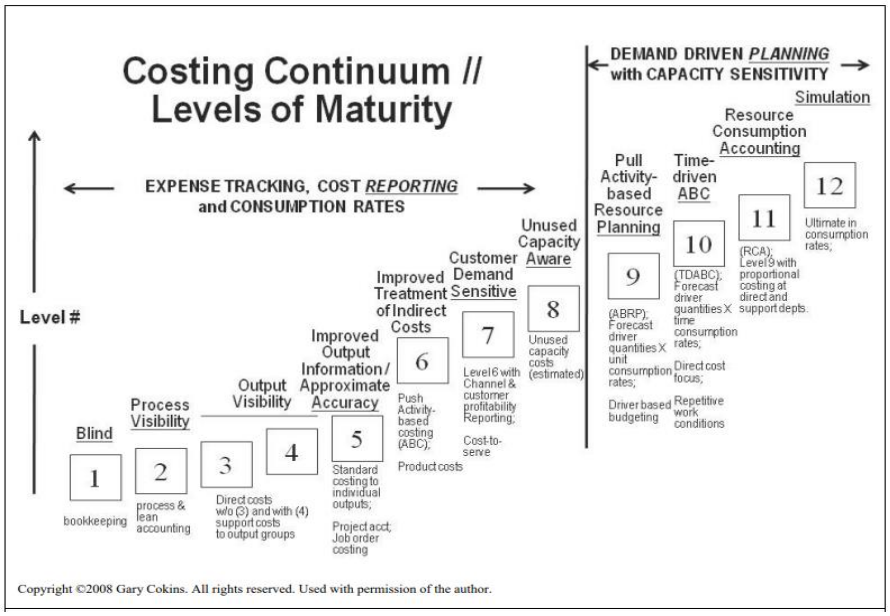

Figure 2.1: Costing Continuum – Levels of maturity

Source: International Federation of Accountants (2009)

Application guidelines and details of this model were limited, which will make it difficult to utilise the model and interpret the outcomes from the model.

2.3.2 Financial Management Maturity Model 2: Financial management maturity model developed by the National Audit Office in the UK government

The National Audit Office (NAO) in the UK government has developed a five-level financial management maturity model to assess the practices and awareness of financial management systems, processes, and practices. The model tests five key aspects, which are, “financial governance and leadership, financial planning, finance

for decision-making, financial monitoring and forecasting and financial and performance reporting" (NAO, 2009).

The model is designed as a continuous improvement tool that uses percentages and time scales to measure an organisation's maturity level in financial management (NAO, 2009).

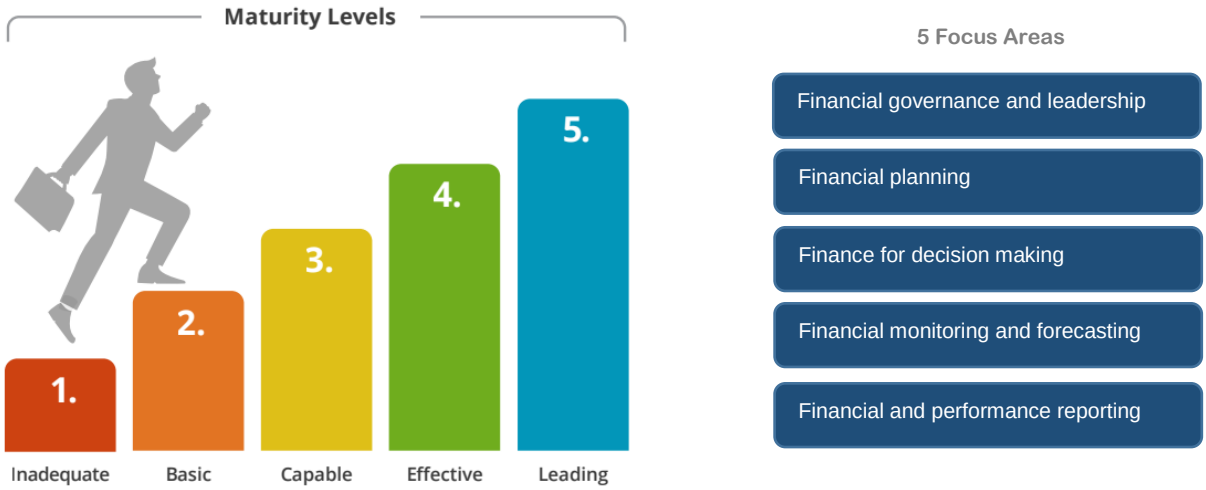

Figure 2.2: Five Stages of cost management maturity

Source: NAO (2009)

The NAO (2009) model measures organisational behaviours at five levels of maturity, with level 5 being the highest and level 1 being the lowest. These levels are not necessarily cumulative, meaning that the requirements of the previous phase do not necessarily have to be met to score at the next level. In interpreting outcomes and developing action plans to reach the desired level, NAO (2009) recommends applying unique business circumstances and judgement.

This model was the most detailed and widely available model in literature. It was also found to be the most commonly applied model in literature, due to its clear guidelines and ease of use.

2.3.3 *Financial Management Maturity Model 3: Five levels of cost management maturity level*

The initially evaluated tool is concerned with assessing the cost management maturity level across five levels (see Figure 2.3), with a particular emphasis on cost management culture, accountability framework, and systems and processes. Adapted from the NAO (2009) model, this model was specifically created for internal usage by Performance Improvement Partners (PIP) (2020) for Anglo MetCoal.

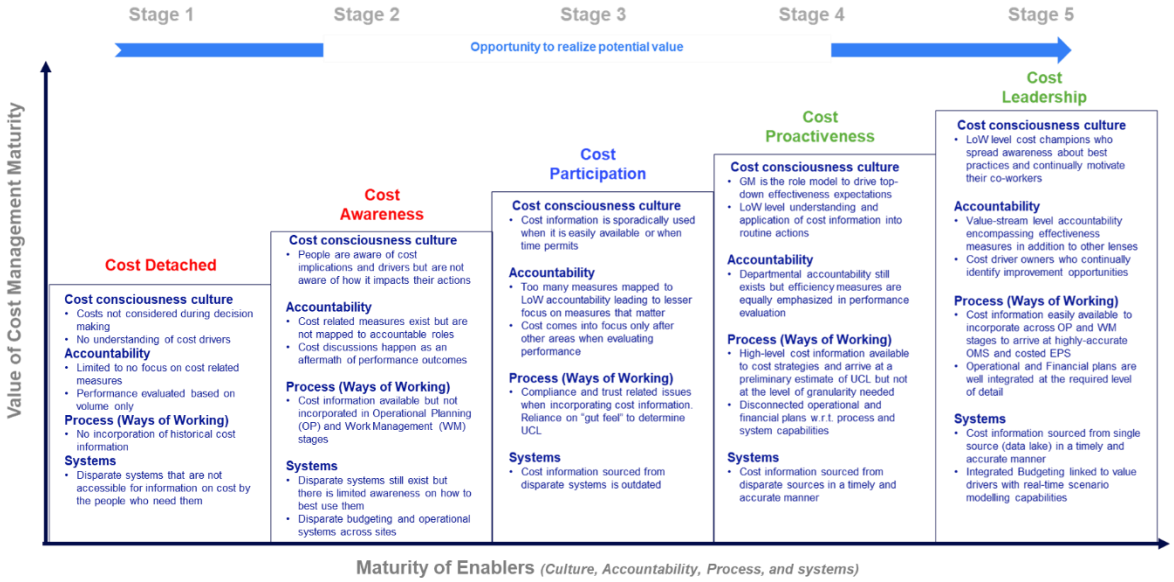

Figure 2.3: Five levels of cost management maturity (PIP Framework)

Source: PIP (2020)

The aforementioned model is also a five-stage model that assesses the level of maturity about cost culture, accountability, processes and systems. While the adapted model is a viable option, it is worth noting that it was derived from the NAO (2009) model. As such, the original model will be utilised by the researcher to evaluate the financial maturity level of SIOC.

2.3.4 *Financial Management Maturity Model 4: FMCMM*

The Financial Management Capability Maturity Model (FMCMM), in 2008, was developed by the National Treasury of the South African government, specifically

designed for government departments. The FMCMM model evaluates the financial management maturity of entities in the public sector. This tool examines the level of financial management maturity and budgeting, expenditure management, supply chain management processes and systems, and asset management. As required by the Public Finance Management Act (PFMA), it provides a framework for the public sector that specifies the essential elements of efficient public financial management. This model was developed in accordance with the PFMA and is consequently highly specialised in accordance with PFMA criteria; therefore, it may be unsuitable for private organisations that are not governed by the PFMA.

The FMCMM is designed to give guidelines on best practices and relates best practice to expected outcomes. The FMCMM is a framework that sets out a critical pathway to be followed in the development of effective financial management practices. It can be utilised as a for assessing financial management practices according to a predefined set of criteria and ratings, depicted in the table below:

Table 2.1: Financial Maturity Criteria and Rating

Ratings	Description	Levels
	Start-up level	Level 1
	Development level	Level 2
	Compliance level	Level 3
	Information level	Level 4
	Management level	Level 5
	Optimising level	Level 6

Source: Lesch SW (2021: 15) – Source National treasury (2019: 38)

2.3.5 Financial Management Maturity Model 5: Strategic management maturity model ICAI (2016)

The Strategic Management Maturity Model (SMMM) was developed by The Strategic Management Group in 2019 for managers who need a quick assessment of their

organisation's strategic management, to monitor progress in improving strategic management maturity, and to allow benchmarking across organisations or departments within an organisation to identify best practices. The SMMM defines five elements, where each element has pre-defined maturity levels, this is elaborate as it requires a seven-step assessment of effective implementation per each of the five elements

This model was specifically designed to focus on strategic elements or context, not specifically on financial management. Furthermore, the model had multiple criteria that overlay on top of each other. It was thus deemed not suitable for the purpose of this study.

2.4 Theoretical literature relating to challenges associated with measuring organisational maturity levels

There is limited research available on how to develop and conduct Financial maturity assessments and no financial maturity assessment of a company in the mining industry was found in literature. Maturity assessment models are a valuable tool for organisations seeking to enhance their functional capabilities and capacity (Akinpelu, et al., 2021). Nonetheless, variations in performance levels exist among organisations due to diverse factors, such as the context and scale of the business, business complexity, and people's perceptions, as well as the methodologies used in implementing model practices, as recommended by IFAC (2010) and (Proença,(2016). Thus, senior management should apply sound business and industrial judgement when reviewing the outcomes of maturity assessments.

Financial management maturity models evaluate the capability of people, processes, and systems; however, there is no standardised model, and the use of different models may result in varying results even in the same organisation Margarido et al., (2013). Additionally, some of the current maturity models are complex and may pose difficulties in interpretation Kohlegger et al., (2009).

Some of the challenges mentioned in literature include:

- No standardised models and different models may produce different results even in the same organisation Kohlegger et al.,(2009)

- Some maturity models are complicated and require specialised skills (Kohlegger et al., 2009), and Proença,(2016)
- The model may not be able to measure the impact of recent changes in leadership, processes and systems (Kohlegger et al., 2009)
- The outcome of self-assessment tools relies heavily on individual judgement, thus may contain bias, (Proença, 2016)
- Interpretation of qualitative data is complex and may contain the researcher's bias (Proença, 2016; NAO, 2009)
- The scale and complexity of the organisation may result in different levels of maturity at different sites/operations (Proença, 2016)

Despite these challenges, organisations can still measure the maturity levels of their organisation using the available models, (Proença, 2016). Maturity model assessment tools remain relevant and useful for conducting a holistic organisational capability and capacity assessment. This can assist executives in making meaningful structural and systematic changes to gain a competitive advantage, as recommended in various studies (IFAC, 2009; NAO, 2009; Proença, 2016).

Furthermore, there is limited studies on how to construct and conduct financial maturity assessments. No study assessing a South African mining company's financial maturity was discovered the closest research to this topic is "an evaluation of the maturity of financial management techniques at the Judicial Inspectorate of Correctional Services" undertaken by Lesch (2021), utilising FMCMM which was built expressly for government departments (National Treasury of the South African government, 2008).

2.5 Similarities and differences identified in financial management maturity models

Kohlegger et al. (2009) conducted a comparative analysis of maturity models and found that all models aim to assess quantitative or qualitative capability and capacity, despite having different designs and focus areas. All financial management maturity models assess capability across people, processes, systems, and leadership.

Similarities exist between the NAO (2009) model and other financial management maturity level assessment models used in Ireland and Japan, (Proença, 2016). For this study, the NAO (2009) model will be adopted. It is based on financial governance,

ethical culture, and effective leadership and measures maturity across five stages, with Level 1 being the least mature and Level 5 being the most mature. The model utilises 16 questions to evaluate maturity in “financial governance and leadership, financial planning, financial information for decision-making, financial monitoring and forecasting, and financial performance and reporting” NAO (2009).

2.6 Gap in literature

There is a paucity of academic literature on the financial management maturity level of the South African mining industry. Furthermore, no research has been conducted to identify the level of financial management maturity in the South African mining sector, particularly in the Iron Ore mining industry.

There is scant study on how to construct and conduct financial maturity assessments, and no assessment of a South African mining company’s financial maturity was discovered. In South Africa, the closest research to this topic is “an evaluation of the maturity of financial management techniques at the Judicial Inspectorate of Correctional Services”. A study undertaken by Lesch (2021) focuses on the application of The Financial Management Capability Maturity Model (FMCMM), which was built expressly for government departments (National Treasury of the South African government, 2008).

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter presents the design and methodology of the research project, which includes defining the research strategy and methodology, discussing ethical considerations, and identifying research limitations. The research design is a critical evaluation of the applicable design to the research, considering the aim, purpose, and intention of the study, as well as constraints to the researcher such as access to data, sample population, location, time, and financial limitations, as noted by (Almalki 2016).

It further provides an overview of the overall research design, the rationale for selecting the sample and population, and the data collection methods to be employed. Additionally, it outlines the data collection instrument, which is a semi-structured interview questionnaire with a free-text option. The chapter also covers the procedure for data collection, analysis, and interpretation methods.

Construct validity and reliability are assessed, and measures to ensure the validity and rigor of the study are also discussed. Finally, the chapter outlines the researcher's plan to comply with the ethical considerations specified by the University of the Witwatersrand.

3.2 Research Methodology and Justification for using qualitative research methodology

The financial maturity level in the South African mining industry has received limited attention in academic research, and there is a paucity of data available on financial maturity assessments in this industry. Moreover, there are no clear precepts or hypotheses regarding the anticipated outcome of the assessment. Given the complexity of this research topic, which relies on the perspective and judgement of management, a qualitative research methodology will be employed.

Leedy and Ormrod (2010) contend that where the characteristics or qualities of a phenomenon cannot easily be quantified, a quantitative research approach attempts to measure amounts or quantities. In contrast, a qualitative research methodology

typically aims to explore the various aspects of a complex problem, (Leedy & Ormrod, 2010).

In the case of this study, the research topic cannot be easily quantified into numerical data, and therefore, a quantitative research methodology is not appropriate. Leedy & Ormrod (2010) emphasised that a qualitative research methodology is better suited for exploring complex topics with many unknown variables, and for which there is limited historic data indicating financial maturity levels in the South African mining industry.

The primary aim of a qualitative research is to gain a meaningful understanding of a complex situation, making it exploratory in nature (Leedy & Ormrod, 2010). The present study involves assessing process-related challenges and challenges related to people and systems that may exist in the financial management processes of SIOC. This is relevant in assessing maturity levels as the study of maturity levels considers the overall maturity of people, processes, and systems (Berg, & Lune, 2012).; (Sekaran & Bougie, 2013). According to Sekaran and Bougie (2013) and Berg, & Lune, 2012)., “qualitative research aims to explore and discover issues about a problem for which little is known". This perspective is supported by Neuman (2011), who argues that qualitative researchers focus more on developing insights than on generalising based on raw data.

A literature review analysis methodology was applied to identify a suitable model that can be applied to conduct this maturity assessment. Assessment of literature Maturity models have been researched widely across a broad range of literature across human sciences, to engineering, technology and some strategic business applications (Proença, 2016). Although this topic has been studied widely and there is significant literature on maturity models, across the field of project management, Risk management, human capital management (talent management, performance management, employee value proposition etc.) and many technical fields e.g. engineering, information technology etc, Proença, (2016), the availability of literature on financial maturity models is limited. Furthermore, although there are many maturity models reported in literature, both in scientific and non-scientific studies, there is no clear guideline on how to develop a maturity model or even apply previously studied maturity models, (Margarido, et. al. *2013)*.

Assessment of literature found two financial maturity models of interest firstly the UK Government model, developed by NAO (2009), and the second one was developed by the International Federation of Accountants in the United States of America. The model that was most commonly used financial management maturity model available and used on multiple research is that of the National Audit Office (NAO) of the Government of the United Kingdom launched in 2009, (UK Government NAO, 2009). Many Financial Maturity Models referenced or was and an adaptation of this model.

Due to the limited availability of research on the financial management maturity assessment tools qualitative case study assessment was deemed most applicable to identify the relevant model, according to Rashid et al (2019) “qualitative case study methodology enables researchers to conduct an in-depth exploration of intricate phenomena within some specific context”, which was applicable as the study was specifically looking for an applicable model.

3.3 Research design

This section discusses the research designed used in this study.

3.3.1 Exploratory study and rationale for adopting the exploratory study

Given the high level of uncertainty surrounding the financial management maturity level in the South African mining industry, and the specific context of SIOC, an exploratory research design is deemed most appropriate for this study, as it allows for flexibility and accounts for the limited research results available. There is no prior assessment of the maturity level of SIOC and limited available financial maturity assessments in South Africa. As Carter & Henderson,. (2005). argues, exploratory investigations are the most helpful and appropriate study designs when the problem to be investigated has been scarcely dealt with.

As there has been no historic evaluation of financial maturity levels in the South African mining industry or SIOC, an exploratory study is the most applicable model for this assessment. This research method is typically undertaken when there is little information available from previous research or when similar problems or research issues have not been previously addressed, as noted by Sekeran and Bougie (2013). Exploratory research is useful in discovering the limitations of the environment in which

the possibilities, challenges, or circumstances of interest exist, as well as the relevant, prominent characteristics or factors that may be discovered to conduct the research effectively.

3.4 Population and sample

According to Neuman and Wiegand (2000), qualitative research methodology focuses on selecting participants who can contribute meaningfully to the research problem and have a deep understanding of the topic in question. Purposive non-probability sampling is a technique that is used to obtain informative and relevant responses from experts who work with the prospective subjects Neuman & Wiegand, (2000). Sampling is a process of selecting a subgroup from a larger population, (Martínez-Mesa, González-Chica, Duquia, Bonamigo, & Bastos, 2016).

In order to ensure meaningful outcomes, the targeted sample population for this study was limited to SIOC management, including supervisory, middle, and senior management, who have access to and use financial information or make financial decisions. The target population, as defined by Saunders, Lewis, and Thornhill (2019), is the total number of elements in a specific population that are relevant to a given research project. This selection ensured that each individual participant provided a unique and valuable source of information, (Sekaran and Bougie 2013). Non-probability sampling, with a focus on purposive sampling, was used as the sampling strategy, which is considered appropriate for small sample sizes and large companies (Neelankavil, 2015).

The current research adopted a purposive sampling methodology, which supports the basis of selection for participants to based on their unique characteristics, or their understanding and perception of the process, (Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., & Walker, K. 2020). This approach allowed the researcher to choose the elements to be studied based on their own judgement, making it the most suitable method for this study, as such the sample was limited to employees who utilise financial systems and processes for decision-making and carrying out their duties. The population of this study consisted of 20 interviews, which included expert interviews from auditors and technical financial specialists, senior managers at the executive level, heads of departments employed by the organisation,

and middle managers responsible for managing financial budgets. All 20 interviewees are managers (senior, middle and junior management) responsible for financial decisions and who would be users of and impacted by financial systems and processes.

3.4.1 Sample and sampling method

The study employed purposive sampling technique to select participants with unique knowledge and expertise in financial systems. The sample consisted of two senior managers at executive level, eight heads of departments responsible for various divisions, four financial management specialists and eight section managers with experience in technical services, HR, finance, performance excellence, safety, health, environmental and protection services. A total of 20 interviews were conducted with managers who have financial decision-making accountability, budget responsibilities and experience in financial management processes. The sample size was kept small to ensure information-rich answers, which is characteristic of qualitative research (Vasileiou, Barnett, Thorpe, & Young, 2018).

Purposive sampling promotes the selection of representatives who could provide in-depth knowledge about the topic, and also ensured a diversified perspective across the operation in study. This technique also allows for the study to generalise from the sample. However, one of the drawbacks of this method is that it is prone to researcher bias (Moser & Korstjens, 2018). Johnson, Adkins, and Chauvin (2020) point out that the purposeful selection of participants in qualitative research helps to provide proper context and meaning, and assists in answering the research question in an appropriate manner.

The sole purpose of collecting biographical information was to assess the level of experience of financial owners and budget teams and determine its possible impact on their experience with financial management systems and processes. Additionally, in accordance with a purposive sampling strategy, only budget owners were invited to take part in the interviews.

In conclusion, purposive sampling was adopted for this research as it enabled the selection of participants with expertise and experience in financial systems and management. The sample size was kept small to ensure detailed and meaningful

responses, and to enable the study to generalise from the sample. The technique also allowed for the selection of representatives to provide in-depth knowledge about the topic, but the risk of researcher bias cannot be ignored

3.5 Research instrument

The most relevant, applicable financial maturity assessment model was identified through analysis of literature. This identified model was then utilised as a primary tool utilised for data collection through semi-structured interviews, supported by a questionnaire. The questions in the guide were divided into five subtopics, each with a weighting to rate responses, and included an open response section. According to Aguinis and Solarino (2019), interviews are a useful method to gather data for research objectives and allow participants to provide critical details.

The interview schedule consisted of several phases, as outlined by (Majid, M. A. A., Othman, M., Mohamad, S. F., Lim, S. A. H., & Yusof, A. 2017).:

- Schedule development, which involves listing the necessary broad categories for the study. In this study, the interview guide was based on the financial maturity assessment tool by NAO UK (2009), which outlines four key objectives: “Leadership and development, Financial planning, Finance for decision-making, and Financial monitoring and forecasting” NAO UK (2009).
- Order of the questions, which involves structuring the questions in a logical order that relates to the research objectives. In this study, the questions were designed to test the deeper issues around the four objectives.
- Question order part in the interview, which deals with structuring questions to address specific research problems and objectives, (DeJonckheere & Vaughn, 2019).
- Essential questions, which are the questions central to the study’s focus (DeJonckheere & Vaughn, 2019). In this study, all questions were crucial to obtain a meaningful level of perceived financial maturity.

3.6 Data collection (methodology and tools)

In this study, a semi-structured interview approach was used to collect data. The outline followed Wiid and Diggines (2015) outline aimed at addressing the constructs

related to the perceived level of financial management maturity at SIOC. The interview schedule used was an adaptation of the NAO (2009) financial maturity assessment model. The study construct and background were included in the interview schedule, which employed a semi-structured format consisting of 15 questions with locked-in options and an open-ended commentary section for each objective. The open-ended approach allowed the researcher to obtain critical information that assisted in achieving the aim and objectives of the study.

This style of interviewing were considered an appropriate data collection method since there was limited knowledge about the expected outcome. This approach provided the researcher with the flexibility to explore or clarify concepts and meaning as they emerged while at the same time providing a platform to ask quality questions that ultimately contribute to the quality of the data collected (Adhabi and Anozie, 2017).

3.7 Data analysis and interpretation

The process of data analysis involves breaking down a phenomenon into its constituent parts to gain a better understanding of it (Moore, McCabe, & Akman, 2005). To try and achieve this phenomenon, analysis approached employed by the researcher was to split the data into different focus areas, the biographical profiles were analysed to test that the interviewee profile were in line with proposed sampling methodology stated in design. Secondly the responses were grouped to identify patterns and themes coming out of interviews. Lastly responses were broken into the four components utilised to evaluate financial maturity and each pillar was analysed as a sub-component to ensure perception per pillar that contributes to over financial maturity are first unpacked at a sub-level before aggregating into overall maturity assessment.

The primary objective of the analysis was to identify common themes in the participants' descriptions (Leedy & Ormrod, 2010). Thematic analysis is the approach that was utilised to interpret the data. Thematic analysis is a qualitative data analysis tool that is used across various theories to address multiple research questions (Nowell, Norris, White, & Moules, 2017). To try and identify key themes coming out of responses, common words, statements and similarities or repeated statements or words from different respondents were identified and group together to identify key

themes. The responses were further put through a wordcloud tool to identify key words that were repeated, the results from wordcloud was used to test validity of key themes identified from thematic analysis.

The following steps are involved in thematic analysis, (Maguire & Delahunt, 2017):

- Building familiarity with the data: In this step, a researcher reads and builds an understanding of the responses from the interviewees to gain a detailed understanding of the data. The notes from interviews were read multiple times to reduce risk of incorrect interpretation, they were then grouped into common or similar and repeated statements and words
- Generate preliminary coding: In this step, the data from respondents are broken down into smaller, more manageable components. Common words were then tested for similarities, through identification of synonyms and words with similar meanings and grouping them together to attempt to unpack their meaning.
- Look for themes: Themes are identified and outlined based on their significance and relevance. From the emerging patterns themes were identified and validated through reviewing the wordcloud profile from the response.

3.7.1 Synthesising content and/or data

According to Moore, et. a. (2005), content analysis is used to analyse data gathered from personal interviews. This data was then categorised into themes and sub-themes to allow ease of comparison. As mentioned above, all responses to the interview questions were put into different groups with common words and themes for analysis and interpretation.

3.7.2 Validity and reliability

To ascertain validity in qualitative research, the data should be consistently reviewed until it becomes self-correcting Gibbs, (2002), and the researcher should identify the point of saturation, which determines whether to discontinue or change the research process. (Morse, Barrett, Mayan, Olson, & Spiers, 2002). A target population was selected based on relevant experience, job level, and role in the organisation. The questionnaire will be restricted, except for the free-text option, to protect the validity and reliability of the research data.

All data, including the free-text segment, was collected verbatim and will not be edited to maintain the validity of the data. The analysis will identify trends and patterns, such as common words, statements, and themes written by the participants.

In quantitative research, reliability is a measurement of the extent to which the research investigation can be repeated and the findings can be expected to remain consistent in different circumstances with different investigators (Gibbs 2002). The questionnaire is standard and not editable, ensuring the reliability and comparability of responses.

3.7.3 Measure of trustworthiness

“The criteria of credibility, transferability, confirmability, and dependability were used to ensure trustworthiness.” (Saunders, et. al. 2019). Confirmability ensured that results were based on direct unedited survey responses from participants rather than on the opinions, views and preferences of the researcher (Shenton, 2004). The study adopted an already existing interview schedule hence enhances the credibility of the data. To ensure that participants expressed their views, a general comment free-text section was available, and this section was analysed with Microsoft Word’s comment function.

3.8 Ethical considerations

This study underwent approval and authorisation by the University of the Witwatersrand ethical committee to address any ethical issues before conducting any interview or data collection. Leedy & Ormrod (2010) categorised ethical considerations into four basic areas, including “protection against harm, informed consent, the right to privacy, and honesty” Leedy & Ormrod (2010) with professional colleagues.

To adhere to the requirements of POPIA and prevent privacy violation, the research collected no personal information or data of participants, and only recorded the following key demographic data: job level, years of experience, and whether they were a financial professional or not. The questionnaire was conducted online using Microsoft forms and could be distributed on all platforms (email, WhatsApp, and any electronic messaging platform).

All participants were requested to give informed, written consent before responding to the questionnaire. Reasonable measures were taken to ensure:

- Permission in written form was obtained from the SIOC.
- Written or verbal consent was obtained from participants.
- Necessary permissions were requested to record all interviews.
- All information gathered was treated as group data, and no individual data was reported.
- The research was conducted in accordance with the rules and regulations of the University of the Witwatersrand research guidelines.
- The researcher ensured that the research conducted did not harm the participants or their businesses.

3.9 Conclusion

The above chapter gave an overview of the research methodology and outlined the methodological approaches applied. The chapter first covered the research approach, the research design, and the rationale for sample selection and data collection. The research instrument, which is the semi-structured interview guided by the use of a questionnaire based on a financial maturity model identified through literature review and the procedure used for data collection, was also explained. The next chapter presents the findings from the study and discussions based on feedback obtained from both literature reviews with respect to the model and outcomes of the interviews.

CHAPTER 4: PRESENTATION OF FINDINGS

4.1 Introduction

This chapter describes the research technique utilised in this study and provides a comprehensive presentation and analysis of the findings. The key responses, outcomes, and inferences drawn from the semi-structured interviews conducted with middle management, senior managers, heads of departments, and financial experts in the mining company where the study was undertaken are presented. This presentation considers the gaps in the literature in research and the literature review done, which allowed for a structural framework to base the findings of the study on.

The findings were unpacked in the following manner:

- The qualitative data analysis and the methods applied to arrive at the findings of the study, including the approach that was followed to arrive at the final themes.
- The methodology that was followed is also outlined, including how the data was dissected from the transcribed interview questionnaires.

A full presentation of the data and how certain inferences were derived to answer the research question follows.

4.1.1 Biographical profile of Respondents

The biographical profile collected from the interviews included no personal data. Table 4.1 below shows a summary of the elements that were captured about respondents. It focused only on the job level, experience and expertise.

Table 4.1: Biographical profile of the participants

Biographical Data		Totals	%
JOB Level:	Senior Management	9	45
	Middle Management	10	50
	Supervisory	1	5
	Operational	0	0
Years of Experience in the mining industry	1 to 3 Years	1	5
	3 to 5 Years	1	5
	5 to 10 Years	3	15
	Greater than 10 years	15	75
Finance experience / not	Finance Department	4	20
	Outside Finance	16	80
Total Interviews Conducted		**20**	

Table 4.1 shows that although all the 20 respondents were all in management positions responsible for financial decision-making, majority holds middle-level (50%) and top-level (45%) management positions in the company. All participants had extensive experience in mining, either at SIOC or at other mining organisations, with more than 75% having over 10 years of working experience. About 15% had more than 5 years of experience. Therefore, more than 90% of the participants were experienced and in management roles. This purposive sampling technique was well aligned with the recommendations of Johnson et al. (2020), who state that in qualitative research, the sample is purposefully selected, and the most suitable participants are usually included to provide proper context and meaning.

Additionally, 20% of the sample population were financial management specialists (experts) responsible for designing, managing, and maintaining financial management systems. The remaining 80% or 16 participants were from different departments across the operation, including Mining operations, engineering, HR and Mining

technical services. This ratio was well aligned with overall operational management structures.

4.2 Results from the data collection

This section presents the results obtained from the data collection. The data NAO (200) financial maturity model aggregates the outcome of the 16 elements to determine the overall organisational financial maturity level as such for the purpose of data analysis overall aggregated outcome will be determined and rated based on responses from all population to get to an average, that will support the outcome maturity level identified.

4.2.1 *Key themes identified from the interview*

A list of common words, comments, similar sentences or recurring statements were put together and analysed to identify related statements or comments. These were used to identify patterns, and were then grouped into themes based on same or similar statements mentioned as well as repetition of words, and statements by different respondents, these were then grouped to identify key themes.

Identification of patterns and repetition is supported by Braun, V., Clarke, V., & Gray, D. (Eds.). (2017), who suggested that organised patterns formed themes that imparted meaning to the data. Furthermore, all statements captured from interviews were put through a word cloud evaluation to validated themes identified from grouped statements and comments. The final themes were analysed and authenticated through their applicability to the research questions.

Figure 4.1 presents the word cloud generated from the data, using the Ningi (2022). computer software WordCloud.com, which offers various options for presenting the codes and themes.



Figure 4.1: Word cloud for this study

The recurring themes that emerged from the interviews, and wordcloud evaluation were :

Prominent themes were on development and training namely

- The need for financial management training and development at Supervisory level
- Integrating financial management training into talent and career development processes

Less prominent themes were around financial management tools

- Financial management reporting tools and
- strengthening internal controls

Overall key critical gap or focus area that interviewees highlighted referred to a structured financial management training programme for all levels of budget owners.

4.2.2 Results about the most relevant financial maturity assessment tool

An analysis of the literature was undertaken to identify the most applicable financial maturity assessment model. Multiple models were evaluated. A comparative analysis by Kohlegger et al. (2009) found that all models aim to assess quantitative or qualitative capability and capacity, despite having different designs and focus areas.

All financial management maturity models assessed evaluated capability across people, processes, systems, and leadership in different formats Kohlegger et al. (2009).

Detailed analysis of five financial maturity assessment models was undertaken, namely “The Financial Maturity model developed by the United Kingdom government National Audit Office (2009)”, “the cost continuum model developed by IFAC (2009)”, “5 Step maturity assessment model provided by performance improvement partners (PIP – UK) 2021”, “The Financial Management Capability Maturity Model (FMCMM) developed by the national treasury of the South African government (2008)”, and the “Strategic financial management maturity model SMG (2019)”. There were other models available in literature however upon high-level analysis these models were found to have high similarities in characteristics and focus area as the UK’s National Audit Office model, this perspective was also supported by the study conducted by Proença, (2016), who also found high similarities between other models and the NAO (2009) model.

For this study, the Financial maturity assessment the UK’s National Audit Office model was found to be the most relevant and applicable and easier to apply as such it was utilised to facilitate data collection. The NAO (2009) model was found by researchers to be less complicated and easier to apply, confirmed through a study conducted by Proença (2016). This is for the same reason that this model was utilised for this study.

4.2.3 Results pertaining to SIOC financial maturity

Financial maturity was evaluated based on the 4-level Financial Management maturity model developed by the National Audit Office in the UK government, NAO (2009) assesses the practice and awareness of financial management systems, processes, and practices. The model tested 4 key aspects namely “financial governance, leadership and development, financial Planning, finance for decision making and financial monitoring and forecasting” NAO (2009).

The overall financial maturity of the organisation is then based on the weighted average as well as the outcome and perceptions of the respondents in respect to the above four key aspects.

4.2.3.1 Results pertaining to financial governance, leadership and development

In respect to Financial governance and leadership about 35% of participants believed that the governance was frequently effective, while another 35% believed that the controls were never effective. The level of understanding of systems of internal control, governance processes, and risk management was largely negative with 75% citing that these controls were either rarely or never understood.

*"*There is opportunity in the business to build a robust internal control system that will significantly reduce cost leakages, especially in contractor management side "Respondent 17 p6, further supported by Respondent 14 who indicated that "Monitoring can be improved, especially at supervisory levels" Respondent 14 p6, and

In addition, half of the interviewees believed that non-financial staff possesses financial management capability, while the other half indicated a lack of capability.

Some participants believed that there are different financial management maturity levels at different levels.

"Financial management capability exists up to management level but is lacking at supervisory level" Respondent19, p11/16, consistently supported by other respondents e.g. respondent 16 also stated that

"Financial management capabilities on supervisor level is low and their possible contribution large" Respondent 16 p6/8

Overall the participants indicate that the financial management capabilities are limited and or lacking particularly at middle to supervisory level, thus overall perception is moderate to poor in respect to governance, leadership and development criteria due to ineffective system of internal controls and limited financial training and development, however leadership emphasis and focus on financial performance were considered to be adequate and effective.

4.2.3.2 Results pertaining to financial planning

The financial planning pillar was tested through the assessment of three components namely:

- Integrated financial planning and monitoring, and are aligned to organisational strategy
- Robust and streamlined financial planning systems as well as
- Financial Planning systems covers all key elements of business

More than half of the participants believed that financial planning processes were aligned with the objectives of the organisation.

The total outcome and perception in respect to this pillar was positive overall with participants citing that financial planning processes exist, are robust and streamlined and are aligned to the organisational strategy.

4.2.3.3 Results pertaining to finance for decision-making

The finance for decision making pillar was tested through the assessment of three components namely:

- There's a good understanding of cost drivers
- There's a good understanding of income streams and
- The investment appraisal processes are well structured and robust

The outcome of the interviews on finance for decision-making showed that the participants had a good understanding of key costs and cost drivers and an excellent understanding of income streams. Additionally, financial appraisals were found to be robust and conducted frequently. However, the results also revealed that despite these positive indicators, the financial decisions made did not always align with the findings from financial appraisals.

Respondents generally gave a positive assessment on the finance for decision making pillar with respondent 14 indicating, "The organisation does make informed financial decisions but then again the people who make day-to-day decisions are supervisors." Respondent 14, p7.

4.2.3.4 Results pertaining to financial monitoring and Forecasting

The last pillar assesses financial monitoring and forecasting systems and processes of the organisation by testing 6 components namely

- The accuracy and quality and timeliness of financial management and forecasting reports
- Appropriateness of financial and non-financial indicators
- Quality of financial management and performance management systems (including transacting systems)
- Financial and performance reports are tailored to meet end user needs
- Reports are presented timely
- Reports are accessible and easy to understand

42% of the interviewees reported financial monitoring and forecasting as frequently effective, and 39% indicated it is sometimes effective. Financial information was found to be accessible sometimes and available promptly. The majority (85%) of participants indicated that financial monitoring meets end-user needs, and 65% stated that financial information is reported or forecasted promptly. Moreover, 65% of the participants reported good quality of financial processing and 69% stated that the financial monitoring and forecasting process is integrated with other operational forecasting and monitoring systems and processes.

Only 5% of participants felt that the financial reporting meets end-user needs however there was a positive sentiment, with one participant indicating “The new power-BI Reports that the operational team is busy implementing is good and powerful and will make a positive shift”. Respondent 17 p7.

Although most participants indicated that financial monitoring and forecasting was overall in place 3/20 participants struggled to respond to, and discuss Question 12 “What is the quality, accuracy, and timeliness of the organisation’s financial management and forecasting information on income, expenditure, cashflow, and working capital”

“Quite challenging to respond on Question 12 as it is a lot of factors that I am not always exposed to, therefore am only in a position to respond on expenditure: Respondent 18 p7.

Therefore, in respect to finance for decision making overall there was a positive sentiment however the current state indicates that the respondents don’t have visibility and tools that facilitate financial decision making.

4.3 Results pertaining to overall financial Maturity

In summary the findings of the four key aspects were considered to evaluate overall financial maturity.

- Firstly, in respect to Financial governance, leadership and development, indicated low financial maturity level as the respondents felt that although leadership emphasis and focus on financial performance is good, the system of internal controls and governance is not well controlled, furthermore there’s limited financial management training available.
- Secondly, in respect to financial planning, the overall maturity was high with respondents citing that financial planning processes exist, are robust and streamlined and are aligned to the organisational strategy
- The third criteria assessed finance for decision making, there was overall positive perception in respect to this pillar with respondents indicating that cost drivers and income streams are well understood and the financial appraisal processes both for operational and capital spend are well structured and understood.
- The last criteria assessed to evaluate financial maturity was in respect to financial monitoring and planning, this criterion is wide and assesses the both the availability and effectiveness of financial processes, tools and systems. Overall mixed responses receive with 85% of participants indicating that financial monitoring meets end-user needs, and 65% stated that financial information is reported or forecasted promptly, however only 5% of participants felt that the financial reporting meets end-user needs. Thus, overall participants indicated that processes are in place and effective, but the tools do not meet end user needs.

Overall assessment indicated moderate financial maturity for SIOC with good leadership emphasis and focus, good understanding of key cost drivers and income streams as well as well-defined planning and forecasting as well as financial appraisal process. The respondents were however concerned with the effectiveness and overall understanding of internal controls and the financial reporting tools available for decision making.

4.4 Results pertaining to overall financial Maturity (overall population versus experts)

The research findings indicate that 64% of experts who took part in the study believed that financial decision-making processes, tools, and systems were in place at times or frequently. This result is consistent with a similar finding of 64% from the overall sample population.

According to the experts, the financial monitoring and forecasting processes, systems and tools have a functionality rating of 83%, with 54% of them stating that it is functional frequently, and 29% indicating that it is functional some of the time. In comparison, the overall population rated financial monitoring and forecasting highly at 88%.

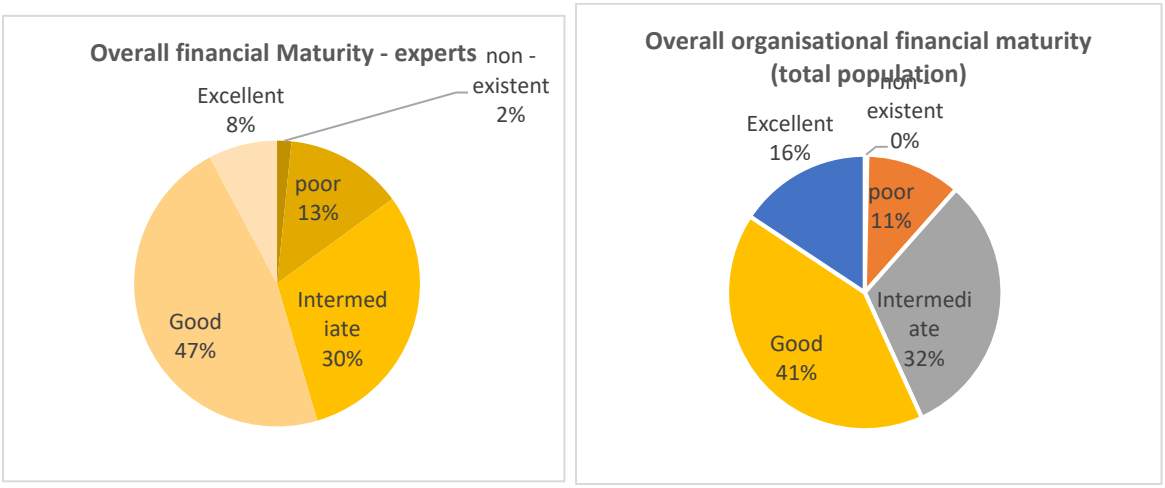

Figure 4.2: Overall financial maturity

Figure 4.2 above shows that 47% of financial experts assessed the overall financial maturity of the organisation as good, with 30% rating it as intermediate, in comparison to the overall financial maturity score from the general population which is 72% (41%

rating the maturity level as good). Therefore, while evaluating the four levers, significant differences in opinion were observed regarding financial leadership and development, with a 14% gap. On the other hand, positive results within 5% variance were reported for the rest of the criteria, namely “financial planning, financial decision-making, and financial monitoring and forecasting” NAO (2009), making them comparable. Both the experts and the general population consider the financial maturity to be at an intermediate level, with 77% of experts’ opinions and 75% of the general population of interviewees supporting this view.

4.5 Conclusion

In this chapter, the research findings were presented to address the research objectives, which were to evaluate the level of financial maturity at SIOC and to identify the perceived level of financial maturity as defined by the four key pillars of financial maturity.

Overall financial maturity of SIOC was found to be moderate/ intermediate, this outcome was based on leadership and development, which was perceived to have the lowest maturity level due to ineffective internal controls and unavailability of training and development, this low rating is further supported by key themes mapped from thematic analysis and word cloud. Financial planning and financial decision making had overall positive outcome as interviewees indicated that these processes are in place and effective. The other area that pulled the overall financial maturity lower was the financial monitoring and forecasting which assessed processes, systems and tools related to financial reporting, monitoring and forecasting, the interviewees indicated that the processes were in place and effective however the tools were not user friendly and did not support proactive and effective financial decision making.

The validity of the results was also tested through analysis of responses from expert interviews to try identify any outliers or fundamentally different views. The findings were within a 5% variance to the overall population view in three of the four pillars. Therefore, the results are accepted as a valid indication of the current financial maturity. The only outlier was the difference in perception and outcomes between experts and the overall population on financial leadership and development, we

believed this would be influence by the different level of expertise and therefore differing need to receive financial management training.

Overall it was evident in the overall financial maturity rating that both financial experts and the overall population believed the financial maturity level of the organisation was intermediate to good.

Chapter five provides a comprehensive discussion of the findings in relation to the existing literature.

CHAPTER 5: DISCUSSION OF FINDINGS

5.1 Introduction

The preceding chapter presented the findings of this study. In this chapter, the focus is on discussing the findings of the study and their alignment with the research objectives and questions. The aim is to present a balanced review of the financial management level of SIOC and its potential impact on the organisational financial performance. The discussion is based on the core pillars of financial maturity as defined by the NAO (2009), and the evaluation model developed for this purpose.

In the previous chapters, the study evaluated findings from the data collected from the purposefully selected population through semi-structured interviews assisted by the use of a questionnaire developed by NAO (2009). The biographical profiles were assessed to ensure the interviewees could provide relevant and meaningful perspectives in line with the purposive sampling method

The general comments and responses were assessed to identify key themes coming from the interviews through word cloud and thematic coding. Furthermore, the responses on the four pillars were grouped and analysed to identify patterns and percentages to determine the level of financial maturity as detailed in the NAO (2009) model that was utilised to evaluate the financial maturity level coming from the questionnaire-guided interview.

The key themes that were explored and analysed as per the NAO (2009) financial maturity assessment tool were “financial governance and leadership development, financial planning, finance for decision making and financial monitoring and forecasting” NAO (2009)

Three to six questions per category were asked to the interviewees, and the findings from the responses were grouped to determine percentage weightings, Analysis of findings was undertaken and detailed in the previous chapter. Finally, the previous chapter also detailed the findings from expert responses in comparison to the general sample population.

This chapter aims to provide a detailed analysis of the level of financial management maturity, the chapter covers the four key pillars of financial maturity, supported by academic theory to both support and critique the statements made. However, it is important to note that the field of financial maturity assessments is not well-researched in strategic financial management. Consequently, limited empirical evidence exists to fully support its impact and relevance, especially in relation to the overall financial performance of an organisation.

5.2 Discussion of the key findings in respect to the biographical profiles

All respondents confirmed that they have financial management responsibilities. 95% of the respondents were either in senior management or middle management with only 5% of respondents being from supervisory level, therefore supervisors were not well represented in the sample and the outcome may not be representative of the supervisor's perception. The sample however was made of management with financial management responsibilities and therefore meets the recommendation by Neuman and Wiegand (2000), for selecting participants who can contribute meaningfully to the research problem and have a deep understanding of the topic in question.

All respondents are highly experienced, with 75% of respondents have been in the industry for more than 10years and considering that 95% of respondents are in management, it can be accepted that the responses are not influenced by a lack of understanding due to limited business experience and can contribute meaningfully to the research problem.

20% of the respondents had financial management expertise, this group was utilised to further test validity of the outcomes. Based on the biographical profile the researcher believes the perception. This approach was further confirmed by Neuman & Wiegand, (2000), who recommended that to obtain informative and relevant responses from experts who work with the prospective subjects is a technique that can be used for purposive non-probability sampling.

5.3 Discussion of the key findings in respect to the key themes from word cloud

Interestingly some of the key themes coming out of the evaluation of the free text commentary section centred around training and development particularly at supervisory level. The most repeated comment centred on financial management training, this theme was referenced by 65% of the population (all middle managers, the supervisor and two respondents at senior management). The respondents cited concern in respect to availability of financial management training and development, with 4 of the 10 middle managers specifically highlighting concern on financial management training of supervisors, who are the first line of defence. Furthermore, most of respondents who mentioned training proposed that the organisation include this training in the individual development plans (IDP's)

The financial management training identified from free commentary and the word cloud, was a consistent response very aligned to the structured questionnaire response to question 4 and 5 of the leadership and development pillar. Question 4 tested existence of financial management capability at all levels with 80% disagreeing. Question 5 further went on to test provision of financial management training and development in financial management as part of continuing professional development, with 90% of respondents arguing that it rarely happens. There responses from the expert population was found to also agree with the general population in respect to capacity and training. Therefore, the findings confirm that training was identified as a one of the key levers the organisation can investigate further to grow the level of maturity.

5.4 Discussion of the key findings in respect to the 5 pillars that facilitates the evaluation of the financial maturity level of the organisation

The five pillars were evaluated utilising a semi structured questionnaire designed by the United Kingdom's National Audit Office in 2009. This questionnaire has a total of 17 questions that requires interviewees to indicate their views by choosing negative experience or perception (never, rarely or sometimes) and positive experience (frequently or almost always). 17 questions are utilised to test the strength of the four pillars utilised to evaluate the level of financial maturity.

5.4.1 Discussion of key findings in Pillar 1: Financial governance and leadership development

In respect to the financial leadership and development pillar, five questions which test interviewee perception in respect to effectiveness of executive emphasis, understanding and effectiveness of the system of internal controls, as well as financial management capacity at all financial decision-making levels as well as provision of financial management training and continuous professional development.

The outcomes of this section were highly variable as depicted on table 5.1 below, with high positive perception of the executive leadership emphasis and the understanding of the system of internal controls, however although the controls are well understood, 80% of the population deem such internal controls to not be effective. This would suggest that the organisation needs to redesign the system of internal controls.

Overall financial management capacity at all levels was rated negative by 80% of the population, the interviewees on further clarification consistently cited that this was due to no structured financial management training. This was further supported by the score from question 5 – that tested financial management training and development. Therefore 90% of budget owners are dissatisfied with the level of financial management training and development provided by the organisation. Which indicates an area of focus for the organisation.

Table 5.1: Pilar 1: Leadership and development maturity

Pillar 1: Leadership and development	**Negative perspective**	**Positive perspective**
Executive/Leadership emphasis	20%	80%
System on internal controls well understood	30%	70%
System on internal controls effective	80%	20%
Financial management capabilities exist at all levels	80%	20%
Financial management training and continuous professional development are provided	90%	10%
Overall leadership and development	**60%**	**40%**

5.4.2 Discussion of key findings in Pillar 2: Financial planning

Overall this pillar had the highest positive perception from both the general population and experts. With overall 70% positive perception (as depicted on Table 5.2 below) and all three tested areas having positive perceptions, testing financial planning processes and system and alignment to organisational strategy and key elements of the financial statements and treasury management. Therefore, it appears that the company can focus on maintaining the current financial planning system and processes while it invests the resources on addressing the pillars with lower scores, if the organisation has additional resources its m ay be valuable to assess how to further streamline the planning process to increase the overall positive perception.

Table 5.2 Pillar 2: Financial planning

Financial Planning	Negative perspective	Positive perspective
"Financial planning and monitoring process are integrated with strategy" NAO 2009	35%	65%
"The systems for financial planning are robust and streamlined" NAO (2009).	40%	60%
"Financial planning processes covers the elements needed to support the business" NAO 2009	15%	85%
Overall financial planning	**30%**	**70%**

5.4.3 Discussion of key findings in Pillar 3: Finance for decision making

This pillar tested the organisation's perception and understanding of its cost drivers, income streams and financial appraisal processes. The overall pillar scores are detailed on Table 5.3 below. A large percentage of interviewees (80%) had a very strong and clear understanding of the organisation's income streams. This was not surprising as the organisation trades only on one commodity. Furthermore, financial appraisal processes are also believed to be streamlined and robust, however it should be not that interviewees were concerned that post appraisal and approval the system of internal controls is ineffective. However, opinions were equally split on understanding of cost drivers. Upon further clarification interviewees were not very confident that they understood the cost drivers of their major suppliers (Owner equipment manufactures – OEM's) and partners. The organisation had no observed

internal weaknesses identified on this pillar and the researcher recommends the organisation maintains current financial appraisal models and invest resources on pillars with lower scores.

Table 5.3 Pillar 3: Finance for decision making

Finance for Decision Making	Negative perspective	Positive perspective
"The organisation understands its expenditure and cost drivers, and those of its major partners (OEM's) in the sector in order to understand the impact of costs on its programmes" NAO (2009)	50%	50%
"The organisation understands its income streams and the way in which it sets prices, as well as the income streams and pricing mechanisms of its partners?" NAO (2009)	20%	80%
"Financial investment appraisal that are used to evaluate costs and benefits and to inform all key policy (operational and capital) are well structured and robust" NAO (2009)	20%	80%
Overall finance for decision making	**30%**	**70%**

5.4.4 Discussion of key findings in Pillar 4: Financial monitoring and forecasting

The financial monitoring and forecasting pillar were the second lowest rated pillar, but still overall had a positive perception over 60% on average, with only 38% of participants indicating a low perceived score (as depicted in Table 5.4 below). A closer review of the results reveals that two subcategories resulted in a negative perception, namely, financial reports meeting end user requirements and understanding of financial reports.

The participants highlighted two areas that are still below the expected maturity levels. First, 55% of budget owners indicated that financial performance reports are not designed to meet user requirements and are not user-friendly. Secondly, 65% of participants indicated that the reports are not easily accessible and are difficult to understand. This situation may be worsened by the fact that 90% of users indicated that financial management training has never been provided, therefore the lower financial management capacity and the lack of training may be the reason participants struggled to understand financial reports.

The organisation would also need to invest resources in identifying the financial reporting design changes to respond to end user requirements as well as delivery platforms that would make financial reporting more accessible and easier to understand.

Table 5.4: Financial monitoring and forecasting

Financial Monitoring and forecasting	Negative perception	Positive perception
"What is the quality, accuracy of forecasting information" NAO (2009)	42%	58%
"Appropriate financial and non-financial indicators covered" NAO (2009)	26%	74%
"The quality of the financial management, and operational performance processing systems" NAO (2009)	35%	65%
"The reports on financial and performance information are tailored to the needs of the user" NAO (2009)	55%	45%
"Reports timely are the reports that are presented to internal and external users?" NAO (2009)	30%	70%
"Financial Reports are accessible, easy to understand, clear and concise?" NAO (2009)	65%	35%
Overall financial monitoring and forecasting	**38%**	**62%**

5.5 Discussion of key findings in respect to the overall financial maturity model

Maturity levels have been linked to overall project delivery, this topic is well studied and developed in the field of project management. According to Pardhe, T., and Sood, A. (2021), Based on the same premise, the outcomes of all the responses to all four pillars, of the financial maturity evaluation are evaluated and weighted equally important to overall organizational performance.

Table 5.5: Overall rating of financial maturity

Key Category Overall	Negative perspective	Positive perspective
Leadership and development	60%	40%
Financial Planning	30%	70%
Finance for decision making	30%	70%
financial Monitoring and Forecasting	38%	62%
Overall Financial Maturity	**39%**	**61%**

Based on the outcomes of the semi-structured questionnaire-led interviews, the overall rating of financial maturity reveals that 61% of the population considers the organisation to be financially mature, particularly in financial planning (70%) and finance for decision-making (70%). However, the area that received the lowest maturity rating was financial leadership and development, with only 40% of the population indicating maturity in this pillar.

5.6 Discussion of results pertaining to expert responses versus other participants

To enhance the validity of the results, financial experts were also interviewed to test the alignment of outcomes from the general population with that of the financial management experts. 75% of the financial management experts who participated in the interviews believed that the overall financial leadership and development were lacking, with 45% indicating that it was sometimes present and 30% believing it was frequently present, in contrast to the overall population's rating of 61%.

Financial planning experts indicated that financial plans are related to organisational strategy more than half the time, and that the systems and processes are streamlined and robust. This perception was similar to that of the overall population. Financial specialists believe that overall financial leadership and development is effective at least 65% of the time whereas non-experts had a slightly lower experience of financial leadership (5% lower). The financial expert's perception in respect to financial management capacity and training was fully aligned to that of the general population.

The overall biggest variance (>10%) of perception between experts and the general population was as related to finance for decision making, the other 3 pillars were within 5% variance as depicted on Table 5.5 below.

Table 5.6. comparison of outcomes from experts versus general population

Key Category Overall	Negative perspective (overall)	Positive perspective (overall)	Negative perception (experts)	Positive perception (experts)
Leadership and development	60%	40%	65%	35%
Financial Planning	30%	70%	33%	67%
Finance for decision making	30%	70%	42%	58%
financial Monitoring and Forecasting	38%	62%	35%	65%
Overall Financial Maturity	**39%**	**61%**	**44%**	**56%**

Further analysis of the difference in perspective between experts and the general population on the finance for decision making pillar indicated that experts do not believe that income streams are well understood showing a 30% variance of opinion. This had an overall impact of reducing the overall maturity to intermediate level in the view of experts (this has however an overall 3% difference).

5.7 Discussion of findings in relation to literature

To measure maturity the most critical step is identifying the suitable model for the specific organisation as indicated by Haghighat, S., Javanmard, H., & Horri, M. S. (2022). Therefore the first task was identifying the most suitable model that will give most meaningful outcomes for the specific organisation in review.

Literature highlights the complexity of maturity evaluation particularly demonstrated in the work of Margarido et al. (2013) attributable to multiple factors like availability of n data, difficulty in proving relationships between variables. As such although the SIOC maturity level is perceived intermediate, it does not necessarily indicate a relationship between the outcome of this evaluation and the organisational performance. This view is further supported by Proença, D. (2016).

Furthermore, Kohlegger, et al. (2009) asserts that maturity models can reflect certain aspects of reality or perceived reality, this implies inherent bias in outcomes of maturity assessments, further supporting additional validity testing as demonstrated above with responses from the expert population.

Further capabilities, can define qualitative attributes which are used to classify a competence Kohlegger et al. (2009), This implies that the findings are reflective of certain tangible systems, process capabilities as well as qualitative capabilities within SIOC. Therefore an aggregated intermediate maturity level indicated in the research finsings above may be indicative of different level of competence in different processes and or systems. These present opportunity for future research.

5.8 Conclusion

In this chapter, the results of the research objectives were discussed. The study addressed the research objectives and identified the themes related to financial maturity of the chosen organisation. The study identified an appropriate model and applied it to evaluate the financial maturity level of SIOC. Based on the findings, it was outlined that the organisation had a good level of financial maturity based on a weighted overall positive perception of 61%. The model assesses financial maturity based on four pillars and three of the four pillars were rated overall mature with weaknesses noted on the leadership and development pillar.

Although overall maturity assessment between experts and the general population was comparable with 47% of financial experts assessed the overall financial maturity of the organisation as good, versus 41% of the general population, significant differences in opinion were observed regarding financial leadership and development, with a 14% gap attributable to financial management training.

The maturity level of financial planning and finance decision-making was perceived as good with an overall 70% positive perception. The financial monitoring pillar was also good at 60% overall positive perception; however, interviewees indicated that financial reports were not designed to meet end-user requirements and were not easily accessible. The area of financial leadership and development was perceived as having the lowest level of maturity, specifically due to a lack of financial management training and development, and ineffective system of financial controls. The study outlined that

the financial maturity level of the organisation was identified as moderate to good it however identified clear areas of focus to increase the organisation’s financial maturity. The research objectives were thus met. The next chapter will conclude this study by providing conclusions and recommendations.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

The final chapter presents the concluding remarks of the study and aims to provide a summary and conclusion of the research project. The study's contributions to the field and its limitations are assessed. A comprehensive overview of the research findings is presented in relation to the literature, along with the study's conclusions and recommendations. This final chapter brings it all together as well as provide insights for future research areas that can further advance the research topic and contribute to the field of study. The chapter proposes actions for the organisation and outlines potential areas of study for future researchers, particularly in the context of financial maturity evaluations and assessments.

6.2 Concluding remarks on the financial maturity model applied to evaluate the level of the organisation

Maturity assessments have been widely researched in the field of science and engineering, humanities and project management. However, there was a paucity of research on financial management maturity assessments. To identify the best and most applicable financial maturity model for testing the maturity level of SIOC, multiple models available in literature were assessed. Five maturity models were found to be available and detailed the financial maturity model developed by NAO (2009), the Cost Continuum model developed by the 'International Federation of Accountants' (IFAC) (2009), and the 5-Step Maturity Assessment model provided by Performance Improvement Partners (PIP – UK) 2021. The FMCMM developed by the South African National treasury and the Strategic financial management maturity model developed by ICAI (2016).

There were other models however upon further analysis were found to have high similarities in characteristics and focus area or where an adaptation from IFAC (2009) Financial maturity model developed by the UK government, Proença, (2016). The NAO (2009) model was found to be most applicable to this study due to more detailed application guideline, ease of use and ease of interpretation.

6.3 Concluding remarks on the financial maturity level of the organisation

The study assessed the level of financial maturity for SIOC to be at a good level of financial maturity, based on the perception of the population interviewed. The research established that the sample population perceives the organisation to have a high level of maturity in financial planning and financial decision-making, with intermediate maturity in financial monitoring and forecasting. However, participants cited that an area that requires improvement is financial development and training especially at lower management and supervisory level. as well as in respect to financial reporting, as reports were not easily accessible, difficult to understand, and not designed to meet user requirements.

Based on the results of both interviews, it is clear that interviewees believe that financial leadership and development play a critical role in overall financial maturity and business performance. Furthermore, the data showed no difference in perception of this pillar between the experts in the finance department and the general population of budget owners. Financial leadership and development maturity were rated the lowest overall. The study also revealed a strong link between financial leadership and development and perceived organisational financial maturity, as indicated by both the word cloud analysis and financial maturity evaluation questionnaire.

The study revealed lower maturity levels in respect to two components namely the financial leadership and development pillar and thus they also indicating limited understanding of governance processes and system of internal controls. The respondents identified a strong focus on financial management at Senior leadership level, however indicated that focus and investment is required in financial management training and development, particularly at lower management and supervisory level, leading to a low understanding of the internal financial control system and rendering the system of internal financial control and risk management ineffective. Furthermore, the organisation should also focus on streamlining governance and control processes.

6.4 Concluding remarks on the views of experts versus the general public

Th evaluated maturity level between the general population and the experts were comparable with three pillars namely Financial leadership and development, financial

planning and financial monitoring and forecasting overall weighted scores of responses comparable with variance within a 5% variance. The only area were the experts had a differing view is as it related to finance for decision making, specifically understanding of income streams.

Given the above outcome from experts it can be concluded that the responses and evaluations by the general public can be relied upon, as a reasonable and appropriate perspective of the organisational financial maturity.

6.5 Concluding remarks on the areas of focus required to enhance perceived degree of financial maturity

The following four questions had the overall highest negative perception.

- **Question 3** “the systems of internal control, governance arrangements and risk management processes are well understood”
- **Question 4** “Financial management capabilities exist at all level of the organisation Executive Team, Senior Management, the finance department, and management and supervisors working outside finance”
- **Question 5** “Financial management training and development in financial management is provided to staff both within and outside the finance team “and
- **Question 17** “Financial Reports are accessible, easy to understand, clear and concise?”

The above suggests that the biggest lever the organisation can pull is structured impactful financial management training. Training is generally accepted as a method to grow capacity, and increased capacity will facilitate the ability of budget owners to understand and interpret financial reports. Furthermore, over and above training the organisation should investigate a redesign of the system of internal controls to improve effectiveness as well as simplified and easy to access financial reporting.

6.6 Evaluation of the study

The significance of the study should be acknowledged, it should however be noted that the findings are not definitive and more research is necessary to complement the current body of knowledge.

6.7 Recommendations and practical and theoretical implications

This section outlines the research implications with regard to the study's findings. It will provide recommendations for the leadership of the organisation where the study was conducted, financial management professionals, and other strategic financial management advisory organisations.

6.7.1 Implications for the leadership and organisation where the study is conducted

After conducting a study on the financial maturity of SIOC, it was found that the organisation's level of financial maturity is at intermediate to good levels. However, there is a need for improvement, particularly in terms of financial maturity leadership and development. Many participants have expressed the need for additional training and development, especially at the supervisory level. To improve financial maturity, the following recommendations were made:

- Include financial management as an integral part of the management development programmes.
- Review and change the financial reporting model to improve accessibility to financial reports.
- Simplify the financial reporting model to make financial reports accessible and easier to understand.
- Finally, the organisation would need to identify methods to improve the effectiveness of system of internal financial controls which although understood are deemed to not be very effective.

Inferences and results drawn from the empirical evidence in the study include:

- There is a good focus and emphasis on financial management at senior levels of the organisation.
- The system of financial controls is in place and well-developed, but not effective.
- There is no structured financial management training and development in place.
- Financial and cost planning and monitoring activities are connected with the strategy of the organisation. The existing systems for financial planning are

robust and streamlined, furthermore these processes include key elements necessary to support the business.

- There are effective financial decision-making processes in place, implying that the organisation understands its expenditure and cost drivers, its income streams and financial investment appraisal processes are well structured and streamlined.
- The quality of financial management and forecasting information is deemed high, as its accurate, received timely, is integrated and incorporates financial key performance indicators.
- Financial reports are not tailored to meet end-users' needs, are complex, hard to understand, and not easily accessible.

To address some of the challenges associated with strategic financial management, research could focus on defining global principles around financial maturity assessments. This could involve the following:

- Developing different financial assessment maturity models with clear guidelines on their application and criteria for excluding the impact of industry-specific challenges.
- Designing a framework that clearly outlines how to interpret the outcomes of these models.
- Collaborating with academics, executive coaches, and business professionals to design a tool that assesses the impact of financial maturity on overall organisational financial performance.
- Developing a model to evaluate the causal link between financial maturity level and financial profitability or delivery of financial strategy.

It is important to note that further research would be necessary to substantiate these recommendations and provide more robust scientific evidence.

6.8 Recommendations for further research

The study's findings indicate that the financial maturity of the organisation is at intermediate to good levels. However, there are levers that the organisation can focus on to increase the level of financial maturity. These include:

- Focusing on financial management at a leadership level, with a specific focus on financial management skills development and training at all levels, particularly at supervisory level. Future research can evaluate the causal link between financial management skills development programmes and financial performance.
- Exploring the potential causal link between higher financial maturity levels and higher overall organisational performance, as there is limited empirical research on this topic.
- Examining the impact of each financial maturity pillar prescribed by NAO (2009), i.e. “leadership and development, financial planning, financial decision-making, and financial monitoring and forecast, on organisational financial performance” NAO (2009) in future research.
- Researching financial maturity evaluation tools or models, as there is limited research in this area.

Finally, the following aspects could be explored in future studies:

- Develop a large-scale quantitative and qualitative application to conduct broad industry analysis and explore potential changes in the design.
- Fully investigate the influence of the assessed four pillars of financial maturity on longer-term organisational financial success.
- Examine the theoretical implications of the causal link between financial maturity levels and overall organisational performance.
- Conduct more robust empirical research, in collaboration with academics and executive coaching professionals, to evaluate financial maturity levels in the South African mining industry.

The above findings suggest opportunities for further research into financial maturity levels. Financial management professionals and decision-makers can explore these options to improve their professional effectiveness and make a sustainable and impactful contribution to organisational strategies.

6.9 Conclusion

The study indicates that achieving a high level of financial maturity requires the effective development of all pillars of strategic financial management, including strong financial leadership, effective governance and control systems, and a well-designed financial management development programme. Additionally, financial planning must be aligned with organisational strategy and integrated into operational practices, while financial decision processes must be supported by robust financial modelling and evaluation processes. Thus, for an organisation to achieve a high level of financial maturity, it must have emphasis on leadership, robust financial management systems and processes, as well as clear and effective financial governance, controls, and risk management in place and effectively implemented.

The study evaluated the level of financial maturity at SIOC using normative imperatives and prescripts, including processes, systems, people, policies, and procedures. The study aimed to identify the perceived level of financial maturity, as defined by the four key pillars defined by NAO (2009) of financial maturity, namely “financial leadership and development, financial planning, financial decision-making, and financial monitoring and forecasting” NAO (2009).

This study will contribute to the body of knowledge in the field of strategic financial management, specifically financial management maturity levels in the mining industry, and will stimulate the need for further research about the impact of financial management maturity levels on overall organisational performance, both in the mining industry in South Africa and internationally.

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APPENDICES

APPENDIX A: RESEARCH PROJECT PROPOSED TIMELINES

Activity	Timeline (6 Months)	Status
Submit Research Topic and allocation of Supervisor	05 August 2022	√ √
Chapter 1 - 3: Submit Research Proposal, Literature Review and Research Methodology	25 August 2022	√ √
Supervisor Feedback: Chapter **1 - 3**	01 September 2022	√ √
Mop - up panel presentation	14 October 2022	√ √
Ethical Committee clearance	21 October 2022	√ √
Data Collection – Interviews + Questionnaire	30 October 2022 – 30 December 2022	√ √
Chapter 4, 5 & 6 : Data Analysis, findings and interpretation and Conclusion	30 December 2022 – 31 January 2023	√ √
1st Draft Research Report submission (For Supervisor review)	31 January 2023 – 15 February 2023	√ √
2nd Draft Research Report submission (For final Supervisor review)	20 February 2022 – 25 February 2023	√ √
Submit final Research report	28 February 2023	Not started

Note: The research programme was updated as necessary throughout the study.

APPENDIX B: INTERVIEW CONSENT LETTER

KUMBA IRON ORE: SISHEN MINE

Dear Sir/Madam

My name is Tumi Mbatha and I am currently studying towards a Masters of Business Administration (MBA) with the, University of the Witwatersrand (Wits Business school). As part of my studies, I'm conducting research on the level of financial management maturity level in the mining industry a case of Sishen Iron Ore Company (SIOC).

I would like to request permission to conduct a research on your organisation. This study aims to evaluate or assess the level of financial management maturity level in the South African Mining Industry, using SIOC as a case study.

The key Objectives of the study is to map the financial maturity level of SIOC in line with a globally accepted financial maturity assessment model /tool, and report back the findings to management.

No competitive information that is not publicly available on the published Kumba financial reports will be shared. All the ethical requirements as prescribed by the university to protect the individuals interviewed and company information as also stipulated by the POPI Act will be complied with.

In line with The University of Witwatersrand Ethics requirements I hereby request permission to proceed with the research. If you have any concerns pertaining to this study, please contact my supervisor or myself. Our details are provided below.

Researcher:
Name: Tumi Mbatha
Email: Boitumelo.mbatha@icloud.com
Phone: 083 225 8674

Research Supervisor:
Name: Dr Roselyne Cheruiyot
Email: roselyne.koech@wits.ac.za
Phone: 074 049 8214

_____

Signature of the Researcher

_____

Vijay Kumar
Chief Operating Officer – Kumba Iron Ore

APPENDIX C: INTERVIEW CONSENT LETTER

CONSENT LETTER

Dear Sir/Madam

My name is Tumi Mbatha and I am currently studying towards a Masters of Business Administration (MBA) with the, University of the Witwatersrand (Wits Business school). As part of my studies, I'm conducting research on the level of financial management maturity level of SIOC in the context of the South African Mining Industry.

I would like to invite you to participate in this survey and your participation is voluntary and you can withdraw at any time without any penalty. Your responses will remain confidential and anonymous. The attached questionnaire should not take no more than 20 minutes to complete and there are no costs to you as a participant.

By completing the survey, you indicate that you voluntarily participate in this research. If you have any concerns pertaining to this study, please contact my supervisor or myself. Our details are provided below.

Researcher:
Name: Tumi Mbatha
Email: Boitumelo.mbatha@icloud.com
Phone: 083 225 8674

Research Supervisor:
Name: Dr Roselyne Cheruiyot
Email: roselyne.koech@wits.ac.za
Phone: 074 049 8214

_____ Signature of the Researcher

_____ Signature of the Participant

APPENDIX D: INTERVIEW QUESTIONNAIRE

SECTION A: BIOGRAPHICAL INFORMATION

Biographical details will not be used for identification of individuals due to the sensitivity of the questions in this section and to comply with Protection of Personal Information Act (POPI Act), however this information will assist in identifying if there's any specific perception of maturity level between the groups.

JOB Level:	Senior Management	
	Middle Management	
	Supervisory	
	Operational	
Years of Experience in the mining industry	1 to 3 Years	
	3 to 5 Years	
	5 to 10 Years	
	Greater than 10 years	
Finance experience / not	Finance Department	
	Outside Finance	

SECTION B: CONSENT

SECTION C: QUESTIONAIRE

Please indicate your level of agreement or disagreement with each of these following statements regarding your organisation. Place an “X” mark in the relevant box of your answer. If there are any general remarks you wish to add please use comment column available at the end of each category.

Category		**Question**	**Never**	**Rarely**	**Sometimes**	**Frequently / Often**	**Almost always**
Leadership and development	Question 1	Executive Team place emphasis on both their own responsibility and of a culture of collective responsibility for financial matter					
	Question 2	The systems of internal control, governance arrangements and risk management processes are in place, operate effectively					
	Question 3	the systems of internal control, governance arrangements and risk management processes are well understood					
	Question 4	Financial management capabilities exist at all level of the organisation Executive Team, Senior Management, the finance department, and management and supervisors working outside finance					
	Question 5	Financial management training and continuous professional development in financial management is provided to staff both within and outside the finance team					
Financial Planning	Question 6	Financial planning and monitoring process are integrated with the organisation’s strategic and corporate planning processes					
	Question 7	the systems for financial planning are robust and streamlined					
	Question 8	Financial planning processes covers the elements needed to support the business: for example, annual financial plans, integrating current expenditure plans and investment programmes, treasury					

Source: National Audit Office, United Kingdom government (2009)

		management, cashflow and balance sheet projections?					
Finance for Decision-Making	Question 9	The organisation understands its expenditure and cost drivers, and those of its major partners (OEM's) in the sector in order to understand the impact of costs on its programmes					
	Question 10	The organisation understands its income streams and the way in which it sets prices, as well as the income streams and pricing mechanisms of its partners?					
	Question 11	Financial investment appraisal that are used to evaluate costs and benefits and to inform all key policy (operational and capital) are well structured and robust.					
Financial Monitoring and forecasting	Question 12	What is the quality, accuracy and timeliness of the organisation's financial management and forecasting information, including information on income, expenditure, cash flow, and working capital					
	Question 13	How are appropriate financial and non-financial indicators covered within the monitoring and forecasting reports such as operational reports, Board reports, management accounts, external accounts and business plans?					
	Question 14	What is the quality of the financial management, and operational performance management systems, including the transactional processing systems?					
	Question 15	The reports on financial and performance information are tailored to the needs of the user,					
	Question 16	Reports timely are the reports that are presented to internal and external users?					
	Question 17	Financial Reports are accessible, easy to understand, clear and concise?					

Additional / General comments:

This is the end of the survey and thank you for your participation in this research.

Source: National Audit Office, United Kingdom government (2009)

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg

Wits Business School Ethics Committee
Constituted under the University Human Research Ethics Committee (Non-Medical)

Ethics Clearance Certificate

Ethics protocol number: WBS/BA9613808J/807
This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below).

Project title	Financial management maturity level of Sishen Iron Ore Company (Pty) Ltd
Investigator / Researcher	Ms Segomotso Mbatha
Nature of Project	MBA (Research Article)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed confidentialty.
Issue Date of Certificate	2022-10-14
Expiry date	Date of submission of the project / research report
Chairperson	Prof Anthony Stacey ☎ +27 11 717 3587 +27 82 880 4531 anthony.stacey@wits.ac.za

Declaration by Researcher

One copy must be signed by the Researcher and returned to the Chairperson of the Wits Business School Ethics Committee.

I fully understand the conditions under which I am authorized to carry out the abovementioned research and I guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I undertake to resubmit the protocol to the Committee.

SB Mbatha

Signature

31/10/22

Date:

APPENDIX E: PARTICIPANT INFORMATION SHEET

Dear participant

Before you decide to engage in this study, it is essential that you understand the purpose of the research and the nature of your participation. Please take a moment to read the following material. The researcher (Ms. Tumi Mbatha) can be contacted if there is anything that is not clear or if you would like more information.

Research Topic

Assessment of the financial management maturity level of the South African Mining Industry: a case of Sishen Iron Ore Company (SIOC) (Pty) Ltd,

Purpose of the study

This thesis and therefore this interview are conducted in partial fulfilment of the requirements for my degree Masters of Business Administration (MBA) with the University of the Witwatersrand. This paper proposes to do an evaluation of the financial management maturity level in the mining industry with specific case of SIOC (SIOC) PTY Ltd. and proposes the that the outcome of this assessment can be utilised as a mechanism to assist the organisation to achieve its financial strategic objective.

This study aims to evaluate or assess the level of financial management maturity level in the South African Mining Industry. The main research question is “What is the level of financial management maturity in the South African Mining Industry, specifically at (SIOC) PTY Ltd.?”

Objectives of the study are:

- To identify a suitable model to evaluate the financial management maturity level in the South African mining industry and to utilise the selected model to evaluate the level of financial maturity at SIOC from the viewpoint of the normative imperatives and prescripts (processes, systems, people as well as policies and procedures)

- To map the financial maturity level of SIOC in line with the chosen financial maturity model

Why have you been chosen?

The sample population to be interviewed was selected based on roles that make financial decisions or have ownership or control of financial budgets. Therefore, users of financial information and systems in supervisory or management level have been selected to participate. This is to ensure that the feedback is relevant and can assist fulfil the research requirements.

Do I have to take part?

Taking part in this interview is entirely voluntary and refusal or withdrawal will have no impact on you personally or your role whatsoever, now and in the future. Participation is however encouraged to increase data and knowledge both for literature benefit and potential organisational benefit.

What will happen to me if I take part?

Interviews will be on a one-on-one basis in person or virtual. All interviews will be conducted by the researcher – SB Mbatha, using a structured questionnaire with a limited space for free text. All interviews should be concluded in no more than 20 minutes.

Are there possible disadvantages and/or risks in taking part?

There should be no risks to participants as the interviews will be conducted in your normal work setting (office) or on virtual platforms (Microsoft teams) depending on availability.

Will my taking part in this project be kept confidential?

To protect the participants from any privacy violation and to comply to the requirements of POPIA, no personal information or data of participants will be collected, nor stored. The research will only record the following key demographical data, job level, years of experience and whether or not you are a financial professional. All questionnaires will be conducted manually (on paper) or online using Microsoft forms through electronic distribution platforms or on one-on-one interviews.

What will happen to the results of the research project?

The results will be presented as part of my thesis in partial fulfilment of my MBA degree and may be presented in different academic journals. All results will be provided as a group data outcome, and no individual data will be gathered or published; hence, the data will be completely anonymous, with no way to identify the individuals engaged. Also, the information gathered during the interview may be utilised for additional, ongoing, or subsequent study.

Ethical review of the study

Example text: *The project has been reviewed by the University of Witwatersrand Research Ethics Committee. This research is conducted under supervision by* Dr Roselyne Cheruiyot who may be contacted on the following email address: - roselyne.koech@wits.ac.za

For any further information

Should you require any further information or clarity you are welcome to contact the researcher, Ms. Boitumelo (Tumi) Mbatha, on the following email address boitumelo.mbatha@icloud.com or cellular number 083 225 8674.