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# The Effectiveness of the Mining Qualifications Authority's Monitoring and Evaluation System

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**WITS Graduate School of Governance**

**Thesis presented in partial fulfilment for the degree of Master of Management (in the field of Public Sector Monitoring and Evaluation) to the Faculty of Commerce, Law, and Management, University of the Witwatersrand**

**March 2016**

# DECLARATION

I declare that this thesis/dissertation titled 'The effectiveness of the Mining Qualifications Authority's Monitoring and Evaluation System' is my own, unaided work. I have acknowledged and referenced all sources that I have used and quoted. I hereby submit it in partial fulfilment of the requirements of the degree of Master of Management (Public sector monitoring and evaluation) at the University of the Witwatersrand, Johannesburg. I have not submitted this report before for any other degree or examination to any other institution.

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# ABSTRACT

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The South African Government set up the Mining Qualifications Authority (MQA) in 1996 under the Mine Health and Safety Act, 29 of 1996 to train mineworkers on health and safety issues to minimise injuries and deaths. Later the then Minister of labour re-established the Authority as a Sector Education and Training Authority (SETA) in 2000 when SETAs were set up to replace the old Industry Training Boards (ITBs) (Skills Development Act, 97 of 1998). The mandate of SETAs includes providing for learnerships, internships, undergraduate bursaries, graduate development programmes, and apprenticeships. These Authorities have several challenges. These include poor governance, lack of accountability, Lack of and poor quality data, inadequate information management, and absent or ineffective monitoring and evaluation arrangements (Ministerial Task Team on Performance of SETAs, 2013). These challenges have not spared the MQA and has led to declining performance for two consecutive financial years; namely, 2012-2013 and 2013-2014 (MQA Annual Reports, 2012-2013 and 2013-2014. However, only effective monitoring and evaluation arrangements can track and assess reliably how the Authority is performing and why. Therefore, we need to examine the Authority's monitoring and evaluation system. To undertake this examination, the study posed two questions. To understand our research context, we reviewed literature relating to the history and description of the Authority and the establishment of the SETAs in general. We further undertook a research problem analysis to understand the history and description of monitoring and evaluation in the South African public sector. To do this, we reviewed briefly monitoring and evaluation systems of other developed and developing countries globally. From the reviewed literature, we developed a conceptual framework to guide our research in collecting, processing, and analysing of results. Relatedly, we developed an explanatory framework that helped us in interpreting our findings. Some of our findings pointed to the weaknesses of the MQA's monitoring and evaluation system in such areas of monitoring and evaluation organisational capacity and documented monitoring and evaluation reporting processes and system. We concluded by providing some recommendations to strengthen the MQA's monitoring and evaluation system.

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March 2016

# TABLE OF CONTENTS


Declaraion……ii
Abstract……iii
Table of contents……v
Table 1……vii
List of figures……viii
List of Abbreviations/Acronyms……ix
Acknowledgements……x
1 Introduction to the research……1
1.1 Background……1
1.1.1 The Mining Qualifications Authority in context……1
1.1.2 Monitoring and evaluation systems in the South African public sector……2
1.2 Towards examining the effectiveness of the Mining Qualifications Authority's monitoring and evaluation system……3
1.2.1 The research problem statement……3
1.2.2 The research purpose……4
1.2.3 The research questions……4
1.3 Delimitations of the research……5
1.4 Justification of the research……5
1.5 Preface to the research report……5
2 Literature review……6
2.1 The history and description of the Mining Qualifications Authority……6
2.2 The history and description of monitoring and evaluation systems in the South African public sector……9
2.3 Methods, data, findings, and conclusions on studies and evaluations on monitoring and evaluation systems……12
2.3.1 Past and current studies discussing implementation of monitoring and evaluation systems……12
2.4 An introduction to policy implementation and its components……21
2.4.1 Public policy and its purpose……21
2.4.2 The major components of public policy……22
2.4.3 Important established facts and key in public policy……24
2.4.4 Definition and purpose of monitoring……25
2.4.5 The components of monitoring……25
2.4.6 Important established facts and key issues in monitoring……26
2.4.7 Definition and purpose of evaluation……27
2.4.8 The components of evaluation……27
2.4.9 Important established facts and key issues in evaluation……29
2.5 Key attributes of a monitoring and evaluation system……30
2.6 Documented explanatory frameworks in monitoring and evaluation……32
2.7 Examining the effectiveness of the MQA's monitoring and evaluation system; a conceptual framework……35
3 Research techniques, procedure, and methods……39
3.1 Research strategy……39
3.2 Research design……42

3.3 Research procedure and methods ....44
3.3.1 Data collection instrument and structure ....44
3.3.2 Target population and sampling ....45
3.3.3 Ethical considerations when collecting data ....47
3.3.4 Data collection and storage ....48
3.3.5 Data processing and analysis ....51
3.3.6 Description of the respondents ....57
3.4 Research reliability and validity measures ....59
3.5 Research limitations ....61
4 Presentation of research findings ....62
4.1 Monitoring and evaluation structures, processes, and systems for managing MQA performance information ....62
4.2 Data collection, collation, analysis, reporting, and storage at the MQA ....69
4.3 Conclusions ....72
5 Discussion of research findings ....74
5.1 Monitoring and evaluation structures, processes, and systems for managing MQA performance ....74
5.2 Data collection, collation, analysis, reporting, and storage at the MQA ....77
6 Summary, conclusions, limitations, and recommendations ....81
6.1 Summary ....81
6.2 Conclusions ....83
6.3 Limitations ....86
6.4 Recommendations ....86
6.5 Future research ....88
References 89
Appendices 97
Appendix 1.1: 98
Appendix 2.1: 105
Appendix 3.1: 106
Appendix 4.1: 107

# TABLE 1

1. Table 1: The MQA's M&E system results chain and framework

# LIST OF FIGURES

1. Figure 1: The MQA Value Chain

2. Figure 2: Implementation and its main components

3. Figure 3: The RBM Results Chain

4. Figure 4: A proposed conceptual framework for the effectiveness of the MQA's monitoring and evaluation system

5. Figure 5: Respondents by positions

6. Figure 6: Respondents by gender

7. Figure 7: Age distribution of respondents

8. Figure 8: Respondents' length of service at the MQA

9. Figure 9: Respondents by highest qualifications

# LIST OF ABBREVIATIONS/ACRONYMSAND

| | |
|---|---|
| A-G | Auditor-General |
| BLP | Better Life Programme |
| CBS | Community-Based Health Services |
| DHET | Department of Higher Education and Training |
| DHIS | District Health Information Systems |
| FSP | Family Support Programme |
| GDHSD | Gauteng Department of Health and Social Development |
| GPRA | Government Performance and Results Act |
| GWME&S | Government-Wide Monitoring and Evaluation System |
| ICT | Information Communication Technology |
| ITBs | Industry Training Boards |
| MHSA | Mine Health and Safety Act |
| MQA | Mining Qualifications Authority |
| OECD | Organisation of Economic Co-operation and Development |
| OFO | Organising Framework for Occupations |
| PMTCT | Prevention of Mother-to-Child Transmission |
| RBM | Results-Based Management |
| SAMEA | South African Monitoring and Evaluation Association |
| SDA | Skills Development Act |
| SETAs | Sector Education and Training Authorities |
| UNDG | United Nations Development Group |
| UNDP | United Nations Development Programme |
| USAID | United States Agency for International Development |
| WEI | West East Institute |

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# 1 INTRODUCTION TO THE RESEARCH

## 1.1 Background

Before getting to the research problem statement (Sub-section 1.2.1) and consequently the research purpose (Sub-section 1.2.2) as well as the research questions (Sub-section 1.2.3), we briefly introduce the terms that we use in conceptualising our research. Sub-section 1.1.1 introduces the research context briefly and Sub- section 1.1.2 has a brief related discussion on the research context. Sections 1.3 and 1.4 briefly introduce some academic boundaries and the justification of the research, respectively. In Section 1.5, we end Chapter 1 by pointing to some important specific contents of the research report chapters.

### 1.1.1 The Mining Qualifications Authority in context

The Mining Qualifications Authority was first established under the Mine Health and Safety Act, 29 of 1996 to train mineworkers on health and safety in the work environment in order to reduce injuries and deaths in mines (Constitution of the MQA, 2005 and Mine Health and Safety Act, 1996). In 2000, the MQA was re-established as a Sector Education and Training Authority when these authorities were formed under the Skills Development Act, 97 of 1998 to replace the old Industry Training Boards (Skills Development Act, 1998 and Ministerial Task Team on SETA performance, 2013). Since their establishment, the Sector Education and Training Authorities have been facing challenges of poor governance, weak financial accountability, inadequate information management, lack of data and poor data quality, and non-existence or ineffective monitoring and evaluation systems that resulted in some of them being merged with each other or new ones formed (Ministerial Task Team on SETA Performance, 2013). The MQA has been faced with the challenge of a decline in performance targets for two consecutive financial years of 2012-2013 to 2013-2014 despite the establishment of the monitoring and evaluation unit in 2013 (MQA Annual Reports, 2012-2013 and 2013-2014). The research aimed to examine if at all the MQA's monitoring and evaluation system is effective in monitoring its performance. To undertake this examination, the study posed two questions.

### 1.1.2 Monitoring and evaluation systems in the South African public sector

Before examining the evolution of the monitoring and evaluation practice in the South African public sector, the study will briefly discuss the monitoring and evaluation experiences of other countries globally in order to gain more insight into the history and development of monitoring and evaluation. Görgens and Kusek (2009) posit that monitoring and evaluation are not new to governments; they date back to more than 5000 years ago when the ancient Egyptians were regularly monitoring their livestock and grain production. Nowadays, governments still monitor their expenditures and revenues, services rendered, and products produced by continuously comparing actuals with plans. In the United States of America and Canada, the monitoring and evaluation practice is more developed. It started back in the late 1970s and early 1990s, when the government –wide Evaluation Policy and the Government Performance and Results Act were introduced in Canada and United States of America, respectively (Lahey, 2010 and Brass, 2012). Budgetary constraints in Australia forced the government to look for other ways of achieving effectiveness in the implementation of its intervention (Hardlife and Zhou, 2013). Although many African States are increasingly developing their monitoring and evaluation system, some are still struggling to implement them while others have advanced monitoring and evaluation systems. Zimbabwe has not yet developed a monitoring and evaluation framework (United Nations Development Group, 2010), whereas, Uganda, South Africa and Benin have more developed monitoring and evaluation systems (Porter and Goldman, 2013). The Malawian government has been working on the development of its inclusive monitoring and evaluation system since 2002 (Kumwenda and Latib, 2013).

The Presidency (2005) states that the first attempt to institutionalise monitoring and evaluation in the South African public sector was in 2005 when Cabinet agreed to introduce an all-encompassing monitoring and evaluation system. Although, monitoring and evaluation in the South African public sector is now improving, line function departments and public institutions, such as the MQA are still having their own strategic plans and annual performance plans that are in many cases in conflict with one another (Engela and Ajam, 2010). One of the requirements of the Government-Wide Monitoring and Evaluation System was that government departments and public entities

should establish their own monitoring and evaluation systems (Presidency, 2005). It was in response to this requirement that the MQA Board and the Chief Executive Officer established a monitoring and evaluation unit to monitor and evaluate its performance (MQA Annual Report, 2013-2014). Despite the establishment of the monitoring and evaluation unit in 2013, the performance of the MQA has been in the decline for two consecutive financial years (MQA Annual Reports, 2012-2013 and 2013-2014). The aim of the study is to examine if at all the MQA's monitoring and evaluation system is effective in monitoring its performance.

## 1.2 Towards examining the effectiveness of the Mining Qualifications Authority's monitoring and evaluation system

### 1.2.1 The research problem statement

Among the challenges facing the Sector Education and Training Authorities today are inadequate information management, lack of data and poor data quality, and non-existence or ineffective monitoring and evaluation monitoring and evaluation systems (Ministerial Task Team on SETA Performance, 2013). The Auditor-General's (A-G) report on performance information for the 2013 Mining Qualifications Authority Annual Report identified lack of frequent reviews of validity of reported achievements against source documentation as the main weakness in the reporting of performance information (MQA Annual Report, 2012-2013). The Mining Qualifications Authority achieved low performance targets despite the establishment of the monitoring and evaluation unit in 2013. The MQA annual reports for two consecutive years (2013 and 2014) revealed a decline in performance target achievement. In the 2012-2013 financial year, the Mining Qualifications Authority achieved 28 targets from 43 planned targets, resulting in 65 per cent achievement against the 80 per cent targeted performance set by its Board. The MQA target achievement further went down in the 2013-2014 financial year by almost 3 percentage points (MQA Annual Reports, 2012-2013 and 2013-2014). Failure to achieve pre-determined objectives by public entities can cause public oversight structures to ask management of those institutions to appear in Parliament to answer serious questions. It is not clear whether lack of clearly defined structures, processes, and systems involved in the monitoring and evaluation of the MQA performance information and lack of accurate and timely feedback of useful data to those in position to improve performance caused the decline in its performance. It is

important that the MQA's monitoring and evaluation system produces good quality and reliable performance reports to afford decision makers and key stakeholders timely, and accurate performance information on the MQA's achievement in order for them to make informed decisions.

### 1.2.2 The research purpose

The purpose of this research is to examine the effectiveness of the MQA's monitoring and evaluation system. This research will be undertaken to get a deeper understanding of structures, processes and systems involved in the monitoring and evaluation of the MQA performance information and to identify gaps in the collection, collating, analysis, reporting, and storing of the Mining Qualifications Authority performance information. First, we review literature on monitoring and evaluation to understand the theoretical and academic background to the study. Second, we seek to understand the programme theory for examining aspects of the MQA's monitoring and evaluation system, then we construct a causal modal linking the Mining Qualifications Authority's monitoring and evaluation system inputs, activities, and outputs to a chain of intended or observed outcomes and then we use this model to guide the study. Third, we propose a research strategy, a research design, research procedure and methods appropriate to examine the effectiveness of the MQA's monitoring and evaluation system. Fourth, we collect and analyse data to examine if the Mining Qualifications Authority's monitoring and evaluation system is closely associated to the components of an effective monitoring and evaluation system. Lastly, we make recommendations on how to improve the effectiveness of the MQA's monitoring and evaluation system, based on the findings of the study.

### 1.2.3 The research questions

The research aims to answer the overall question of whether the monitoring and evaluation system of the MQA is effective in monitoring and evaluating its performance using the following two research questions:

1. What are the structures, processes, and systems involved in the monitoring and evaluation of the Mining Qualifications Authority performance information?

2. How is performance data collected, collated, analysed, reported, and stored at the Mining Qualifications Authority?

## 1.3 Delimitations of the research

The study focuses on an in-depth understanding of some features of the MQA's monitoring and evaluation system. Although monitoring and evaluation are interdependent and complementary to each other, the study will focus on the implementation part of the MQA's monitoring and evaluation system, particularly process evaluation. The MQA's monitoring and evaluation system is still in its early stage of implementation and as such monitoring is still dominant within the system. At the MQA, although decision makers have begun demanding information on the evaluation of interventions, monitoring still plays a dominant part of the monitoring and evaluation system. This (Porter & Goldman (2013) seems to be the key issue in African governments monitoring and evaluation systems including South Africa.

## 1.4 Justification of the research

The MQA has been facing challenges that have led to declining performance for two consecutive financial years; namely, 2012-2013 and 2013-2014 (MQA Annual Reports, 2012-2013 and 2013-2014) despite the establishment of the monitoring and evaluation unit in 2013. However, only effective monitoring and evaluation arrangements can track and assess reliably how the MQA is performing and why. Therefore, this study seeks to examine if at all the MQA's monitoring and evaluation system is effective. First, the study seeks to there are gaps in the collection and management of MQA performance data. Lastly, the study seeks to verify whether the lack of frequent reviews of validity of reported achievements against source documentation is not the main weakness in the reporting of the MQA performance information.

## 1.5 Preface to the research report

To this end, the report has six chapters. Following this introductory chapter, Chapter 2 provides a literature review covering the problem, the research gap in past and current studies, the explanatory framework and the conceptual framework. Chapter 3 discusses the research strategy, design, procedures, reliability and validity measures as well as limitations. Chapter 4 and Chapter 5 present and discuss the findings, respectively, to interrogating our research questions while Chapter 6 summarises and concludes, and recommends the research findings.

# 2 LITERATURE REVIEW

In the main, this chapter sets out to achieve four objectives – that is, (i.) to detail the evaluation intervention, (ii,) to identify the research gap, (iii,) to develop a theoretical framework for interpreting the research findings, and (iv.) to propose a conceptual framework for informing how the research will be undertaken. First, we introduce the research setting (Section 2.1: The history and description of the Mining Qualifications Authority) and describe the intervention (Section 2.2: The history and description of monitoring and evaluation systems in the South African public sector) to achieve the first objective. Second, we reviewed past and current studies and evaluations (Section 2.3: Methods, data, findings, and conclusions on studies and evaluations on monitoring and evaluation systems) to familiarise the research on research strategies and designs as well as procedures and methods that have been applied by similar research to achieve the second objective. Third, we identified and discussed the academic field of the study encompassing this research (Section 2.4: An introduction to policy implementation and its components), the key attributes that this research should pursue (Section 2.5: Key attributes of a monitoring and evaluation system), and finally some theories that will be applied to interpret the findings (Section 2.6: Documented explanatory frameworks in monitoring and evaluation) to achieve the third objective. Lastly, we proposed a conceptual framework for the research (Section 2.7: Examining the effectiveness of the Mining Qualifications Authority's monitoring and evaluation system, a conceptual framework) to achieve the fourth objective.

## 2.1 The history and description of the Mining Qualifications Authority

Literature offers both academic and theoretical background to the research, and shows that the researcher has an understanding of the matter under investigation (Neuman, 2010). The MQA was originally established under the Mine Health and Safety Act, 29 of 1996 to train mineworkers on health and safety in the work environment in order to reduce injuries and deaths in mines (Constitution of the MQA, 2005 and Mine Health and Safety Act, 1996). It was subsequently re-established as a Sector Education and Training Authority in 2000, when these authorities were formed under the Skills Development Act, 97 of 1998 to replace the old Industry Training Boards and their mandate is to facilitate skills development in various sectors (Skills Development Act, 1998 and Ministerial Task Team on SETA Performance, 2013). Unlike the old Industry

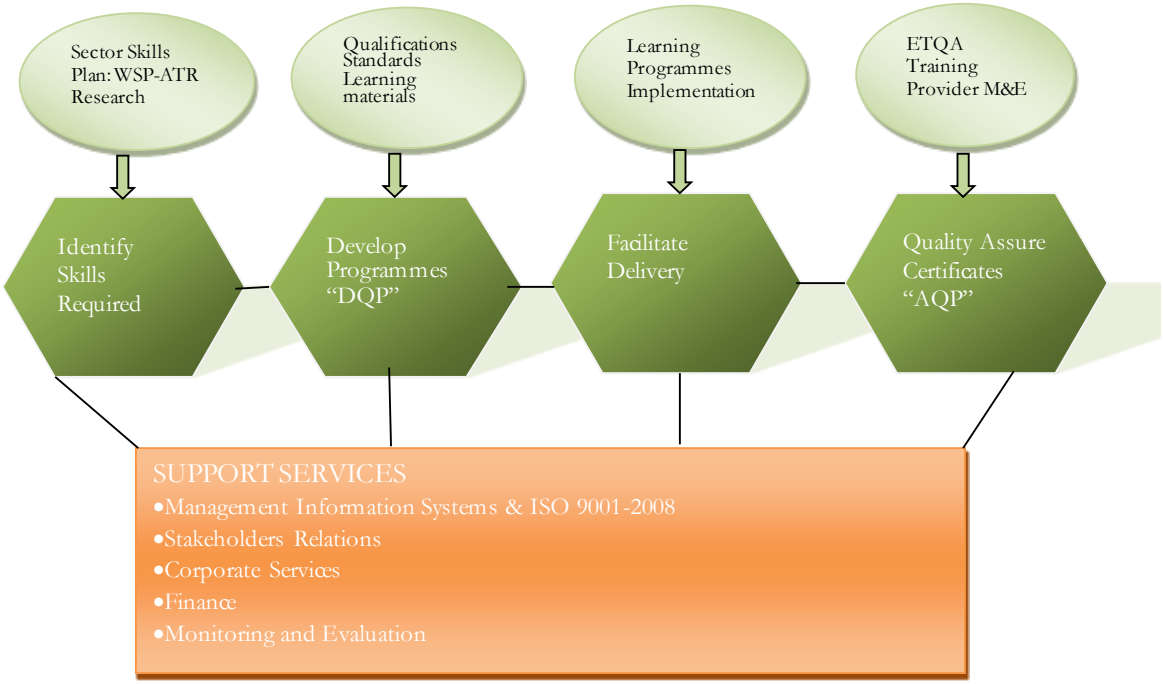
Training Boards that had a narrow mandate of apprenticeship training only, the Sector Education and Training Authorities have a broader mandate, which includes facilitating skills development such as learnerships, internships, work place training, undergraduate bursaries, and artisan development. These authorities play a crucial role in the economy of the country because they train and develop both unemployed and employed South African citizens. Jinabhai (2005) posits that organisations and countries at large understand the importance of skills training and development in sustaining a competent workforce. The Sector Education and Training Authorities operate under a five-year licence renewal term. Since their establishment, these authorities have been re-organised many times starting in April 2005, when the original twenty-five Sector Education and Training Authorities were reduced to twenty-three (Ministerial Task Team on SETA Performance, 2013). The MQA is one of the twenty-one remaining Sector Education and Training Authorities under the Department of Higher Education and Training after their further restructuring in April 2011(MQA Annual Report, 2012-2013).

Although the MQA is now one of the Sector Education and Training Authorities, it is still involved in health and safety issues in the sector (Mine Health and Safety Act, 1996). As a state owned enterprise, the MQA operates under a highly regulated environment. Some pieces of legislation that govern the operations of the MQA are the Minerals and Petroleum Development Act, of 2002, South African Qualifications Authority Act, 58 of 1995, the Higher Education Act, of 1999, Skills Development Levies Act, 9 of 1999 and the Public Finance Management Act, 1 of 1999 (Annual Report (2013-14). In preparation of its strategic documents the MQA aligns itself to other national policy imperatives such as the National Skills Development Strategy 111, the New Growth Path - National Skills Accord, Mining and Minerals Sector Skills Plan (SSP), King 111 Report on Corporate Governance, and Protocol on Corporate Governance in the Public Sector (The Constitution of the MQA, 2005). In addition, National Treasury Regulation 30 requires that the Mining Qualifications Authority must conclude an annual Service Level Agreement with the Department of Higher Education and Training that contains key performance indicators and outcomes expected from the MQA (National Treasury Performance Information Handbook, 2011).

The Constitution of the MQA governs its operations and the Minister of the Department of Higher Education and Training approves it (Skills Development Acct,

1998). In addition, the Minister appoints the Board of the Mining Qualifications Authority. Various committees assist the MQA Board to provide strategic leadership, and determine goals and objectives of the MQA (Constitution of the MQA, 2005). The MQA Constitution (2005) directs that the Chief Inspector of Mines becomes the Chairperson of the Board. Chief among the various committees that provide strategic support to the Board is the Audit and Risk Committee (MQA Annual Report, 2013-14). The main function of the Audit and Risk Committee is to assist the MQA Board in fulfilling its oversight responsibility, which includes safeguarding of assets; ensuring that effective systems of control are in place, and preparing annual financial statements. Led by its Chief Executive Officer, the MQA has five departments that are normally called units; namely, Corporate Services, Finance, Monitoring and Evaluation, Stakeholders Relations, and Operations. The MQA has six regional offices in the Eastern Cape, Free State, Limpopo, Mpumalanga, Northern Cape, and the North West provinces (MQA Annual Report, 2013-14). The delivery of the MQA interventions centres on the value chain depicted by figure 1 below, which offers a quick and modest overview of its core operational functions.

**Figure 1: The MQA Value Chain**




**Needs by OFO → Programmes by OFO → Grants by OFO → Certificates by OFO**

**Source: (Adapted from MQA Annual Report 2013-14: 17)**

The MQA follows a simple yet effective value chain approach to support and facilitate skills development in the mining and minerals sector. Needed skills are identified through a detailed and accurate research. Thereafter, programmes are developed. Third, learning programmes are implemented. Lastly, the MQA quality assures the issuing of certificates as a continuous improvement process. Other MQA units throughout this value chain provide support services. The Mining Qualifications Authority utilises external service providers and employer organisations to implement its interventions. The following section offers a quick overview of the development of the monitoring and evaluation practice in South Africa and the rest of the world.

## 2.2 The history and description of monitoring and evaluation systems in the South African public sector

Wang and Spitzer (2005) posit that tracing the development of the monitoring and evaluation system at the beginning helps us to appreciate its status better. A rising consciousness worldwide of the need for monitoring and evaluation systems emanates from the unhappiness of citizens with the delivery or non-delivery of government services in many countries. Monitoring and evaluating the performance of government interventions can assist in determining their effectiveness and ensuring accountability in the use of public funds. Görgens and Kusek (2009) posit that monitoring and evaluation should assist in improving performance and attaining results. Monitoring and evaluation should produce reliable and timely information that is used to evaluate policies, set priorities, plan, and monitor the effectiveness and impacts of interventions (Kawonga, Blaauw and Fonn, 2012).

In more developed countries such as Canada and United States of America, monitoring and evaluation is at an advanced state. Canada introduced its first government-wide Evaluation Policy in 1977 (Lahey, 2010), while the USA enacted the Government Performance and Results Act in 1993, which was later modified into the Government Performance and Results Modernization Act of 2010 (Brass, 2012). The Canadian Evaluation Policy is a model upon which all public sector evaluations are still practiced. In the USA, it is a statutory requirement that government and most agencies set goals, measure performance and submit plans and reports to Congress for potential use. Budgetary constraints forced the government of Australia to look for alternative ways to achieve value for money in their interventions. In Australia (Hardlife and Zhou, 2013) argue that monitoring and evaluation was developed in 1987. Maughan (2012) suggests

that the establishment of the Productivity Commission in 2010 enabled the Australian government to measure all elements of the results chain by developing indicators for each element. By developing indicators for all elements of the results chain one does not focus only on input, activities and outputs but also measure the outcomes and impacts of an intervention.

In the case of the African continent, many African states are increasingly seeing a need to develop monitoring and evaluation systems in order to monitor, track progress, and evaluate interventions implemented by them or by international development agencies. Although, Odhiambo (2010) claims that evaluation approaches in Africa have been objectively oriented and more appropriate to donor need than meeting local demands, however, (Porter and Goldman , 2013) argue that there are attempts to align monitoring systems to emerging local demands. African countries differ in the advancement of their monitoring and evaluation systems. On the one hand (Caribbean Health Research Council, 2011) some countries are still struggling with the implementation of their monitoring and evaluation systems, while on the other hand others have advanced monitoring and evaluation systems. For instance, Zimbabwe has not yet developed a monitoring and evaluation framework in 2010 (United Nations Development Group, 2010), whereas, Uganda, South Africa and Benin have more developed monitoring and evaluation systems that are driven by their demands (Porter and Goldman, 2013). The Malawian government has been working on the development of its inclusive monitoring and evaluation system since 2002 (Kumwenda and Latib, 2013).

While the first two terms of the South African democratic government were concerned with the restructuring of the apartheid state and the co-ordination of government systems and services, respectively, the third term focused on developmental goals (Presidency, 2007). Monitoring and evaluation is one of the ways in which the South African government intends to measure the effectiveness of its development interventions. Section 195 (g) of the South African Constitution requires that public administration must be accountable by providing timely, accessible and accurate information to the public (The Constitution of the Republic of South Africa, 1996). In response to the Constitution, the National Treasury developed and published various frameworks for managing performance information in the public sector (National Treasury, 2007 and 2010). Until 2005, monitoring and evaluation in South Africa was

not systematic and was incoherent. Only individual staff performance evaluations were institutionalised (Cloete, 2009). The first attempt by the South African government to institutionalise monitoring and evaluation in the public sector was in 2005 when the then President announced in his state of the nation address, that South Africa would pay more attention to measure its performance on the delivery of services by introducing monitoring and evaluation (State of the Nations Address, 2005).

In July 2005, the Cabinet of the Republic of South Africa adopted a strategy to establish a Government-Wide Monitoring and Evaluation System for a period of two years (Presidency, 2005). Although the introduction of Government-Wide Monitoring and Evaluation System in South Africa in 2005 and the subsequent establishment of the South African Monitoring and Evaluation Association in 2006 were well received (Ijeoma, 2010), the delay in its implementation prompted the Cabinet to intervene by introducing the Policy Framework for the Government-Wide Monitoring and Evaluation System (Cloete, 2009). The objective of the Policy Framework for the Government-wide Monitoring and Evaluation System was to provide an "integrated, encompassing framework of monitoring and evaluation principles, practices and standards to be used throughout Government" (Presidency, 2007: 5). The policy framework was meant to provide more clarity on some implementation challenges and to accelerate the implementation of the monitoring and evaluation system in the public sector. One of the weaknesses of the framework was that although it included dates (Engela & Ajam, 2010), it does not contain what needs to be monitored and evaluated (Cloete, 2009). Another weakness of the phased-in implementation plan identified by Cloete (2009) is that provincial and local governments have not yet rolled out the system due to serious capacity constraints in the Presidency. Lastly, there are communication gaps among different departments about the nature, goals, content, processes and timeframes of the Government-wide Monitoring and Evaluation System.

The Policy Framework for the Government-wide Monitoring and Evaluation System (2007) stipulates that the Accounting Officer of a Department or Municipality, or the Chief Executive Officer of a public entity, must establish a monitoring and evaluation system for the institution. It was against this background that the MQA Board and the Chief Executive Officer established the monitoring and evaluation unit in 2013 to monitor and evaluate the performance of the organisation (MQA Annual Report, 2013-

2014). The monitoring and evaluation unit of the MQA focuses on the core functions of aligning planning, monitoring, and evaluation of the organisation with set standards that meet the relevant government frameworks. Second, to monitor and provide feedback on progress, implementation, and detect problems in the delivery of the MQA interventions by both skills and service providers. Lastly, to ensure that MQA interventions are relevant, efficient, effective, sustainable and offer value for money by conducting evaluations. The Chief Risk, Monitoring and Evaluation Officer is the head of the unit, which is located at the MQA head office. There are two managers supporting him, with one focusing on risk management functions while the other focuses on monitoring and evaluation functions. There are three monitoring and evaluation specialists supporting the two managers. The challenge with the Mining Qualifications Authority is that despite the establishment of the monitoring and evaluation unit, its performance has been declining (The MQA Annual Report, 2012-2013 and 2013-2014). It is not clear what causes the decline in the performance of the Mining Qualifications Authority.

## 2.3 Methods, data, findings, and conclusions on studies and evaluations on monitoring and evaluation systems

In this section, we review past and current research and evaluations on monitoring and evaluation systems in order to identify the research gap on this subject in general and South Africa in particular. The studies were selected because of their relevance to the two research questions. On the one hand are the studies that focussed on factors influencing the implementation of monitoring and evaluation systems and on the other hand are studies that focused on data management processes of the monitoring and evaluation systems.

### 2.3.1 Past and current studies discussing implementation of monitoring and evaluation systems

Maddock (1993) reviewed documents for the World Bank agricultural funded projects in Nigeria to determine whether project monitoring and evaluation works. The research employed a qualitative strategy. Data were collected through documents review and analysis, and interviewing the project implementers. The study does not explicitly indicate which theoretical framework was used to understand the broad field of study and which conceptual framework was applied to interpret the results.

The study concluded that some of the factors limiting the impact of the monitoring and evaluation system are unachievable objectives, ineffective reporting methods, and poor timeliness of reporting data. In most cases in Nigeria, development institutions use monitoring and evaluation as a basis for developing budgets. There are acute problems of recruiting and retaining staff for monitoring and evaluation positions, especially in remote areas. The study also found that, in Nigeria, up to 30 per cent of monitoring and evaluation posts were unfilled because posts in monitoring and evaluation were seen as unattractive since they often involve relocation to rural areas; furthermore, monitoring and evaluation salaries were lower than other comparable professional posts. It is not clear what helped the author to interpret the results of the study because there is no clear indication on the development of a theoretical framework. The study does not address a particular case of a South African monitoring and evaluation system.

Makinde (2005) conducted a study on two Nigerian programmes to identify and offer possible solutions to various problems facing developing nations regarding implementation of development interventions. Although other developed and developing countries were analysed the focus was on Nigeria's Better Life Programme and the Family Support Programme. Although the study does not clearly state which method was employed and how data were collected, it can be deduced that the method used was qualitative because the study was based on reviewing and analysing documents for the two programmes. The study identified corruption, lack of continuity in government policies, lack of policy implementation, inadequate human and material resources as main factors affecting the implementation of these two programmes. Another cause of implementation gap was the failure of policy makers to consider social, political, economic, and administrative variables when analysing policy formulation. These two Nigerian programmes show that implementing development interventions in developing countries is still a major challenge. This is also the case with our South African public sector situation, where the government has many good policies that face many implementation challenges, which often lead to service delivery protests.

A conceptual framework developed to analyse a successful policy implementation was that, target beneficiaries should be involved at the formulation stage of the intervention in order for them to have input in what affects their lives. Second, both human and

financial resources needed in the implementation should be given much attention during the planning phase. Third, there must be effective communication between the targeted beneficiaries and the intervention implementers. Fourth, continuity is important even if there is a change in administration, except if the intervention is found not to be useful to the people. Lastly, provision should be catered for adequate monitoring of the intervention.

Matirli and Khanda (2007) conducted a study to analyse and understand how Kenya has designed and implemented the existing monitoring and evaluation system. The study aimed at understanding how to improve and strengthen the existing monitoring and evaluation so that it responds to the needs of small-scale farmers. Further, the study aimed at understanding how to embrace diverse stakeholder participation and social learning when designing and implementing an intervention. The study applied a qualitative method and data were collected through an exploratory survey. Policy documents from the two programmes were reviewed and analysed for their content. Semi-structured interviews were conducted from key informants who were from eight districts. The study found that there is inconsistence in the application of monitoring and evaluation. The two programmes perceived monitoring and evaluation differently, and they rarely incorporated monitoring and evaluation component at the time of project design. Most scientists perceive monitoring and evaluation as a responsibility of donor consultants that assess the project to find whether their funds have been well utilised and the outlined outputs achieved. Indicators used in the existing monitoring and evaluation are developed without wider and key stakeholders' participation. There are no clear criteria used in selecting stakeholder organisations and individuals that participate in monitoring forums. Participation is biased towards power structure and power relations. This study cannot be generalised because it was designed to understand the existing monitoring and evaluation in those two programmes.

Odhiambo (2010) delivered a discussion paper at a World Bank conference organised by the Development Bank of Southern Africa in 2010. The aim of the paper was to address the problems currently experienced in Africa, of which criteria to use in determining change; that is, the investigative process or methodology, and monitoring and evaluation mechanisms. The paper also examined critical issues in the building of evaluation capacities in Africa and put forward a set of recommendations for key stakeholders in

monitoring and evaluation. The paper reviewed documents and examined key challenges facing monitoring and evaluation practice in Africa especially in Kenya. The paper found that in Africa, while common evaluation approaches in Africa are objectively oriented and quantitative they are more suitable for meeting donor information requirements. Participation is a key element of community development and involves group participation in planning common goals and attaining them. The apparent non-use of evaluation findings in African evaluations is still a big problem that results from the generally suspicious manner in which evaluations are viewed. A conceptual framework was developed to address problems currently being experienced in Africa, criteria to use in determining the change, the investigative process or methodology, and monitoring and evaluation mechanisms in Africa. This was a discussion paper from the point of view of the presenter and was not peer reviewed. The paper is also based on the Kenyan experience with no significance relevance to the South African public sector monitoring and evaluation situation. One can infer that the paper was to explore ideas for further detailed investigation.

Leon, Schneider, and Daviaud (2012) conducted a community case study in South Africa to assess the opportunities and challenges to effective implementation of mobile Health at scale in health systems. They collected data using a combination of key informant interviews using semi-structured questionnaires, site visits to local projects and document reviews. The Ethics Committee of the University of Western Cape granted ethical approval. Key informants were required to give written informed consent. A conceptual framework to appraise the health systems challenges of implementing mobile Health for community-based health services at scale was developed taking into consideration as starting points both local experiences and broader challenges identified in the literature review. The study identified that opportunities for successful implementation of mHealth in South Africa included the high prevalence of mobile phones, a supportive policy environment for eHealth, successful use of mobile Health for community-based health services in a number of projects, and a well-developed information and communication technology industry. However, there are weaknesses in other health system areas such as organisational culture and capacity for using health information for management. There is also poor availability and use of information and communication technology in primary health care. Technological challenges include the complexity of ensuring interoperability and

integration of information system and securing privacy of information. Sustainable finance required for large-scale use of mobile phone technology in resource-limited settings was also a challenge. This study is about a South African experience that emphasised the importance of infrastructural support for effective and successful implementation of a development intervention.

Porter and Goldman (2013) reviewed six African country case studies and collected data through interviews from willing participants to observe what evidence is there that African governments are developing stronger endogenous demand for evidence generated from monitoring and evaluation systems. Second, is there evidence that demand for monitoring and evaluation is growing in Africa? In developing a conceptual framework, monitoring and evaluation was viewed as a key element in the transformation of the public sector to be efficient, effective, and responsive to citizens and parliament. They found that monitoring is still dominant, but there is evidence of emerging endogenous demand from African governments for evidence that is sometimes filled by country-led monitoring and evaluation systems. In South Africa, Uganda, and Benin evaluations that supply deeper analysis are being developed. There is merging of donor-driven and country-led demands for evaluations. However, interpretation of results-based management is still narrow and it focuses on accounting and control. Demand for in-depth evidence is still in its formation stage and there are growing pains in demand for evaluation. This paper was a rapid review of the case studies that summarised initial lessons learnt for further diagnosis in each of the countries and should be viewed as part of a cycle of action, reflection, learning and planning than a finalised analysis. It does not seek to understand the entire national monitoring and evaluation system and tends to represent the perspective of the specific centre of government agency involved in the study. The paper does not consistently discuss links to line ministries, national statistics agencies, and the role of Auditors-General. Consequently, this paper falls short of drawing comparisons and put these important relationships on a one-sided view.

Hardlife and Zhou (2013) examined the utilisation of monitoring and evaluation systems by international development agencies, using the United Nations Development Programme (UNDP) in Zimbabwe as a case study. They reviewed country experiences in Australia, Sri Lanka, and Uganda as a basis for comparative analysis. Data gathering

involved desk research and field study, which relied mainly on interviews and questionnaires. Respondents were randomly selected from a population of thirty-eight that comprised UNDP staff of programme officers, assistants, and managers and were linked directly to the area of study because of their involvement in the operationalisation of the monitoring and evaluation system. The study concluded that factors accounting for success with monitoring and evaluation systems include resource availability such as ample time, sufficient finances, adequately skilled personnel, and political champions who are committed to the cause of monitoring and evaluation systems. The study also identified challenges affecting monitoring and evaluation systems as structural constraints and organisational loopholes, especially at country level, lack of co-ordination and harmonisation of monitoring and evaluation systems, unfavourable administrative culture, inappropriate methodology used, and poor data quality. In analysing the effectiveness of the monitoring and evaluation system, the study did not only look at the technical side of it but also look at the human side. The design, operationalisation, and maintenance of the monitoring and evaluation system involve the human element with its failures, manipulations, emotions, and judgements. Therefore, the human side of the story was critical to hear in this study. The theory used to interpret the results of this study was results-based management approach.

These studies have identified and discussed factors that contribute to effective monitoring and evaluation systems. They also identified and discussed factors that can limit the effectiveness of monitoring and evaluation systems. Maddock (1993), Makinde (2005), and Matirli and Khanda (2007) identified factors that can limit the effectiveness of monitoring and evaluation systems as unachievable objectives, ineffective reporting systems, poor timeliness of information, corruption, lack of continuity in government policies, inadequate human and resource materials, and inconsistencies in implementing monitoring and evaluation systems. Odhiambo (2010) and Porter & Goldman (2013) concluded that although most evaluation approaches in Africa are objectively oriented and quantitative they are more suitable to meet donor information. However, Porter & Goldman (2013) stated that there is merging of donor-driven and country-led demands for evaluations.

Odhiambo (2010) and Leon, Schneider, and Daviaud (2012) suggested factors that can enhance the effectiveness of monitoring and evaluation systems as the incorporating of

the system into government systems through good governance, supporting infrastructure, appropriate technology, and alignment of donor-beneficiary relationship. Second, prioritisation of the support for the development of evaluation capacity building in mainstream institutions and programmes, supportive policy environment, and well developed ICT. Third, formulation of appropriate system design and baseline indicators, strict and routine follow-ups on the implementation of evaluation findings, and establishment of specialist services unit for monitoring and evaluation.

All the reviewed studies mentioned above employed qualitative methods and data collection was case study designs. Therefore, they are not generalisable to other similar situations. On the positive side, some of the studies explicitly mentioned the ethical considerations, which they considered when conducting their studies. The majority of these studies applied a conceptual framework to interpret results of their findings. Even though the majority of these studies are not relating specific to the South African public sector monitoring and evaluation situation; however, they provide a wealth of information to examine the effectiveness of the MQA's monitoring and evaluation system. These studies identify both factors that can limit the effectiveness of monitoring and evaluation systems and factors that can limit the effectiveness of monitoring and evaluation systems.

### 2.3.2 Past and current studies discussing data management processes

Nash, Elul, Rabkin, Tun, Saito, Becker, and Nuwaga-Biribonwola (2009) conducted a study to discuss common challenges to monitoring and evaluation systems used in the rapid scale-up of HIV services as well as innovations that may have relevance to systems used to monitor, evaluate, and inform health systems strengthening. The focus of the study was more on decentralised data and real-time access to summary reporting, timely feedback of monitoring and evaluation information, and use of routinely collected aggregate data for epidemiologic analysis and operations research. Although the study does not explicitly state which research method was applied, however, it can be deduced that this was a qualitative approach because it is stated that they discussed potential avenues for improvement that may have relevance to the development and strengthening of health-related monitoring and evaluation systems. It can also be deduced that a framework was applied to address common challenges and weaknesses

of HIV monitoring and evaluation system. The study does not indicate whether ethical approval was sought since HIV is a very sensitive issue. A conceptual framework was developed to address common challenges and weaknesses of HIV monitoring and evaluation systems, and to discuss potential opportunities for improvement that may have relevance to the development and strengthening of health-related monitoring and evaluation systems. The study found that guiding principles for comprehensive, integrated, and sustainable national monitoring and evaluation systems include ownership, support for national programmes and policies, interoperability, and employment of an open-source approach to software development.

Mate, Bennett, Mphatswe, Barker, and Rollins (2009) assessed the completeness and accuracy of routine data for the prevention of mother-to-child transmission submitted to district health information systems in three districts of Kwazulu-Natal Province, South Africa. They employed a quantitative methodology and the research design was longitudinal. The study applied a randomised sampling technique and data were collected through site visits from randomly selected sites, clinic registers. Monthly reports were analysed to assess the accuracy and completeness of data. Ethical approval was given by the Biomedical Research Ethics Committee of the University of Kwa-Zulu Natal and by the Kwa-Zulu Natal Department of Health Research Committee. The conclusion drawn from the study is that data completeness and accuracy are crucial to the monitoring and evaluation of an intervention. Inaccurate and incomplete data can distort the performance of the intervention. Data management is very important to the successful implementation of a monitoring and evaluation system. Effective monitoring and evaluation of interventions depend on complete, accurate and timely flow of data between where they are initially generated and where they are analysed and stored. Reliable data is the first step to ensuring effective delivery or implementation of an intervention. The strength of the study was that it relied on a very large sample size (all three hundred and sixteen clinical sites were surveyed for data completeness; ninety-nine sites were sampled for data accuracy) and; therefore it can be generalised to other similar situations.

Kawonga, Blaauw, and Fonn (2012) assessed the extent to which the HIV monitoring and evaluation system was integrated with the overall system monitoring and evaluation function at district level. The aim of the study was to describe the implementation of the

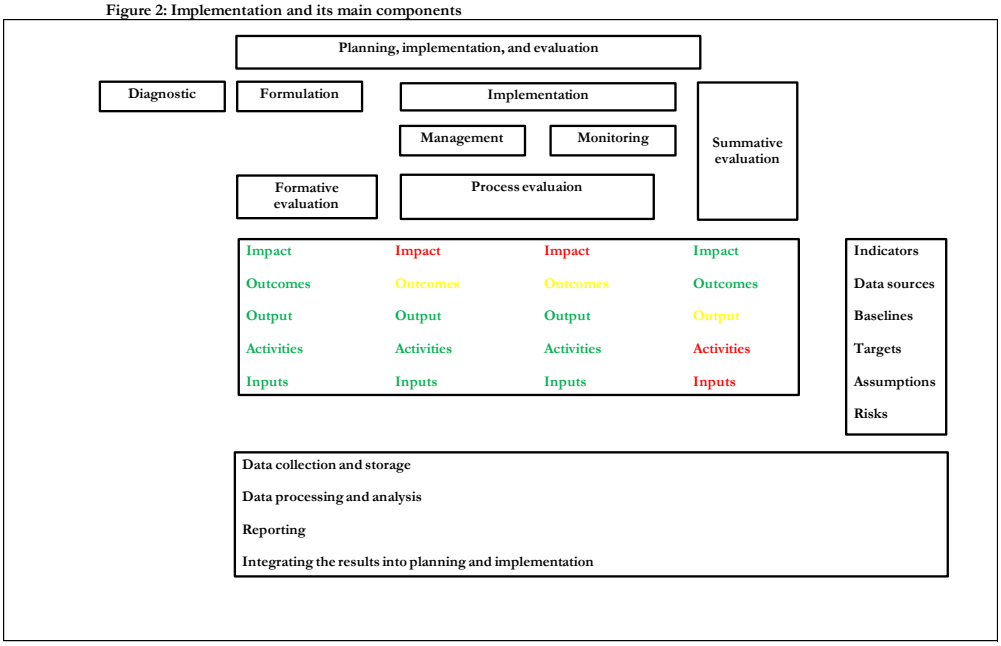
HIV monitoring and evaluation system, determine the extent to which it was integrated with the district health information systems, and evaluate factors influencing HIV monitoring and evaluation integration. The methodology employed was a qualitative case study approach in one health district in South Africa and data were collected through informant interviews. The University of the Witwatersrand and the Provincial Department of Health granted ethical approval. A theoretical framework was developed to describe the HIV monitoring and evaluation system design to measure variables. The interview process was thereafter; transcribed and analysed thematically. The study found that the HIV monitoring and evaluation system is top-down, oversized, and uncoordinated. The monitoring and evaluation system is characterised by a massive data set, duplication of data collection, incomplete data recording, and non-use of nationally defined forms. These features limit the efficiency and accuracy of HIV monitoring and evaluation systems in other settings. They also found that some data were collected but not collated and analysed. Data forms were introduced without ensuring that they did not duplicate existing ones. The study cannot be generalised to other situations because it was aimed at describing a particular case study.

The author now highlights important points from the reviewed data management studies. Nash et al (2009), Mate et al (2009), and Kawonga et al (2012) concluded that data challenges such as incomplete reporting, inaccurate data, inadequate training of data personnel, lack of timely feedback, and duplication of data collection contribute to ineffective monitoring and evaluation systems. These studies identify data management challenges in the collection, collating, analysis, reporting, and storing of data. With the exception of Kawonga, Blaauw, and Fonn (2012) who employed a quantitative method, these studies employed qualitative research methods. All studies developed a theoretical framework that helped them in understanding their fields of study. Although, the majority of these studies cannot be generalisable to other similar situations; however, they provide important points on both data management factors that can contribute to effective monitoring and evaluation systems and data management challenges that can limit the effectiveness of monitoring and evaluation systems.

## 2.4 An introduction to policy implementation and its components

This study is about examining the effectiveness of the MQA's monitoring and evaluation system, which is an implementation of intervention. Without implementation, we can neither discuss monitoring nor process evaluation or summative evaluation. By implication, we cannot discuss monitoring and evaluation systems. Therefore, here we attempt to discuss implementation and its important components. Figure 2 below locates implementation and its main components. The figure shows that the main components of public policy cycle are diagnostic, formulation, implementation, and evaluation. Policy implementation involves management and monitoring functions.

Figure 2: Implementation and its main components




### 2.4.1 Public policy and its purpose

Lowi and Ginsburg (1996) in Fischer, Miller, and Sidney (2007) define a public policy as an officially expressed intention backed by a sanction, which can be a reward or a punishment. A public policy can take many forms such as a law, a rule of a statute, a proclamation, a regulation, or an order. Mazmanian and Sabatier (1983) posit that in an ideal situation, the purpose of a policy decision is to identify the problem to be addressed, specify the objectives to be pursued, and outline the implementation process. Fischer et al (2007) argue that the study of public policy and methods of policy analysis have been among the increasingly emerging fields in the social sciences over the past years.

## 2.4.2 The major components of public policy

The major components of public policy are sometimes referred to as policy processes or stages. Jann and Wegrich (2007) in Fischer et al 2007) argue that the idea of modelling process in terms of stages was pioneered by Lasswell (1956) where seven stages of policy process were first introduced as intelligence, promotion, prescription, innovation, application, termination, and appraisal. While other authors contested this policy process, it was however well received and successful. Jann and Wegrich (2007) in Fischer et al (2007) further state that authors such as Brewer and deLeon (1983), May and Widavsky (1978), Anderson (1975), and Jenkins (1978) developed a number of variations of the policy processes that were later combined into agenda-setting, policy formulation and decision-making, implementation, and evaluation. We will focus only on diagnostic, formulation, and implementation stages of public policy although there is also the evaluation stage of public policy.

### 2.4.2.1 The diagnostic stage of public policy

The diagnostic stage of public policy is mainly characterised by three processes; namely, problem or needs assessment, contextual assessment, and agenda setting. Hill (2013) posits that setting the agenda, recognising the problem and selecting the issue is the first and the most difficult stage in developing a public policy. In order to understand and assess the problem, it is important to define it clearly. Gharajedaghi (2006) argues that understanding a problem involves formulating the mess. A mess is a system of problems that requires understanding the essence of the behavioural characteristics of social phenomena. Burstein (1991) argues that issues do not simply arise out of objective conditions; rather, they are continuously constructed social phenomena. Burstein (1991) further suggests that public policy is influenced by formal organisations and the relations among them, both formal and as arranged by formal rules governing their relations. Culture also critically affects public policy because political issues, policy proposals, legislation, administrative regulations, judicial decisions, and their interpretation are in most cases socially construed.

### 2.4.2.2 The formulation stage of public policy

Policy formulation stage deals with the transformation of issues on the agenda into concrete policy programmes and proposals for government implementation. Sidney

(2007) posits that policy formulation is an explicit object of inquiry in studies of policy design and policy tools. Central to the policy design perspective is the notion that every public policy contains a framework of ideas and instruments that need to be identified and analysed. Designing a policy is an institutional structure that consists of goals, target groups, agents, an implementation structure, tools, rules, rationales, and assumptions. Therefore, to understand and explain why a policy has a particular design, we need to examine the process leading to its design.

Jann and Wegrich (2007) in Fischer et al (2007) argue that policy formulation and adoption encompasses the definition of objectives and the consideration of different implementation plans. Hill (2013) argues that policy formulation activities differ from country to country and includes these essential activities. First, there must be a more precise definition of policy objectives. Second, policy operational instruments must be clearly stated to make the policy effective. Third, there must be political administrative arrangement, which involve the specification of the authorities whose function it will be to implement the policy and the financial resources to implement that policy. Lastly, the rules to be used in the implementation of the policy must be clearly stated.

### 2.4.2.3 The implementation stage of public policy

Pülzl and Treib (2007) in Fischer, Miller, and Sidney (2007) posit that implementation studies are positioned at the connection of public administration, organisational theory, and political science studies. Hill and Hupe (2014) argue that implementation assumes a priority act of formulating what needs to be done. Otherwise, there would be nothing to move toward in the process of implementation. Therefore, one can conclude that implementation studies involve public policy implementation. Furthermore, implementation studies represent an important advance in policy analysis. Policy formulation and decision-making do not guarantee that action on the ground will strictly follow policy makers' aims and objectives. Jann and Wegrich (2007) in Fischer et al (2007) define policy implementation as what happens between the establishment of an apparent intention on the part of the government to do something, or to stop doing something, and the ultimate impact in the world of action. Public policy implementation aims to put a set of sequential activities directed toward putting a policy into effect, making the policy occur. Hill (2013) argues that the main purpose of implementation is to ensure that what has been formulated in terms of policy is transformed into practical

details. Ikechukwu and Chukwuemeka (2013) observe that policy implementation is the process of translating a policy into actions and presumptions into results through various projects and programmes.

Jann and Wegrich (2007) in Fischer et al (2007) posit that an ideal implementation would include first, the specification of programme details, that is, how and by which agencies/organisations should the programme be executed? How should the law/ programme be interpreted? Second, implementation is about allocation of resources, that is, how are budgets distributed? Which employees will implement the programme? Which unit of an institution will be in charge for the execution? Lastly, implementation is about decision making, that is, how will decisions of single cases be carried out? Hull and Hupe (2014) posit that implementation is concerned with managing performance. The focus of this study is to examine the effectiveness of the Mining Qualifications Authority's monitoring and evaluation system in monitoring and evaluating the performance of the organisation. Therefore, implementation is the main component under which this study is sitting.

### 2.4.3 Important established facts and key in public policy

Jann and Wegrich (2007) in Fischer et al (2007) articulate one of the established facts about public policy, when they posit that the policy cycle perspective has proven to provide an excellent heuristic device. It enhances our understanding of the complex preconditions, central factors influencing, and diverse outcomes of the policy process. One of the key issues in decision-making is to distinguish between facts and values. Simon (1991) in Pomerol and Adam (2014) posits that facts are what can be verified or falsified and values are the objectives of the decision maker and, beyond this, his actual wishes. Therefore, we can only evaluate a decision if we know the objectives of the decision maker.

Ikechukwu and Chukwuemeka (2013) argue that in essence, if a policy is effectively implemented, the designed and planned development goals and objectives are realised. However, Makinde (2005) observed that it is apparent that policies are rolled out regularly in developing nations but most of the time, without achieving the desired results. Therefore, policy implementation is one of the major problems confronting

developing nations. Critics of the policy cycle framework argue that it is based on an implicit top-down perspective, and as such, policy-making is taken as a hierarchical steering by the superiors. Edelman (1971) in Fischer et al (2007) states that symbolic or ritual activities purely related to the maintenance of power do not feature in the stages model. The cycle framework leads toward an oversimplified and unrealistic world-view.

### 2.4.4 Definition and purpose of monitoring

The Organisation for Economic Co-operation and Development (OECD) (2004:16) defines monitoring as a "continuous function that uses the systematic collection of data on specified indicators, to provide management and the main stakeholders of an ongoing development intervention with indication of extent of progress and achievement of objectives and progress in the use of allocated funds". Monitoring is about the measurement of progress towards achieving intervention objectives. It involves counting what we are doing. Porter and Goldman (2013) state that monitoring tracks costs and how the intervention is functioning, and it happens during the implementation stage of an intervention and answers questions on what is happening, but not why.

### 2.4.5 The components of monitoring

During monitoring of an intervention, inputs, activities and outputs are important because they are key elements for accountability (UNDG, 2010). First, we identify and detail inputs. Second, we identify and detail activities. Third, we identify and detail outputs. Kusek and Rist (2004) define inputs as financial, human and material resources used for the development of an intervention. These are necessary for the implementation of interventions. Inputs such as human, financial, and material resources will be important in this study because they are necessary in the implementation of the MQA interventions. At the MQA, inputs are personnel, training programmes, service providers, employers, information technology equipment, office buildings, salaries and grants that paid to employees and learners, respectively. Data collected from these inputs will assist in examining the effectiveness of the MQA's monitoring and evaluation system. It is through analysing input data that an evaluation exercise can be conducted. The MQA personnel responsible for the implementation of these interventions will give much needed information on the utilisation of inputs.

Activities are actions taken or work performed through which inputs such as funds, technical assistance and other types of resources are mobilised to produce specific outputs (Kusek and Rist 2004). These demonstrate that inputs are used to produce results. In the context of the MQA, activities include everything that is done to ensure that learners are trained. These include registering learners with the MQA; liaising with both, the MQA accredited training providers and employers, and organising training, and ensuring that the actual training of learners occurs. Data collected from activities assist in the monitoring and evaluation unit in the preparation of the performance information.

Kusek and Rist (2004) and the UNDP (2002) concur that outputs are specific products and services that emerge from processing inputs through programme, project, and other activities. The National Treasury (2007) and Castillo and Gasper (2011) state that outputs reflect more on immediate results of an intervention. Outputs are the things we produce or deliver and are the foreseen, intended, and the direct results of the intervention activities carried out with the respective inputs. In the context of the MQA, outputs are all trained learners resulting from all implemented interventions. The monitoring and evaluation unit utilises data collected from other units, such as the number of learners trained to produce performance information. When validating reported performance achievements, the monitoring and evaluation unit also checks the accompanying portfolio of evidence or proof of performance. After validating the signed and approved performance data from the respective units, the monitoring and evaluation unit processes, analyses, and produces the monitoring and evaluation quarterly performance information. Data collected from these units are routine and will be utilised to assist in examining the effectiveness of the MQA's monitoring and evaluation system. These three attributes; namely, inputs, activities, and outputs indicate the linear relationship they share. They also represent the change caused through the cause and effect relationship they share (UNDG, 2010).

### 2.4.6 Important established facts and key issues in monitoring

This sub-section briefly discusses some important facts and key issues in monitoring. Whilst monitoring tracks progress to inform stakeholders of an ongoing development intervention, evaluation assesses the relevancy, effectiveness, efficiency, impact and

sustainability of the interventions (Kusek and Rist, 2004). Other interesting facts about monitoring are that it gives information on where an intervention is at a particular time compared to planned implementation, it records things as they happen, and it sends signals that implementation is not going according to the plan (Ijeoma, 2010). Maddock (1993) posits that monitoring tracks progress to inform stakeholders of ongoing development intervention. Another important fact about monitoring in most South African public sector institutions is that monitoring is a dominant part of the monitoring and evaluation system. In other words, most public sector institutions in South Africa do not pay much attention to evaluate their interventions. Porter and Goldman (2013) argue that when monitoring becomes a dominant part of institution's monitoring and evaluation system, this indicates that there is a weak demand from decision makers for evidence. The process of monitoring is continuous and involves collecting, collating, analysing, reporting, and storing data on inputs, activities, outputs, outcomes, impacts and external factors, in a way that supports effective management.

### 2.4.7 Definition and purpose of evaluation

The OECD (2004: 16) defines evaluation as "the systematic and objective assessment of an ongoing or completed project, programme or policy design, implementation and results". Kusek and Rist (2004) posit that evaluation is a complement to monitoring in that, when a monitoring system sends signals that efforts are going off track, and then good evaluative information can help clarify realities and trends noted with the monitoring system. Unlike monitoring, which is continuous from the beginning to the end of an intervention, evaluation is selective and periodic in that it attempts to assess progress towards the achievement of important milestones such as at the beginning, mid- term, end of the intervention, or long after the intervention has ended.

### 2.4.8 The components of evaluation

In this sub-section, we identify and detail the components of evaluation, namely, formative evaluation, process evaluation, and summative evaluation. During evaluation of interventions, two attributes are important; outcomes and impacts. The results at the level of these two attributes cannot be entirely attributed to the intervention; cannot be held accountable for their attainment (UNDG, 2010). Kusek and Rist (2004) define outcomes as likely or achieved short term and medium effects of an intervention's

outputs. Outcomes are also referred to as a changed state of being, stated in the present tense. Impacts refer to positive and negative, primary and secondary long term effects produced by a development intervention directly or indirectly, intended or unintended (Kusek and Rist 2004). These effects can be economic, social-cultural, institutional, environmental, and technological or of other types (UNDG, 2010).

The first component of evaluation is formative evaluation, which normally happens at an early stage of an intervention. Cloete (2009) and Ijeoma (2010) posit that formative evaluation is undertaken at a very early stage and prior to the implementation of an intervention. This type of evaluation is sometimes called the feasibility study of an intervention. Cloete (2009) posits that formative evaluation consists of a range of systematic activities including, identifying potential costs, benefits, constraints, and potential impacts of an intervention in order to decide the course of action to take. This type of evaluation has a formative influence on the intervention process and addresses the feasibility of the desired intervention objectives.

The second component of evaluation is process evaluation and is done during the implementation of an intervention. Ijeoma (2010) argues that process evaluation is common in research management, particularly in the modern technology field. Progress on the implementation of an intervention must be monitored in order to keep track of timeframes, the spending patterns, and the progress towards achieving objectives including the quality and quantity of outputs (Cloete, 2009). Process evaluation is similar to monitoring because it addresses day-to-day implementation problems of an intervention. It focuses on the effectiveness, efficiency, and public participation levels. Process evaluation is usually conducted through peer reviews, and forms the basis for performance target adjustments. The focus of this study is on the effectiveness of the MQA's monitoring and evaluation system, which is an intervention. This is why this study falls within process evaluation. This study will be looking at how well the MQA's monitoring and evaluation system is working. The two research questions focus on the organisational part of the MQA's monitoring and evaluation system as well as the data management processes. Therefore, process evaluation will be critical for quality improvement of the MQA's monitoring and evaluation system.

The last component of evaluation is summative evaluation. Cloete (2009) states that it aims at assessing either the progress made towards achieving intervention objectives if they can be determined, or assessing the general results of the intervention. Ijeoma (2010) posits that summative evaluation is the final evaluation aimed at assessing the performance of an intervention, quality, and its relevance. Summative evaluation aims at addressing cost effectiveness, potential relevance to national development issues, and positive impact as contribution to the socio-economic progress of the beneficiaries. Therefore, summative evaluation should be done in consideration of intended beneficiaries' experiences in mind. This type of evaluation is not the focus of this study.

### 2.4.9 Important established facts and key issues in evaluation

This sub-section highlights some important facts, key issues, debates and processes in monitoring. Today Africa has established associations such as the Africa Evaluation Association, whose aim is to advance the agenda for monitoring and evaluation across the continent and broaden its scope and interests (Edmunds and Marchant, 2008). Another interesting debate about evaluation is that evaluation approaches in Africa have been objectively oriented and more appropriate to donor need than meeting local demands (Odhiambo, 2010). However, (Porter and Goldman, 2013) argue that there are attempts to align monitoring systems to emerging local demands. Other important facts about evaluation are that evaluation digs deeper to provide evidence of why and how planned performance have been achieved or not, evaluation seeks to address causalities, and evaluation offers explanations that clarify realities and trends noted in monitoring (Ijeoma, 2010). Evaluation assesses the relevancy, effectiveness, efficiency, impact and sustainability of the interventions (Kusek and Rist, 2004).

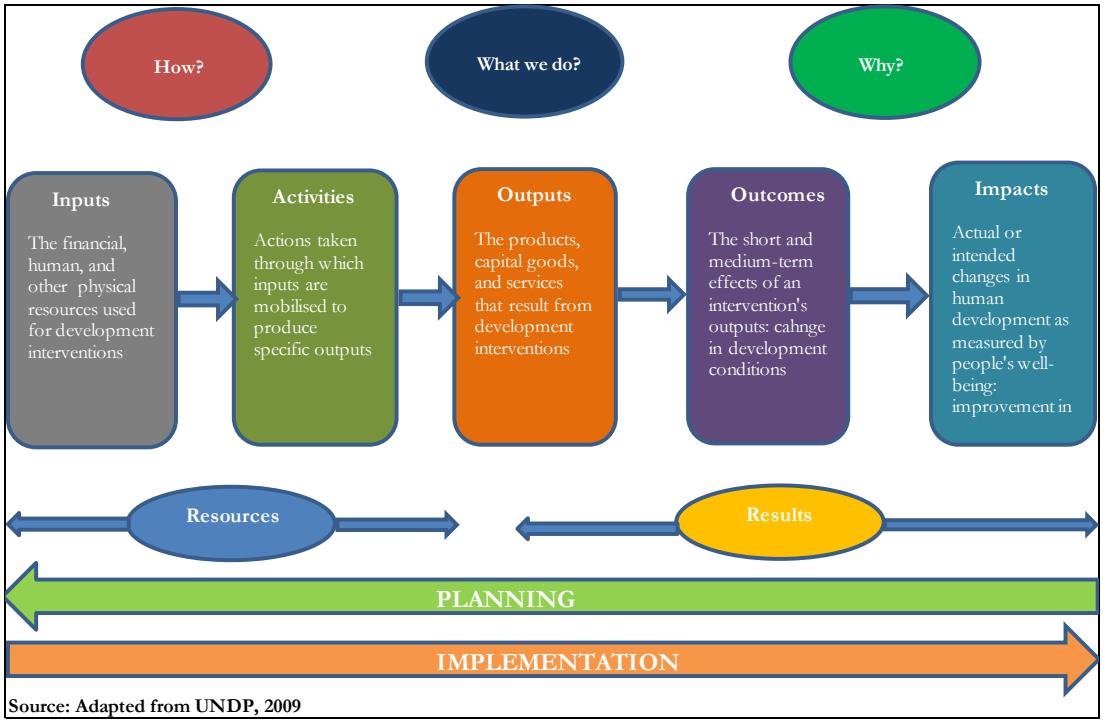
The process of evaluation starts by identifying whether the intervention is ready for evaluation. The UNDP (2002) posits that preparing for an evaluation requires an investment of time and deep thought. The Presidency (2011) identifies six phases of the evaluation process. First, pre-designing and designing the evaluation process. Second, the development and approval of an inception document, which contains such information as theory of change, scope, questions, costs, and payment schedule. The third phase is the establishment of a peer review and validation process. The fourth

phase is the formulation of recommendations. The fifth phase is the communication of evaluation findings to stakeholder. The last phase is a follow up on recommendations.

## 2.5 Key attributes of a monitoring and evaluation system

Key attributes of monitoring and evaluation system involve the elements of a results chain; namely, inputs, activities, outputs, outcomes, and impacts and the elements of results chain framework such as, indicators, baseline, targets, assumptions, and risks. The UNDP (2009) posits that in the traditional results-based management approach, results chain is the linking of results together and it tells us what the stakeholders want to achieve, why they want to achieve it, and how they will go about it. Figure 3 below illustrates five key monitoring and evaluation attributes that are important to implementation studies.

**Figure 2: The RBM Results Chain**




**Source: Adapted from UNDP, 2009**

In the context of our study, inputs would be all the MQA personnel, funds paid to both learners and service providers, training material used to train learners, training venues, and higher education institutions and employers that to train learners. Inputs are the resources needed to undertake and manage an intervention (National Treasury, 2007, Castillo and Gasper, 2011, and Taylor and Bradbury-Jones, 2011). Activities would be organising training and the actual training of learners. Kusek and Rist (2004) describe

activities as all the tasks undertaken to transform inputs into outputs. Trained learners are the outputs of the MQA interventions and these are (Kusek and Rist, 2004 and the UNDP, 2002) specific products and services that emerge from processing inputs through programme, project, and other activities. At an outcome level, the MQA wishes that trained learners would be employed or would utilise their gained skills to participate in the broader South African economy. The impact is the higher order level of the results chain where the Mining Qualifications Authority hopes that its interventions will lead to changes in the mines and minerals sector's attitudes towards skilling both employed and unemployed South African citizens in order to improve their living conditions.

"A results framework is an explicit articulation (graphic display, matrix, or summary) of the different levels, or chains, of results expected from a particular intervention, such as project, programme, or development strategy" (Independent Evaluation Group, 2012: 7). Table 1 below depicts the results chain and framework for the Mining Qualifications Authority's monitoring and evaluation system.

**Table 1: MQA's monitoring and evaluation system results chain and framework**

| Results Chain | Indicators | Baseline | Targets | Assumptions | Risks |
|---|---|---|---|---|---|
| **Impact:** Improved public confidence in the MQA performance reports | Improved public confidence in the MQA performance reports | There is less public confidence in the MQA performance reports | More public confidence in the MQA performance reports | There is support from MQA stakeholders and Board | Lack of public confidence and support from government |
| **Outcomes:** Inclusive performance reporting at all levels of the MQA value chain | Percentage of units involved in the MQA performance reporting | 65 per cent of units are involved in performance reporting | All inclusive MQA performance reporting | Full co-operation by all MQA units in submitting performance information | Inability to achieve the MQA's objectives |
| **Outputs**: Good quality quarterly performance report | Number of good quality performance reports that are produced on time | 2 good quarterly performance reports produced annually | 4 quarterly performance reports produced annually | Units are adequately staffed to submit good quality performance data on time | Incorrect reporting, M&E, and decision making resulting from unreliable data |
| **Activities:** issue quarterly reporting template, receive performance data, collate performance data, validates performance data, consolidates performance data, produce performance report. | Number of units that have submmited on performance data on time | 60 per cent of units submit performance data on time | All units should submit performance data on time | There are structures, processes, and systems for all units to submit performance data on time | Lack of co-operation from units |
| **Inputs:** 3 X M&E Specialists, 2 X M&E Managers, Performance Data from Operations Unit, IT Equipment, structures, procesess, systems, service providers and employers | Number of M&E staff employed | 6 M&E permanent staff employed | 10 permanent M&E staff | Available budget to add more M&E staff | MQA licence not renewed |

**Source: Adapted from UNDG, 2009: 54**

The results framework utilises indicators, baselines, targets, means of verification, risks and assumptions to indicate how the results of an intervention will be achieved. The USAID (2013) argues that the causal logic of the results framework assumes that if lower-level results are achieved, then the next higher-level result can be achieved, as long as critical assumptions hold. The elements of the results framework will be used to collect data at inputs, activities, and outputs levels of the results chain. Gorgens &

Kusek (2009) argue that sources of data at each level of the results chain are routine, periodic, and once off. The causal logic of the MQA results chain and framework assumes that if lower level results are achieved, the next higher-level result can also be achieved as long as the identified critical assumptions hold and risks are mitigated. This study will collect data at inputs, activities, and outputs level of the results chain. Data sources for inputs and activities will be routine and for outputs, a combination of routine and periodic data sources may be necessary.

We have identified and discussed the key attributes of a results chain; namely, inputs, activities, outputs, outcomes, and impacts. These important key attributes of a results chain make a better understanding and are important to the implementation studies. In the context of the MQA and this study, inputs will include all the MQA personnel, funds paid to both learners and service providers, training material used to train learners, and training venues. Activities will include organising training and the actual training of learners and outputs will be all trained learners. At an outcome level, the MQA does not have a direct influence and wishes that all trained beneficiaries would get employment opportunities once qualified. Lastly, we have utilised the elements of results framework, such as indicators, baseline, targets, assumptions, and risks to explain and make a better understanding of the attributes of the results chain.

## 2.6 Documented explanatory frameworks in monitoring and evaluation

This section introduces frameworks that evaluators have developed and applied to explain effectiveness of monitoring and evaluation systems. Further, using detailed summaries provided in Weiss (1995), Rogers (2008), Rogers, Petrosion, Huebner, and Hacsi (2000), Dahler-Larsen (2001), Sharpe (2011), and Prosovac and Carey (1997) this section discusses the usefulness of these theories especially the conditions under which they apply. Lastly and more important, Section 2.6.2 discusses the components of the framework that may be relevant to this study.

### 2.6.1 The theory of change

Many key strategic elements are used in planning, monitoring, and evaluation and one of them is the theory of change. The theory of change was first articulated by Weiss (1995), who defined it quite simply and elegantly as a theory of how and why an initiative

works. A theory of change represents beliefs about what is needed by the target population and what strategies will enable them to meet those needs. Rogers (2008) posits that a theory of change is defined by three important elements and the relationship that exists between them such as population, strategies, and outcomes. The theory of change emerged as response to the challenges of assessing the impact of complex social development interventions. Weiss (1995) argues that the impact of these interventions was difficult to assess because the assumptions that stimulated them were poorly expressed and stakeholders were unclear about how the change process would unfold. Bickman (1998) posits that the advantage of theory-based evaluation is its contribution to social knowledge. Second, it helps both policy and decision makers to differentiate between theory failures and programme failures. Third, it assists in identifying problems and target beneficiaries. Fourth, it provides intervention implementation variables. Fifth, it uncovers unintended effects and improves formative application of evaluation. Lastly, the theory of change clarifies measurement parameters. Connell, Kubisch, Schorr, and Weiss (1995) posit that the major weakness of the theory of change is that it needs investment in time and political capital when developing it in order for it to be doable and testable.

### 2.6.2 Components of the programme theory that may explain the effectiveness of the MQA's monitoring and evaluation

The programme theory will be used to interpret the results of this study. Rogers, Petrosion, Huebner, and Hacsi (2000) argue that for many years, many evaluators have recommended making explicit the underlying assumptions about how programmes are expected to work. Dahler-Larsen (2001) posits that a programme theory is a construction of a plausible and sensible model of how a public programme is supposed to function. The programme theory justifies the intervention in terms of its expected goals. Rogers (2008) argues that programme theory is variously referred to as programme logic (Funnell, 1997), theory-based evaluation or theory of change (Weiss, 1995, 1998), theory-driven evaluation (Chen, 1990, theory-of-action (Schorr, 1997), intervention logic (Nagarajan and Vanheuekelen, 1997), impact pathway analysis (Douthwaite et al., 2003b), and programme theory-driven evaluation science (Donaldson, 2005).

A programme theory consists of a set of statements that describe a particular programme, explain why, how, and under what conditions the programme effects occur. It also predicts the outcomes of the programme and specifies the requirements necessary to bring about the desired programme effects. Wilder Research (2009) states that programme theories can often be captured in a series of "if then "statements, that is, **IF** something is done with or for the programme, **THEN** something should change.

Sharpe (2011) argues that programme theory modelling normally uses three components to describe the programme and these are programme activities or inputs, the intended outcomes or outputs, and the mechanism through which the intended outcomes are achieved. The primary stage to programme development is the conceptual foundation. After the development of the programme, the programme theory can be used to develop outcomes and intermediate goals. Prosavac and Carey (1997) in Sharpe (2011) state that this sequence of planning stages increases the chance of programme success. This means that, like a theory of change, a programme theory should be developed before the start of the programme. Rogers (2000) concurs with this when she articulates that it is highly advisable to develop the programme theory prior to the commencement of any programme.

Rogers et al (2000) argue that at its simplest, a programme theory shows a single intermediate outcome which the programme achieves its ultimate outcome. The programme theory information should include important steps, links, and phases of the expected change process as well as some implementation issues. The output should explain the nature, expected timing, side effects, and pattern of change including interrelationships among outcomes. These intended outcomes can be broken into immediate, intermediate, and long-term impacts. Resources necessary for implementing the programme should also be detailed at the beginning. Sedani and Sechrest (1999) in Sharpe (2011) state that resources may include supplies, materials, and skills. Prosovac and Carey (1997) and Roger, (2000b) in Sharpe (2011) argue that a well-articulated programme theory can also encourage investors to focus on specific outcome, rather than wasting funding, resources, and measurement objectives on attempting too much. In essence, the programme theory clarifies the perspective of the programme, on which an evaluation of the programme's quality can be based. It supplies a conceptual basis for refining and improving the existing programme and also supports inferences about new

programmes. If a programme theory is clear and has been evaluated successfully, it can afford policymakers the opportunity to implement similar constructs to other relevant programmes. Rogers, Petrosion, Huebner, and Hacsi (2000) posit that a programme theory has been used in quite different ways to guide evaluations. The major weakness of a programme theory is its assumption of that if something is done with and intervention something should change (Rogers 2008). For example, if you have needed resources to operate an intervention, then you can use them to accomplish your planned activities, if you accomplish your activities, then you will deliver the amount of products and/or services that you intended. If you accomplish your planned activities to the extent you intended, then your participants will benefit in certain ways. If these benefits to participants are achieved, then certain changes in organisations, communities, or systems might be expected to occur.

We have articulated the established explanatory frameworks that can help in interpreting the products of a monitoring and evaluation system, which is the programme theory. This study is about examining the effectiveness of the implementation of an intervention, which is the MQA's monitoring and evaluation system. Reviewed literature suggests that for many years, many evaluators have recommended that underlying assumptions about how an intervention is expected to work be made explicitly. The underlying assumptions and expected goals of the establishment of the MQA's monitoring and evaluation unit was that it would assist in the monitoring and evaluation of the MQA's monitoring and evaluation performance, ultimately leading to the improvement of the MQA's monitoring and evaluation performance.

## 2.7 Examining the effectiveness of the MQA's monitoring and evaluation system; a conceptual framework

After introducing the research problem statement and the methodology thereof, this study began by reviewing literature that allows us to understand challenges of monitoring and evaluation systems. As stated already, the last component is the main aim of doing literature review- establishing the conceptual framework – that is, a detailed discussion on how the research will advance beyond the literature review. To get this right, we should have interrogated literature that discusses sub-sections 1.1 to 2.6 not necessarily in this order. Therefore, a conceptual framework is an abridged

summary of sub-sections 1.1 through 2.6. Figure 4 presents a proposed conceptual framework for the effectiveness of the MQA's monitoring and evaluation system.

Unachievable objectives, ineffective reporting systems, poor timeliness of information, inconsistencies in implementing monitoring and evaluation systems, data challenges in the collection, collating, analysis, reporting, and storing contribute to ineffective monitoring and evaluation systems (Maddock, 1993, Makinde, 2005, Matirli and Khanda, 2007, Nash et al, 2009, Mate et al, 2009, and Kawonga et al, 2012. As demonstrated above, the MQA achieved low performance targets despite the establishment of the monitoring and evaluation unit to monitor its performance. The MQA performance has been declining for two consecutive years. Inadequate information management, lack of data and poor data quality, poor governance, weak financial accountability, and non-existence or ineffective monitoring and evaluation system are challenges facing the Sector Education and training Authorities, since their establishment.

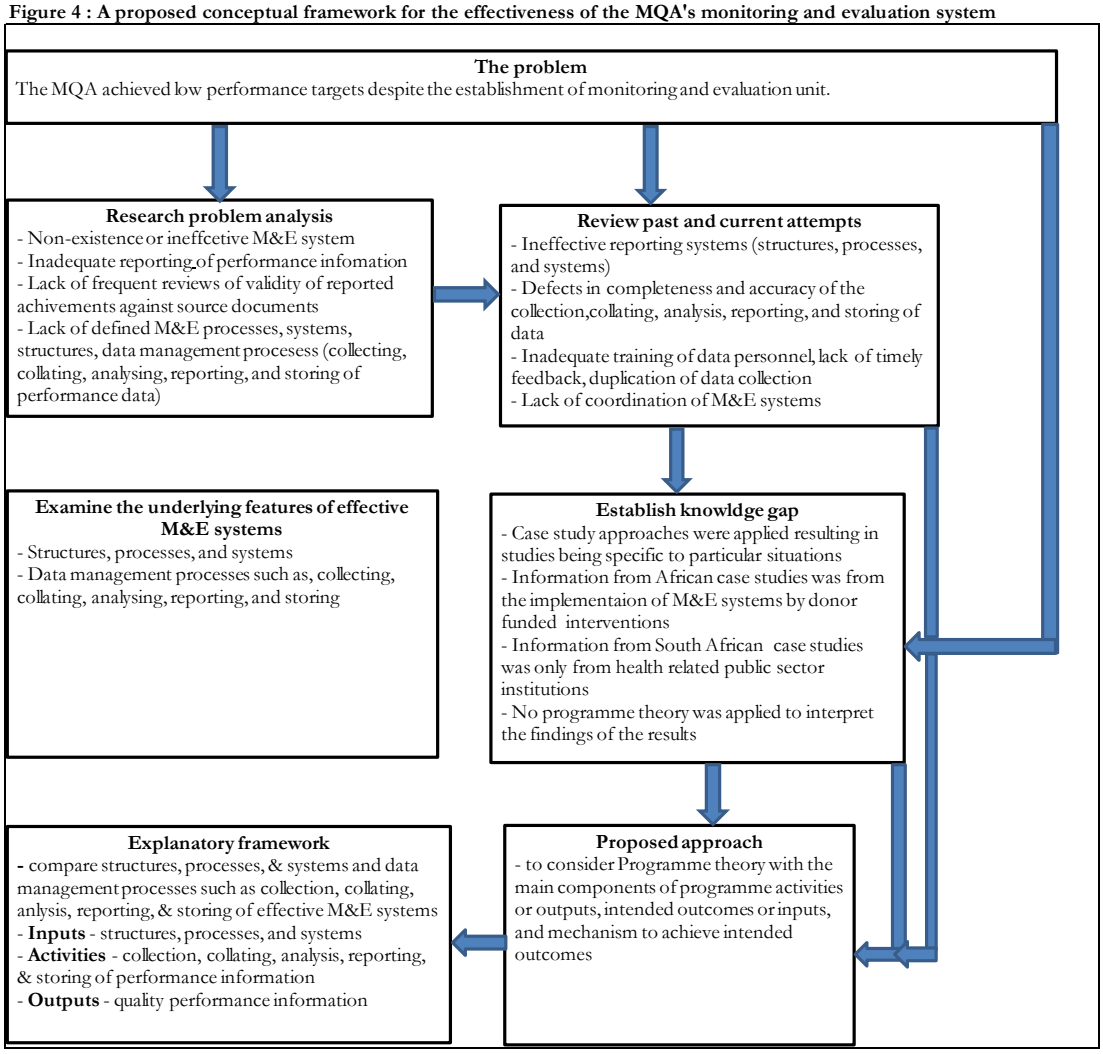
Public oversight structures such as Parliamentary Portfolio Committees view low achievement of performance targets by public entities in a serious light, which can result in disciplinary action taken to management of those public institutions. One of the reasons for merging or abolishing the Sector Education and Training Authorities is their poor performance. Preliminary analysis has revealed that lack of frequent reviews of validity of reported achievements against source documentation is one of weaknesses in the reporting of performance information at the MQA. Lack of data and poor data quality and ineffective monitoring and evaluation system are other weaknesses in the reporting of performance information at the MQA.

Except for Kawonga et al (2012) who employed a quantitative method in their study, past and current studies that have attempted to examine the effectiveness of monitoring and evaluation systems employed qualitative method. Data were obtained through case study designs. Reviewed studies used unstructured questionnaires as their data collection instruments. Although past and current studies reviewed were examining the implementation of monitoring and evaluation systems, they did not use a programme theory. Studies that focused on data management were only referring to data management in the South African health system, in particular HIV data management

processes. Therefore, information about effectiveness of other public sector monitoring and evaluation systems, especially the Sector Education and Training Authorities was not available. Studies that analysed the effectiveness of monitoring and evaluation systems focused on African countries and were examining donor funded development interventions making their findings to be donor influenced. Due to the nature of the methods applied, that is, qualitative case study methods, findings from these studies cannot be generalised to other similar situations.

The programme theory is the explanatory framework that we will use to interpret our research findings. Sharpe (2011) argues that programme theory modelling normally uses three components to describe the programme. The three components for programme theory modelling; namely, are programme activities or inputs, the intended outcomes or outputs, and the mechanism through which the intended outcomes are achieved will help us interpret the products of a monitoring and evaluation system.

**Figure 4 : A proposed conceptual framework for the effectiveness of the MQA's monitoring and evaluation system**



# 3 RESEARCH TECHNIQUES, PROCEDURE, AND METHODS

This chapter sets out to discuss and commit to a research techniques procedure, and methods. First, we commit to a qualitative research strategy and a case study design. Second, we describe in detail a qualitative research strategy and a case study design. Third, we include articles that have applied a qualitative research strategy and a case study design. Lastly, we explicitly mention how the articles have accrued positives to this research. Section 3.1 discusses the research strategy committed in this study while Section 3.2 discusses the research design.

The chapter then introduces and discusses the research procedure and methods (Section 3.3). Sub-section 3.3.1 discusses the data collection instrument and structure used in this study while sub-section 3.3.2 explicitly defines the target population and sampling of the study. We proceed by providing ethical considerations (Sub-section 3.3.3) that the researcher has considered in this study. Data collection and storage are discussed in Sub-section 3.3.4 while data processing and analysis is presented in Sub-section 3.3.5. We describe respondents to this study in Sub-section 3.3.6. In Section 3.4, we describe some reliability and validity measures and finally we present methodological limitations to the study in Section 3.5.

## 3.1 Research strategy

Bryman (2012) describes a research strategy as a general orientation to the conduct of the study. Neuman (2011: 94) states that a paradigm is "a general organising framework for theory and research that includes basic assumptions, key issues, models of quality research, and methods for seeking answers". Schwandt (2001) in Wagner (2012) agrees with Neuman and says that social scientists refer to a paradigm as the views that guide our thinking, our beliefs, and our assumptions about society and how we view the world around us. A paradigm is a particular way of thinking. There are fundamentally three approaches to research strategy; namely, quantitative, qualitative, and mixed method (Neuman, 2011, Bryman, 2012, and Wagner et al, 2012).

This study commits to a qualitative research strategy. A qualitative research strategy emphasises words in the collection and analysis of data (Bryman, 2012). In a qualitative

research, Neuman (2011) argues that researchers rely more on the language of cases, contexts, and cultural meaning. A qualitative research approach collects data on the emphasis of participants' interpretation of their social worlds. Qualitative research methods are not prescriptive they are often unique to a particular study or context (Wagner, et al, 2012). The participants will be people who will be able to provide expertise from different viewpoints; therefore, it will be important, Bryman (2012) to gather the perspective of people's worlds and the meaning they attribute to their experiences in their environments.

We now provide examples of some studies that have utilised qualitative research approaches to examine their research problems. Hardlife and Zhou (2013) examined the utilisation of Monitoring and Evaluation Systems by international development agencies, using the UNDP in Zimbabwe as a case study. They reviewed country experiences in Australia, Sri Lanka, and Uganda as a basis for comparative analysis. They also conducted in-depth interviews with various categories of United Nations Development Programme staff in Zimbabwe. Data were gathered through desk and field research mainly relying on interviews and questionnaires. The study employed a qualitative case study analytical framework. In analysing the effectiveness of the monitoring and evaluation system, the study did not only look at the technical side of the design, operationalisation, and maintenance of the system but also to people, because the human element is much involved with its failures, manipulation, emotions, and judgements. The human side of the story had to be told and listened to, hence an in-depth qualitative case study approach.

In the second similar research, Matirli and Khanda (2007) conducted a study to analyse and understand how Kenya has designed and implemented the existing monitoring and evaluation. Second, the study aimed at understanding how to improve and strengthen the existing monitoring and evaluation so that it responds to the needs of small-scale farmers. Third, the study aimed at understanding how to embrace diverse stakeholder participation and social learning. The study applied a qualitative descriptive method. They collected data through interviewing key informants who were selected from eight districts. Through in-depth qualitative interviews, the study found that there were no consistent monitoring and evaluation done at Institute, Programme, and Community levels. The study also found that most scientists in those programmes perceived

monitoring and evaluation as a responsibility of donor consultants who assessed the project to find whether their funds have been well utilised and the outlined outputs achieved.

In the third study, Dube (2013) conducted an investigation into the Gauteng Department of Health and Social Development's (GDHSD) monitoring and evaluation system. The main purpose of the study was to investigate some aspects Gauteng Department of Health and Social Development's monitoring and evaluation system regarding poor quality performance information. The study also aimed at getting a broader and deeper understanding of some structures, processes, and systems involved in monitoring and evaluation. The research strategy employed in the study was a qualitative case study design method. Data collection methods included interviews and documents analysis. The researcher used a case study to provide an in-depth information and understanding of some aspects of the Gauteng Department of Health and Social Development's monitoring and evaluation system. The researcher alluded to the fact that the human element perspective of the Gauteng Department of Health and Social Development's monitoring and evaluation system allowed flexibility to explore ideas and issues not anticipated during the research design.

This study is about investigating the effectiveness of the MQA's monitoring and evaluation systems; therefore, a qualitative research strategy will be beneficial because it is not prescriptive. In examining the utilisation of monitoring and evaluation systems by international development agencies in Zimbabwe, Hardlife and Zhou (2013) utilised a qualitative research strategy. In this study, a qualitative research strategy will be suitable because, the human side of the story had to be told in examining the effectiveness of the MQA's monitoring and evaluation system. In addition, an in-depth understanding of some aspects of the MQA's monitoring and evaluation system will be crucial to arrive at an informed decision. Matirli and Khanda (2007) in their qualitative research strategy interviewed key informants to collect their data. This study will collect data from the MQA employees. Similar to Dube (2013) who applied a qualitative research strategy to investigate the Gauteng Department of Health and Social Development's monitoring and evaluation system, this study will apply a qualitative research strategy to examine some aspects of the MQA's monitoring and evaluation system. This will assist the researcher to get a broader and deeper understanding of some structures, processes, and

systems involved in monitoring the performance of the MQA. This study will be done in a social context and data, which will be generated, will depend on the experiences of the people working within the MQA's monitoring and evaluation sphere. Lastly, similar to the articles mentioned above a qualitative research strategy will allow the author to see the world through other people's perspective.

## 3.2 Research design

Bryman (2012) posits that a research design offers a structure for collecting and analysing data. A research design is not the same as a research method in that it guides the execution of a research method. Bryman (2012) describes a research method as a technique to collect data. Wagner, et al (2012) state that a research design tells you how you are going to conduct your research, the method of collecting data, and techniques for analysing data. The research design employed in a study varies depending on whether it is a qualitative or a quantitative research strategy (Neuman, 2011). For example, in a quantitative study measurement systems are created before data collection, and are standardised, whereas, in a qualitative study measures are ad-hoc and are specific to the content. There are five generic research designs; namely, cross-sectional, longitudinal, case study, comparative, and experimental (Neuman, 2011, Bryman, 2012, and Wagner et al, 2012).

This study commits to a case study design. A case study involves an in-depth analysis of a single case, as the researcher is concerned with observing the complexity and specific nature of the case involved (Bryman, 2012). Neuman (2011) agrees with Bryman (2012) by stating that a case study research involves an in-depth examination of an extensive amount of information but further adds that it can be done for one period or across multiple periods. We now provide examples of some past studies that have employed case study designs to their research. Hardlife and Zhou (2013) and Matirli and Khanda (2007) mentioned above in the research strategy section employed case study designs in their studies. Hardlife and Zhou (2013) gathered data using field research. They relied on interviews and questionnaires. In their research, respondents were purposively selected and drawn from a population of thirty-eight UNDP staff which, included programme officers, assistants, and managers. Matirli and Khanda (2007) collected data through an exploratory survey for better understanding of the area in order to get a

grasp on the practicability of the fieldwork in the region. Data gathering method employed was semi-structured interviews.

In another study, Leon et al (2012) used a case study design to assess the health system challenges to scaling up mobile health in South Africa. The aim of the study was to assess the opportunities and challenges to effective implementation of mobile health at scale in health systems using a community case study in South Africa. Data were gathered using a combination of key informant interviews, site visits to local projects, and document reviews. The study identified opportunities for successful implementation of mobile health in South Africa such as the high prevalence of mobile phones, a supportive policy environment for mobile health, successful use of mobile health for community-based health services in a number of projects, and a well-developed information and communication technology industry. However, the study found that there were weaknesses in other health system areas such as organisational culture and capacity for using health information management. The study concluded that the weak information communication technology environment and limited implementation capacity in the South African health system make it uncertain that the potential benefits of mobile health for community-based health services would be retained with immediate large-scale implementation.

Similar to the studies mentioned above that have utilised case study design in their approach, this study will use the MQA as a case. Since the unit of analysis will be the MQA, data will be collected using semi-structured interviews of purposively selected MQA senior management, managers, and specialists. A case study design assists in getting a broader and deeper understanding of the human side of the story. This design will be employed in order to hear the human side of the effectiveness of the MQA's monitoring and evaluation system. Respondents will be selected based on their link to the area of study and involvement in the operationalisation of the MQA's monitoring and evaluation system. The benefit of using a case study design in this study would be a rich context because the study will take place through a detailed and in-depth data collection method involving the MQA employees. The study sought to examine some aspects of the MQA's monitoring and evaluation system; therefore, a case study design will be suitable.

## 3.3 Research procedure and methods

The author set up interview appointments by contacting respondents telephonically, through emails, and verbal follow-ups. The author interviewed participants individually in their offices during office hours. Each interview session took one and half-hours to complete. Due to participants being sceptical about recording of interview sessions and not agreeing on recorded interviews, the author only used written note taking to collect data during the interview. Participants refused to be recorded during interview sessions citing invasion of privacy, although the purpose of the study was thoroughly explained and discussed.

### 3.3.1 Data collection instrument and structure

Babbie (2004) posits that a data collection instrument or a tool is a device used to collect data such as paper or computer assisted interviewing system. It is a systematic way that the researcher uses in gathering data for analysis in the study. Wagner et al (2012) argue that it is very important for the researcher to ensure that the data collection instrument selected is valid and reliable. (Bryman, 2012, Wagner et al, 2012, and Babbie, 2014) posit that there are two types of data collection instruments that are used in social research; namely observation and structured interview schedule.

This study employed a structured interview schedule in collecting data. Babbie (2013) and Wagner et al (2012) describe an interview as a purposeful interaction or encounter in which an interviewer or researcher asks questions from another person relating to specific kinds of information and that person answers them. The research interview is a popular data collection instrument in both qualitative and quantitative studies (Bryman, 2012). The most important distinction of an interview is that it is a two-way engagement between the interviewer and the interviewee. Social researchers can conduct interviews in many ways such as face-to-face, telephonically, or by a computer terminal via video conferencing. Wagner et al (2012) further state that researchers asks questions from respondents in order to gather data about the ideas, experiences, beliefs, views, opinions, and behaviours of the respondents.

The author used face-to-face interviews in this study. (Babbie, 2013) posits that when the researcher identifies a need to meet face-to-face with respondents in order to engage

in a discourse that borders on mutual interest this data collection instrument becomes important. During face-to-face interviews session with respondents, the author asked oral questions to stimulate oral responses from participants. The author interviewed the MQA employees face-to-face in their work environment. Babbie (2013) posits that the success of the face-to-face interview depends on a cordial environment. The interview consisted of questions that cover different aspects of the research questions. The review of past and current studies that have researched on factors affecting the effectiveness of monitoring and evaluation systems assisted the author to construct questions for this study. Furthermore, the author adapted a few questions from a study by Dube (2013). The interview schedule has been developed and can be found in Appendix 1.1.

### 3.3.2 Target population and sampling

Bryman (2012) describes a target population in social research as the universe of units from which the sample is to be collected. Put simple, a target population is the group of units to which researchers want their results to apply. This description by Bryman (2012) further clarifies the importance of the use of the term unit in a research because in a social research it is not necessarily people who are sampled but the researcher may want to sample from a universe of nations, cities, regions, and companies. Babbie (2013) further states that a target population in research is the entire aggregation of respondents from which the sample is actually selected.

Because this study focuses on examining the effectiveness of the MQA's monitoring and evaluation system, the target population constituted all senior management, all managers, and all specialists of the MQA employees. Senior management at the MQA assists the MQA Chief Executive Officer in overseeing the implementation of the MQA Board mandate. The MQA managers oversee the day-to-day operations of the organisation and specialists assist their respective managers in implementing the MQA's interventions. The target population differed concerning skills, competencies, educational qualifications, age, gender, positions, and number of years at the MQA. This study aims to gather information around the implementation of the MQA's monitoring and evaluation system; therefore, it was important to get many views about the experiences of this system from different people in the employ of the MQA. In their studies, Leon et al (2012), Kawonga et al (2012), and Hardlife and Zhou (2013) targeted

employees of the organisations that they were researching about using in-depth interviews. These employees were diverse regarding their positions in those organisations, age, gender, and skills.

We now discuss sampling. This study employed a purposive non-probability sampling method. Babbie (2013) and Bryman (2012) state that in a purposive or judgemental sampling approach, the researcher selects the units to be observed based on the researcher's judgement about which ones will be the most useful or representative. Tongco (2007) argues that purposive sampling method is most effective when researchers need to study a certain cultural field with knowledgeable experts within. Bryman (2012) further argues that the goal of purposive sampling is to sample participants in a manner that those selected are relevant to the research questions that are being posed. The author used a purposive sampling approach because he wanted to focus on those participants who would be available within the limited timeframe and provide information as there is a limited budget to run the research process.

Because of their strategic positions in both the planning and implementation of the MQA interventions, the author sampled three senior managers to participate in this study; however, two participated. The author wanted to gather knowledge about the processes followed by the MQA in conducting the planning, monitoring and evaluation of its interventions. To gather information specifically about day-to-day operations of the MQA, the author selected ten managers to participate in the study. From the ten selected managers, nine actually participate. The MQA managers are very important because they ensure the implementation of its interventions. Finally, from the six selected specialists to participate in this study because of their hands-on in ensuring delivery of the MQA interventions, five did participate. The MQA specialists are equivalent to deputy directors in South African government departments. The selection criteria for interview participants ensured that the author selected only participants who were able to provide rich and in-depth information about some aspects of the MQA's monitoring and evaluation system. In sub-section 3.3.6., of this document we provide the description of respondents.

### 3.3.3 Ethical considerations when collecting data

The MQA employs the author as a monitoring and evaluation manager. His core functions are to ensure that planning, monitoring, and evaluation within the MQA are aligned with set standards and meet the relevant government frameworks. As an employee of the MQA, I am interested in contributing to the strengthening of the MQA's monitoring and evaluation system. The MQA funded this study as part of employee development. All respondents in this research are all employees of the MQA.
We now discuss ethical considerations that the author considered in this study. Wagner et al (2012) posit that ethics is a critical issue of consideration at every step of the research process in order to avoid such things as harming participants physically or emotionally. Bryman (2012) argues that failure to consider ethical issues in designing and implementing research can have serious repercussions that can lead to loss of job, reputation, funding for the researcher, and respect of family and co-workers. Babbie (2013) suggests that anyone involved in social research needs to be aware of the general agreements shared by researchers about what is proper and improper in the conduct of scientific inquiry. Wagner et al (2012), Bryman (2012), and Babbie (2013) identify similar ethical issues to consider in social research as informed consent, deception, privacy and confidentiality, and accuracy. Informed consent refers to participants' voluntary agreement to participate in the study without feeling coerced. It also means that participants know about the purpose, duration, methods, and potential use of the study. Second, ethical research standards forbid researchers from deceiving participants when conducting research. Third, privacy and confidentiality involve not disclosing participants' identity, location, and any private information that may harm or embarrass participants. Fourth, ethical research standards demand that researchers must report data factually as fraudulent materials, omissions, and contrivances are unethical. Babbie (2013) further clarifies that anonymity in social research is when the researcher and not just the people who read about the research cannot identify a response with a given respondent. Bryman (2012) emphasises the issue of right to privacy of participants in social research as important and transgression of it as not acceptable.

My profile and interest to this research including my sponsor is detailed in Appendix 2. 1. The author considered the following ethical considerations when collecting data. First, respondents were not deceived of any information about the research. A detailed explanation of the research process was discussed with the participants before the study

commenced. Second, respondents were not harmed or stressed in any form (physically or developmentally) or driven in a point of 'losing self-esteem'. Time commitments and other issues such as directly attributing statements from respondents would be treated with care. Third, the author obtained informed consent from the participants to interview them before the study commenced. The principle of personal right to agree or not agree to participate in this research after fully understanding the research process and consequences guided informed consent. An informed consent form was prepared, discussed, and agreed upon between all participants and the researcher. Fourth, during the processing and analysing of data, the author protected the respondents including securing data obtained from them during the study. No direct quotations from respondents were mentioned in the research report. Fifth, the author obtained ethics clearance from the University of the Witwatersrand's ethics committee. Lastly, before commencing with the interviews, the author got a permission letter to interview the MQA employees from the Chief Executive Officer.

### 3.3.4 Data collection and storage

After receiving a clearance to commence the study from the Wits University, the MQA Chief Executive Officer granted the author permission to conduct the monitoring and evaluation study at the MQA. Thereafter, the author set up appointments with the respondents by contacting them telephonically, through emails, and by making verbal follow-ups. Appendix 3.1 provides the permission letter to conduct a monitoring and evaluation research obtained from the MQA Chief Executive Officer.

We now describe data collection methods and terminology used in qualitative research studies. To many social researchers, data collection represents the key point of the study. Bryman (2012) explains data collection as gathering data from the respondents in order to answer research questions. Wagner et al (2012) posit that data gathering techniques vary and may involve either individual or groups of participants. They further went on to state that it is seldom for researchers to employ one data gathering technique as a standalone when collecting data. Wagner et al (2012) argue that qualitative studies generally rely on three basic data gathering techniques; namely, observation, interviews, and document or artifact analyses.

This paragraph now details the data gathering technique used by the researcher in this study. The author collected data through interviews. Wagner et al (2012) posit that in qualitative studies much of data are generated from interviewing. Babbie (2014) defines an interview as a data collection encounter in which an interviewer asks questions from a respondent. Interviews can be conducted through various forms such as face-to-face or by telephone, or online. This study collected data through face-to-face interviews. Babbie (2014) posits that face-to-face interview allows the researcher to follow up on questions for clarity and probing. It was crucial for the author to conduct face-to-face interviews with the MQA personnel in order to ensure that respondents were able to provide rich and in-depth information about important aspects of the MQA's monitoring and evaluation system.

We now explain how the author conducted the interview process. First, the author ascertained dates and times for conducting interviews with the participants. Second, the author conducted interviews individually during office hours and in the offices of the respondents. This was done to ensure that the interview setting was confidential and at convenient times to the respondents. Before the actual interview took place, the author reiterated the purpose of the study and allowed all respondents to comment or ask questions in order to break the ice. The author identified potential sources of information before the interview and prepared accordingly. The author used a prepared questionnaire to lead the interview. During the first interview, the author asked demographic information such as respondent's position, number of years at the MQA, and gender from the respondent without getting into much detail. However, from the second interview and all the subsequent ones, the author decided not to ask questions on demographic information from the respondents but allowed them to complete that section in his presence by ticking the applicable answer on the questionnaire.

Due to respondents being sceptical about recording of interview sessions and not agreeing to be recorded during the interview session, only written note taking was used to collect data during the interview. Each interview session took one and half-hour to complete. During the interview process, some respondents especially those at lower level positions, for example, specialists, displayed signs of nervousness through their body language, while others such as senior managers were too confident to such an extent that they bordered on intimidating the researcher. Throughout these situations,

the author was able to see the study through the respondents' perspective. The use of the semi-structured questionnaire allowed the author to probe further by asking follow-up questions in order to have an in-depth understanding of the factors affecting the effectiveness of the MQA's monitoring and evaluation system. Because the author was thoroughly prepared, he was able to identify and explore emerging lines of inquiry that were related to the effectiveness of the MQA's monitoring and evaluation system and eliminated those that were trying to take the interview away from the study. The use of semi-structured questions also allowed respondents to voice their opinions about the effectiveness of the MQA's monitoring and evaluation n system by providing strengths and weaknesses of the system and recommending on what was needed to strengthen the MQA's monitoring and evaluation system.

We now provide examples of some past studies that have used interviews when collecting data for their studies. In their studies, Nash et al (2009), Kawonga and Fonn (2012), and Matirli and Khanda (2007) mentioned earlier in this study conducted face-to-face interviews to have an in-depth understanding of the phenomena they were studying. This exposed them to the importance played by human beings in determining the effectiveness of monitoring and evaluation system. Similar to these studies, the use of a face-to-face interview benefited the researcher because it allowed him to use well-organised series of questions that were able to elicit relevant responses. The information provided insight into the nature of the problem under study. The use of an interview guide with semi-structured questions enabled the author to acquire rich descriptive data that assisted him in seeing the effectiveness of the MQA's monitoring and evaluation system through the opinions and experiences of the respondents. The application of a one-on-one semi-structured interview instrument enabled the MQA officials to express their perceptions, opinions, and experiences concerning the MQA's monitoring and evaluation system. Wagner et al (2012) posit that a semi-structured interview allows the researcher to probe, explore deeper, and corroborate data emerging from other sources. To ensure that data collected during the interview process were stored and safely secured, the author developed and adopted an auditing approach. All the complete records of the interview process are kept safe and can be easily accessible only through the author when needed. A master list of the respondents' names and the numbers assigned to each respondent is kept at a location different from where data are kept to avoid breach of confidentiality.

### 3.3.5 Data processing and analysis

After data were collected through face-to-face interviews from the MQA respondents data were processed and analysed. First, data were transcribed. Second data were arranged according to pre-determined themes from questions and emerging themes from respondents. Third, data were fragmented before analysed. Lastly, data were analysed through summative content analysis. Stuckey (2014) posits that the first step in qualitative data processing is transcribing and managing data. Data processing involves transforming data collected from respondents into a form appropriate to manipulation and analysis (Babbie, 2014). This process involves checking and converting data. Wagner et al (2012) explain that checking data consists of carrying out activities such as the completeness and quality of data, the relationships between data items such as interviews, fields, and audio recording. After collecting data from the MQA respondents, the author transcribed them first, to eliminate hearing mistakes that might affect the meaning of people's replies from interviews. During the transcription of data, the author had to read repeatedly hand written one-on-one interview responses. In addition, when developing transcripts for each interview session, the author had to move back and forth between hand-written notes taken during the interview in order to recollect and understand responses. After transcribing data, the author coded them. Bryman (2012) describes coding as a process whereby the data are broken down into their component parts and those parts are then given labels. After coding the data, the author searched for recurrences of these sequences of coded text within and across cases, and for links between different codes.

To ensure confidentiality, the author did not write names of the respondents on both the interview schedule and the Microsoft word transcript. To ensure anonymity in the transcript, the author labelled respondents as Respondent 1, 2, or 3 up to 16 as the case applied. During transcribing, the author was able to examine whether participants were responding to the research questions. To avoid bias and memory flaws, the author produced full transcripts of the interview process. Stuckey (2014) argues that verbatim transcription with indications of nonverbal behaviour is necessary to establish reliability, dependability, and trustworthiness. Fillers such as "Uhm", "Oh", and "Pause" were transcribed verbatim to reflect the full transcription of the interview process. This

assisted the author in recalling exactly how participants responded to certain questions. Babbie (2014) states that once data are in a suitable form, the author should be ready to interpret them for drawing conclusions that reflect the interests, ideas, and theories that initiated the study. Transcripts and notes are raw data of the research; therefore, in order to make sense of the transcribed research data, the researcher has to sift and interpret them. Appendix 4.1 is the sample of an interview transcript.

We now discuss the second step in qualitative data processing; namely, thematic analysis. Bryman (2012) posits that the analytic process of a qualitative data commences during data collection phase as the data already collected are analysed and outline the on-going data collection. Grbich (2013) explains thematic analysis as a process of qualitative data reduction into meaningful groupings that are easier to manage. Braun and Clarke (2006) and Marshall and Ross (1995) further describe thematic analysis as the most intellectually challenging phase of a qualitative data analysis method and involves identifying, analysing, and reporting salient pattern or themes within data. Thematic analysis does not only involve organising and describing a qualitative data set in detail but frequently goes further than that to interpret several features of the research topic. This study is focusing on understanding salient features of the MQA's monitoring and evaluation system; therefore, the author formulated two research questions in order to engage participants on the effectiveness of the system. The Presidency (2007) posits that a monitoring and evaluation system includes a set of organisational structures, management processes, standards, information systems, reporting lines, and accountability relationships that enable organisations to discharge their monitoring and evaluation functions.

During the development of the research instrument, the author had to think about a wide range of themes that were relevant in probing the effectiveness of the MQA's monitoring and evaluation systems. From reading and rereading the database, the author recalled research questions, the theoretical framework, the research methodology, and past and current studies reviewed in order to decide on what is most appropriate to do with segmenting data into theoretical themes. The author developed pre-determined themes and sub-themes using the four essential building blocks for the successful development, implementation, and sustainability of a monitoring and evaluation system in the public sector as recommended by Lahey (2013) and the main

components of an effective monitoring and evaluation system as proposed by Görgens and Kusek (2009). To create themes, the author collapsed different categories under one main over-arching theme.

The five pre-determined themes were as follows:

(i) Theme1: The Mining Qualifications Authority's monitoring and evaluation unit documented organisational structure and capacity.

(ii) Theme 2: The Mining Qualifications Authority's monitoring and evaluation documented reporting processes and systems.

(iii) Theme 3: The Mining Qualifications Authority's monitoring and evaluation documented data management procedures, processes, and reporting.

(iv) Theme 4: The Mining Qualifications Authority's monitoring and evaluation documented data quality assurance processes and systems.

(v) Theme 5: The link between the Mining Qualifications Authority's reporting system and the Department of Higher Education and Training.

After thematic analysis, the author fragmented data. Grbich (2013) posits that qualitative data fragmentation is the listing of key words from participants' responses and grouping them according to categories. Schreier (2012) refers to qualitative data fragmentation as data segmentation and posits that it means dividing data into units such that each segment or unit fits into one category of the coding frame. Schreier (2012) further states that segmentation in qualitative content analysis helps the researcher to ensure that all the material has been taken into account, helps the researcher to implement a clear research focus, and allows the researcher to compare the coding by different persons or the researcher 's coding at different points in time. After formulating pre-determined themes, the author cautiously formulated suitable interview questions for each theme. In developing and identifying sub-themes and categories, the author had to read and reread responses from the participants. An excel spreadsheet was created where emerging themes from interview questions were captured together with responses from each respondent. For example, from Theme 1: The Mining Qualifications Authority's monitoring and evaluation documented organisational structure and capacity; the author formulated the following interview questions, which became sub-themes:

(i) Is there a documented monitoring and evaluation organisational structure at the Mining Qualifications Authority?

(ii) Are roles and responsibilities of the Mining Qualifications Authority's monitoring and evaluation staff clear?

(iii) Is the monitoring and evaluation unit adequately resourced?

(iv) Has all monitoring and evaluation staff received monitoring and evaluation related training in the past 2 years.

(v) Is there a training plan for all monitoring and evaluation staff?

(vi) Is there a dedicated budget for the monitoring and evaluation unit?

The last process conducted by the author to process data for this study was summative content analysis. Schreier (2012) describes qualitative content analysis as a subjective interpretation of the content of text data through the systematic classification process of identifying themes in order to describe the meaning of qualitative data. Grbich (2013) concurs with Schreier (2012) by stating that content analysis is a systematic coding and categorising approach that is used to explore large amounts of existing textual information in order to ascertain trends and patterns of words used, their frequency, their relationship and structure, contexts, and discourse of communication. Hsieh and Shannon (2005) identify three distinct approaches to qualitative content analysis; namely, conventional approach, directed approach, and summative approach. The author will not delineate other qualitative content analysis approaches as he did not use them in this research but will briefly explain the summative content analysis as the main approach to this study. Hsieh and Shannon (2005) posit that a summative content analysis consists of counting and comparing of key words or content, followed by the interpretation of the underlying context. In analysing participants' responses, the author took into account not only the immediate behaviours in which respondents were engaged but also the contextual and experiential understandings of the behaviours that render the participants' actions meaningful. Lincoln and Guba (1994) argue that by describing a phenomenon understudy in sufficient details the researcher can begin to evaluate the extent to which conclusions drawn can be transferrable to other times, settings, situations, and people.

The two research questions for the study are "what are the structures, processes, and systems involved in the monitoring and evaluation of the Mining Qualifications Authority performance information and how is performance data collected, collated, analysed, stored, and reported at the Mining Qualifications Authority?" In developing

data driven themes, the author converted participants' responses according to agreeing responses and disagreeing responses. For example, the first theoretical theme is probing about whether there is a documented monitoring and evaluation organisational structure at the Mining Qualifications Authority. Except for one respondent who stated that there is no monitoring and evaluation organisational structure at the Mining Qualifications Authority, all other respondents concurred that there is a documented organisational structure for the monitoring and evaluation unit at the Mining Qualifications Authority.

We now provide examples of some studies that have used themes in analysing their data. Dube (2013) investigated the Gauteng Department of Health and Social Development's monitoring and evaluation system and used themes to analyse the data. After collecting data, the researcher categorised interview responses and clustered them into themes and sub-themes. Patterns and emerging trends were identified in the manner participants responded to each question. Thereafter, the researcher sifted, sorted, and reduced data into smaller and manageable set of themes to write a final narrative. Information relating to one theme was summarised while similarities and differences in the manner participants responded within each theme and sub-theme were identified. Finally, research findings were analysed and presented through themes and sub-themes.

In the second study, Fereday and Muir-Cochrane (2006) conducted a doctoral study on the role of performance feedback in the self-assessment of nursing practice. They used a hybrid process of inductive and deductive thematic analysis to interpret raw data in their study. Their methodological approach integrated data-driven codes with theory-driven ones based on the views of social phenomenology. In their study, they presented a detailed example of the staged process of data coding and identification of themes. Their process demonstrated how analysis of raw data collected during the interview process and document analysis progressed toward the identification of themes that captured the phenomenon of performance feedback as described by the respondents in the study. They found that thematic analysis is a search of themes that emerge through careful reading and re-reading of data. It is a form of patterns recognition within data, where emerging themes become categories for analysis. The researchers coded their data in this study. The coding process involved recognising an important moment and encoding it prior to a process of interpretation. In coding their data, they developed and

used a template in the form of codes from a codebook to be applied as a means of organising text for subsequent interpretation. Both interview transcripts and document analyses were entered into a data management programme, and a comprehensive process of data coding and identification of themes was undertaken. They concluded that thematic data analysis was an iterative and flexible process.

In the third study, Alhojailan (2012) presented an academic paper in a West East Institute Academic Conference held in Zagreb, Croatia on 14-17 October 2012. The aim of the academic paper was to review the use of thematic analysis in qualitative studies by describing procedures and processes and by comparing grounded theory with hermeneutic analysis. The paper found that thematic analysis is a comprehensive process where researchers are able to identify numerous cross-references between the data and the evolving themes. In critically analysing thematic analysis, the study first clarified that thematic analysis is a type of qualitative data analysis used to analyse classifications and present themes (patterns) that relate to data. It illustrates the data in detail and deals with diverse subjects via interpretations. The paper identified two critical situations that are appropriate to use in thematic data analysis. First, thematic analysis is appropriate in data interpretation because it gives the most appropriate explanations for the behaviours, actions, and thoughts of participants. With thematic analysis, the researcher is capable of detecting and identifying factors or variables that can influence any issue generated by participants. Second, thematic analysis provides an opportunity to code and categorise data into themes.

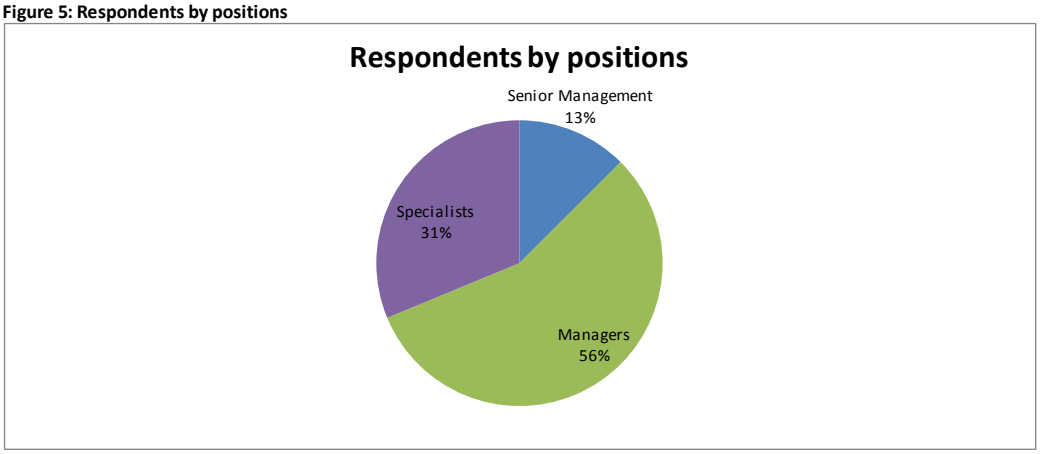
The benefits of thematic data analysis in this study are well articulated by these authors (Fereday and Muir-Cochrane, 2006, Braun and Clarke, 2006, and Alhojailan (2012) as its flexibility in extracting information to determine the relationship between variables and to compare different sets of evidence that pertain to different situations in the same study. Thematic analysis enabled the author to do a comprehensive process in order to identify numerous cross-references between the data and the evolving themes. The use of thematic data analysis provided the author with an opportunity of coding and categorising data into themes. The author was able to process data by displaying and classifying them according to their similarities and differences.

### 3.3.6 Description of the respondents

The respondents to this study were MQA employees and the author selected them because of their interaction and experiences of the MQA's monitoring and evaluation system. Matirli and Khanda (2007) in their study purposively selected thirty-eight UNDP staff, which included programme officers, assistants, and managers because of their expert knowledge of the implementation of the UNDP in Zimbabwe. Senior management assists the MQA's Chief Executive Officer in overseeing the implementation of the Board mandate and plays a strategic role in planning the implementation of the MQA interventions. Managers are a crucial link between senior management and other staff such as specialists by overseeing the day-to-day operations of the organisation. Specialists are hands-on in ensuring the delivery of the MQA interventions and are equivalent to junior managers or deputy directors in the South African government management structure.

**Figure 5 below depicts respondents by positions**.

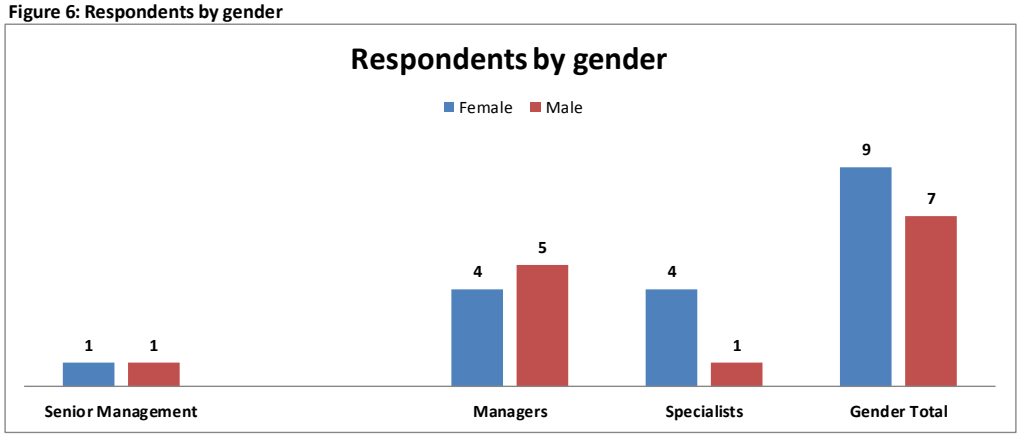
**Figure 5: Respondents by positions**




The majority of respondents were managers, followed by specialists and senior management was the list represented.

**Figure 6 below shows the gender spread of respondents.**

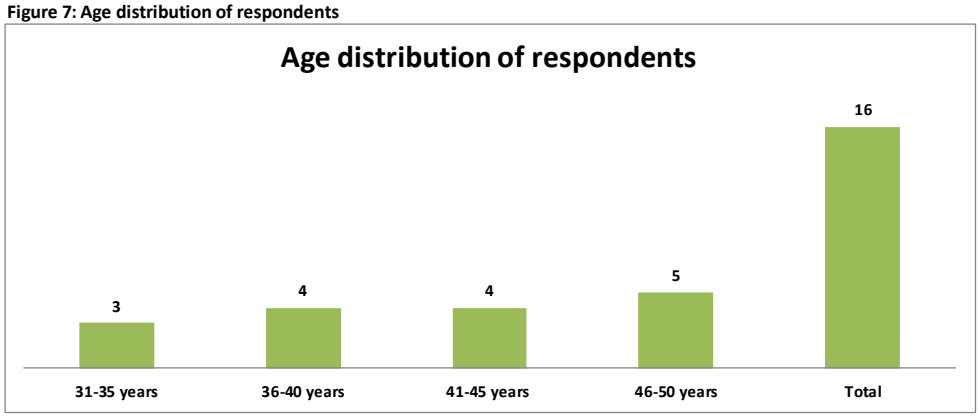
Figure 6: Respondents by gender




The difference in total gender split of respondents is because of a single male gender difference in managers and a gender difference of three female specialists.

**Figure 7 illustrates the age distribution of respondents.**

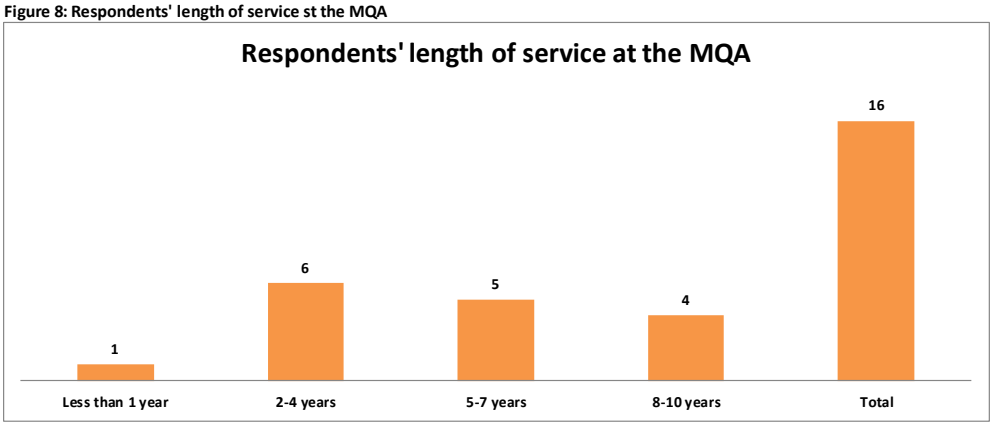
Figure 7: Age distribution of respondents




Although there is not much difference in the numbers of age categories of the respondents; however, the least number of respondents ranged between 31-35 years and the most number of respondents ranged between 46-50 years.

**Figure 8 shows the number of length of service of respondents at the MQA.**

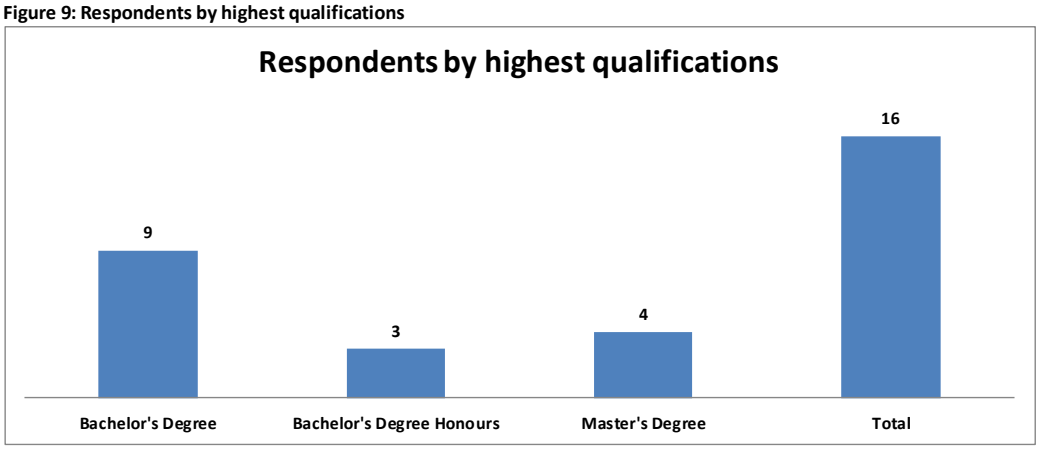
Figure 8: Respondents' length of service st the MQA




Except for one respondent who has spent less than a year at the MQA, the majority of respondents have spent quite a number of years at the MQA.

**Figure 9 shows respondents by highest qualifications.**

Figure 9: Respondents by highest qualifications




The majority of respondents have Bachelor's Degree and the rest have Master's Degree and Bachelor's Degree Honours, respectively.

## 3.4 Research reliability and validity measures

We now provide some important elements of the research process such as reliability and validity. Wagner et al (2012) posit that social scientists rely on assessments of reliability and validity to evaluate the quality of their measurement methods. Reliability and validity of the measure used to collect data of the research helps researchers to make sure that there is overall quality of the research process and the actual research report. In this study, reliability and validity were established as per the alternative criteria for qualitative research of trustworthiness and authenticity.

Reliability and validity can be easily ensured in a quantitative study than in a qualitative study (Bryman, 2012). Therefore, Lincoln & Guba (1994) in Bryman (2012) propose ways of establishing and assessing the quality of qualitative studies that provide an alternative to reliability and validity. They propose two primary criteria for assessing qualitative studies; namely, trustworthiness and authenticity. Trustworthiness is made up of four criteria, which have an equivalent in quantitative research; namely, credibility, which parallels internal validity, transferability, which parallels external validity, dependability, which parallels reliability, and confirmability, which parallels objectivity.
To achieve external validity for the study, the author used thick description. Geertz (1973) is the pioneer of thick description and describes it as the process of paying attention to contextual detail in observing and interpreting social meaning when conducting qualitative research. The author relied on in-depth descriptions of participants' encounter with the MQA's monitoring and evaluation system. In interpreting responses of the participants, the researcher considered the contextual and experiential understandings of the behaviours of respondents that rendered their actions meaningful. To ensure credibility of findings, the author carried out the study according to the principles of good practice. In addition, the author employed respondents' validation where research findings were submitted to the respondents of the study to confirm that the investigation has correctly understood that social world and to provide the participants with an account of the findings. This helped in ensuring corroboration of the account that the researcher has arrived at.

To ensure dependability or reliability of the study, the author developed and adopted an auditing approach, which entailed that the complete records are kept of all phases of the research process; namely, problem formulation, selection of the participants, fieldwork notes, interview transcripts, and data analysis decisions. The data can be easily accessible through the researcher whenever a need arises. Bryman (2012) argues that confirmability or objectivity is concerned with ensuring that, the researcher can be seen to have acted in good faith. While recognising that complete objectivity is sometimes difficult to achieve in a social research, the author did not explicitly allowed personal values or theoretical inclinations to influence the conduct of the study and the findings deriving from it. Lincoln & Guba (1994) in Bryman (2012) suggest criteria of authenticity as fairness, ontological authenticity, educative authenticity, catalytic authenticity, and

tactical authenticity. First, fairness refers to the research fairly representing different viewpoints among participants. Second, ontological authenticity refers to the extent to which the study helps members to arrive at a better understanding of their social milieu. Third, educative authenticity refers to the research helping members to appreciate better the perspective of other members of their social setting. Fourth, catalyst authenticity refers to the extent of the study to act as a motivation to members to engage in action to change their circumstances. Lastly, tactical authenticity refers to the extent of the research to empower members to take the steps necessary for engaging in action. This study applied authenticity in totality to ensure that the results of the study are valid.

## 3.5 Research limitations

The results of this study are limited to the MQA specific circumstances and cannot be generalisable to other similar situations because the author applied a qualitative research strategy and a case study design. In addition, the author applied a non-probability sampling technique to select the respondents of the study. Another limiting factor was that this study strategically focused on those employees who were best able to provide information about the effectiveness of the MQA's monitoring and evaluation system, as there was a limited budget to run the research process. Lastly, there were also limited timeframe and availability of respondents as they were all employees of the MQA.

# 4 PRESENTATION OF RESEARCH FINDINGS

This research sets to examine if at all the Mining Qualifications Authority's monitoring and evaluation system is effective in monitoring the performance of the organisation. To undertake this examination, the study posed two questions. First, what are the structures, processes, and systems involved in the monitoring and evaluation of the Mining Qualifications Authority performance information? Second and importantly, how is performance data collected, collated, analysed, reported, and stored at the Mining Qualifications Authority? This report presents the findings of the research on each question in this chapter. Section 4.1 pursues the first research question while Section 4.2 pursues the second and last research question. Lastly, Section, 4.3 provides a conclusion to the presentation of research findings.

## 4.1 Monitoring and evaluation structures, processes, and systems for managing MQA performance information

This section presents and describes research findings to the first research question supporting them with the reviewed literature. In order to solicit in-depth responses from participants, the researcher dissected research question 1 into three focus areas: First, the MQA's documented monitoring and evaluation unit organisational structure and capacity. Second, the MQA's monitoring and evaluation documented reporting processes and systems. Third, the link between the MQA's reporting system and the Department of Higher Education and Training (DHET). The researcher further constructed interview questions that were specific to each focus area. From the seventeen interview questions on the research questionnaire, nine questions belong to this research question. We now present research findings for each focus area.

### 4.1.1 The MQA's documented monitoring and evaluation unit organisational structure and capacity

The author divided this pre-determined theme into two sub-themes; namely, documented monitoring and evaluation unit organisational structure and the monitoring and evaluation unit organisational capacity. First, we present and describe research findings of the documented monitoring and evaluation unit organisational structure.

Last, we discuss and describe research findings of the monitoring and evaluation unit organisational capacity.

#### 4.1.1.1 The documented monitoring and evaluation unit organisational structure

The first interview question from this sub-theme focused on whether there is an organisational structure for the MQA's monitoring and evaluation unit. Except for Respondent 6, who stated that *"There is no structure at all on how monitoring and evaluation happens at the Mining Qualifications Authority"*, the entire respondents pointed out *"there is a documented organisational structure for the monitoring and evaluation unit"* (Interview, November 2015). This is similar to what Görgens & Kusek (2009) identify as one of the factors that contribute to an effective monitoring and evaluation system. Respondents criticise the monitoring and evaluation unit structure as being not conducive to an effective implementation of all the unit's functions because *"It is designed in such a manner that there are only managers and specialists with no administration staff to support them"* (Interview, November 2015).

On the second interview question of whether, roles and responsibilities of monitoring and evaluation staff are clearly indicated; all respondents agreed that roles and responsibilities of monitoring and evaluation staff are not clearly separated. They further stated that there is no clear distinction between the roles of the monitoring and evaluation manager and a specialist. Additionally, the lack of support staff in the monitoring and evaluation unit put more pressure on both managers and specialists as they have to do administration work to the detriment of their core functions of monitoring and evaluation. Respondents 5 and 6 stated, *"The chaotic manner in which the monitoring and evaluation unit executes its functions is a perfect example of the consequences of unclearly defined roles and responsibilities of managers and specialists"* (Interview, November 2015). In most cases, managers and specialists perform the same tasks without drawing a line between a manager's function and that of a specialist. Respondent 5 mentioned that roles and responsibilities of the monitoring and evaluation unit are not clear to such an extent that *"They are confused with the function of the Education and Training Quality Assurance unit"* (Interview, November 2015). Lack of clarified role and responsibilities for the monitoring and evaluation personnel is viewed as contributing to ineffective monitoring and evaluation systems (Lahey, 2013).

At the end of these interview questions, the researcher allowed respondents to point out identified weaknesses in the monitoring and evaluation unit organisational structure in order to get an in-depth understanding of the organisational structure. Respondents 11, 12, 13, and 16 mentioned the lack of clearly communicated monitoring and evaluation roles and responsibilities as one of the major weaknesses in the monitoring and evaluation unit. In addition, they stated that most staff members at the MQA do not understand the mandate of the monitoring and evaluation unit. Respondent 11 pointed out that "The *return on investment is not known yet because there is no focus on evaluation …….the monitoring and evaluation unit seemed to focus on monitoring only"* (Interview, November 2015). This seems to be the case in most instances in South Africa.

#### 4.1.1.2 The monitoring and evaluation unit organisational capacity

Under this sub-theme, three questions focused to establish if there was a capacity in the monitoring and evaluation unit. With respect to the first question on whether there is adequate human resources to perform all monitoring and evaluation functions, all respondents indicated that although there are no vacant posts according to the monitoring and evaluation organisational structure, the unit is not adequately resourced. This seemed to be a case of errors in the design of organisational structure. Respondent 1 mentioned that *"The monitoring and evaluation unit organisational structure is funnel-shaped"* (Interview, November 2015). On a follow-up question to clarify the answer, the respondent explained that there are no support personnel to perform some administration functions. Due to the lack of human resource capacity, there are many instances where the monitoring and evaluation unit seeks assistance from other units in order to fulfil its functions. Respondent 2 emphasised that *"The lack of human resource for the monitoring and evaluation unit results in managers and specialists doing the same function even though specialists report to managers"* (Interview, November 2015). This blurs the important roles of responsibility and accountability between managers and specialists. Inadequate human and material resources can limit the impact of monitoring and evaluation systems (Makinde, 2009).

On the second interview question on whether, the current monitoring and evaluation personnel are adequately skilled and trained on monitoring and evaluation, all respondents agreed that the majority of the monitoring and evaluation staff are not

properly trained on monitoring and evaluation. They cited the lack of proper monitoring and evaluation training to most staff at the monitoring and evaluation unit as one of the factors that contribute to the chaotic nature in which the unit implements its functions. Respondents 4, 7, 9, 13, and 16 stated, *"There are few monitoring and evaluation unit staff members studying monitoring and evaluation related courses at institutions such as Wits School of Governance in order to capacitate themselves"* (Interview, November 2015). Lahey (2013) agrees with this finding that lack of skilled personnel to gather, analyse, and report on the performance of government policies and programmes contribute to ineffective monitoring and evaluation systems. Other respondents concurred that they have never seen the rest of the monitoring and evaluation unit staff attending monitoring and evaluation related training in the past two years that the unit has been in existence. All respondents mentioned that all staff members at the MQA are required to sign individual development plans at the beginning of every financial year. In these individual development plans, staff members outline their training needs including monitoring and evaluation related training; however, that training does not happen due to budgetary constraints or lack of prioritising training programmes. Respondent 8 stressed that *"Human resource training at the Mining Qualifications Authority is co-ordinated centrally by the human resource unit but the relevant manager should jointly identify training needs of employees under his/her area of responsibility"* (Interview, November 2015). Respondent 13 cited *"The lack of monitoring and evaluation related skills and training as the main reason to inconsistence execution of monitoring and evaluation functions"* (Interview, November 2015). (Interview, November 2015). Matirli and Khanda (2007) concur that inconsistence in the implementation of a monitoring and evaluation system contributes to ineffective monitoring and evaluation systems.

The last interview question on the monitoring and evaluation unit organisational capacity was whether, there is a dedicated budget for the MQA's monitoring and evaluation unit. Except for Respondent 13, who said *"I have never seen a line item in the Mining Qualifications Authority budget dedicated to the monitoring and evaluation unit"* (Interview, November 2015), all respondents agreed that from what they knew is that the unit has its own administration. Respondent 3, because of his strategic position in the planning of the MQA's operations mentioned that *"At the beginning of each financial year; all units at the Mining Qualifications Authority prepare and submit their administration budgets for approval by executive management"* (Interview, November 2015). Other key line budget items such as

salaries are budgeted at organisational level. Hardlife and Zhou (2013) agree that factors accounting for success in monitoring and evaluation systems include among others sufficient finances.

### 4.1.2 The MQA's monitoring and evaluation documented reporting processes and systems

Three interview questions under this pre-determined theme focused on establishing whether there are documented processes and systems that guide the implementation of the monitoring and evaluation functions at the MQA. On the first interview question of whether, there are documented monitoring and evaluation policies that guide the implementation of monitoring and evaluation functions at the MQA, all respondents concurred that there are documented monitoring and evaluation policies that guide the implementation of the unit functions. Respondents 2, 6, and 16 mentioned, *"The Mining Qualification Authority Governing Board approved those monitoring and evaluation policies"* (Interview, November 2015). Respondents 7, 8, 14, and 15 further mentioned the names of the policies as "*The Monitoring and Evaluation Policy Framework, Risk Management Policy, and Fraud Prevention Policy"* (Interview, November 2015). Respondent 4 mentioned that "*The Monitoring and Evaluation Policy Framework was presented to all available MQA staff members in different workshops"* (Interview, November 2015). Leon et al (2012) concur that a supportive policy environment provides an opportunity for the successful implementation of monitoring and evaluation systems.

The second interview question under this theme followed-up on the previous one. It aimed to understand whether there are documented standard reporting procedures used by the monitoring and evaluation unit in the implementation of its functions. All respondents stated that the monitoring and evaluation unit has no documented standard reporting procedures that it uses to implement its function. Respondents 3 and 5 highlighted that *"Lack of documented reporting procedures hinders the smooth implementation of monitoring and evaluation policies"* (Interview, November 2015).while Respondent 10 mentioned *"The lack of monitoring and evaluation standardised reporting procedures as contributing to inconsistencies, errors, and duplications of performance reports at the Mining Qualifications Authority"* (Interview, November 2015). Makinde (2005) agrees that lack of documented procedures and systems is the major problem confronting developing nations when they implement their interventions. Lahey (2013) agrees with Makinde (2005) and states that

to implement monitoring and evaluation policies smoothly, there should be standardised procedures and systems that are developed and documented. Many respondents stated that the major weakness in the Mining Qualifications Authority's monitoring and evaluation reporting is the lack of documented standard reporting procedures. They further stated, *"Without a documented reporting procedure, many mistakes occur when collecting and reporting performance information because everybody performs his/her functions according to his/her interpretation and understanding of things"* (Interview, November 2015).

On the last interview question of whether, the monitoring and evaluation unit uses a system to implement its functions; all respondents unanimously agreed that there is no documented system in place to implement. They stressed, *"Although the monitoring and evaluation unit has developed templates to collect and report on the Mining Qualifications Authority's performance information, those reports are inaccurate and misleading in most cases because there is no documented system used to produce them"* (Interview, November 2015). Respondent 13 even *"Doubted the effectiveness of the monitoring and evaluation unit due to inconsistencies in its reporting procedures"* (Interview, November 2015). Hardlife & Zhou (2013) agree that structural constraints and organisational loopholes such as lack of co-ordination and harmonisation of monitoring and evaluation systems are the main challenges affecting the successful implementation of monitoring and evaluation systems. Respondent 4 cited *"Lack of knowledge of both the Mining Qualifications Authority's overall operational administration and the management information system (MIS) by most of the monitoring and evaluation unit staff as contributing to the perception that the unit does not add value to the organisation"* (Interview, November 2015). Makinde (2005) concurs that inadequate human resource is one of the main factors that can limit the impact of effective monitoring and evaluation systems.

### 4.1.3 The link between the MQA's reporting system and the DHET

The DHET is a key stakeholder of the MQA because of its legislative powers. As a public entity mandated to facilitate skills development, the MQA signs a Service Level Agreement (SLA) with the department and reports its performance to it. Therefore, it is important to understand the effectiveness of the MQA's monitoring and evaluation system in respect of reporting timelines to the DHET.

The only interview question under this pre-determined theme was whether the MQA's reporting timelines are harmonised with that of the DHET. On this question, respondents' answers were divergent. On the one hand, Respondents 1, 2, 5, 6, 8, and 10 felt that the MQA and the DHET reporting timelines are only harmonised concerning reporting deadlines. Their argument is that *"The Mining Qualifications Authority is required to submit its performance reports to the department on set dates failing which there will be consequences"* (Interview, November 2015). Therefore, the MQA has no choice but to submit its performance reports to the DHET within a specified timeframe. They highlighted *"The major challenge for the Mining Qualifications Authority is that it submits reports to the Department of Higher Education and Training without the monitoring and evaluation unit validating it"* (Interview, November 2015). In most cases, the quality, accuracy, and credibility of those reports are not tested. Nash et al (2009) and Mate et al (2009) agree that national monitoring and evaluation systems in developing countries face challenges of persistent incomplete reporting and inaccurate data that can distort the performance of an intervention.

On the other hand, other respondents stated *"There is no harmony at all in terms of the Mining Qualifications Authority and the Department of Higher Education and Training reporting timelines because the Mining Qualifications Authority is always rushing to meet deadlines"* (Interview, November 2015). Hardlife and Zhou agree that challenges facing monitoring and evaluation systems include lack of harmonisation of reporting timelines within stakeholders. They further substantiate their argument by saying that there is no link even with the information technology system of the MQA and the DHET. Respondent 13 felt strongly that *"There is no harmony at all between the Mining Qualifications Authority and the Department of Higher Education and Training reporting timelines because Department of Higher Education and Training audits of performance information are always scheduled around the same dates as those of the monitoring and evaluation unit validation of performance information"* (Interview, November 2015). The MQA depends on mining houses to achieve its performance; however, in most cases, the private sector planning cycle is not compatible with the public sector planning cycle. This is a dilemma for the MQA because it is a public entity and; therefore, plans according to government planning cycle, whereas it depends on the private sector planning cycle to achieve the performance targets required by the DHET.

## 4.2 Data collection, collation, analysis, reporting, and storage at the MQA

We now focus on the research findings that address research question 2. This research question had two pre-determined themes; namely, the MQA's monitoring and evaluation documented data management procedures, processes, and reporting and the MQA's monitoring and evaluation documented data quality assurance processes and systems.

### 4.2.1 The MQA's monitoring and evaluation documented data management procedures, processes, and reporting

There were four interview questions under this pre-determined theme. The first questions solicited responses on whether; the monitoring and evaluation unit has developed data collection and reporting templates and/or forms that it utilises to prepare the Mining Qualification Authority's performance reports. All respondents stated *"There are few templates used by the monitoring and evaluation unit to collect data in preparation of the Mining Qualification Authority performance reports; however, those data collection and reporting templates are not standardised"* (Interview, November 2015). They further stated that because the data collection and reporting templates are not standardised *"They confuse other units of the Mining Qualifications Authority when they use them"* (Interview, November 2015). They added that understanding the use of these templates is subject to individual interpretations, which results in inconsistent reporting. Lahey (2013) differs with the findings and cites the setting of quality standards for monitoring and evaluation conduct as an ingredient for the successful development, implementation, and sustainability of a monitoring and evaluation system in the public sector.

In response to the second interview question of whether, there are clearly indicated instructions on how to complete data collection and reporting forms, few respondents stated that there are verbal instructions that are sometimes confusing. The majority of respondents pointed out that there is no documented monitoring and evaluation data management manual. *"A documented data management manual would assist the monitoring and evaluation unit in giving clear instruction on how to complete data collection and reporting templates"* (Interview, November 2015). Respondents emphasised *"The lack of a monitoring and evaluation data management manual as contributing to confusion and inconsistency reporting of the Mining Qualification Authority performance information"* (Interview, November 2015). Mate et

al (2009) found that data management is important to the effectiveness of a monitoring and evaluation system. Nash et al (2009) agrees that lack of proper reporting tools such as registers and forms contribute to ineffective monitoring and evaluation systems.

On the third interview question on whether there are clearly indicated data flow processes from the Operations unit until data reach the monitoring and evaluation unit; few respondents mentioned, *"The process is verbal in many cases"* (Interview, November 2015). The majority of respondents stated, *"There are no standardised and clearly indicated data flow processes from the Operations unit to the monitoring and evaluation unit* (Interview, November 2015). They cited again *"The lack of a monitoring and evaluation data management manual as the reason for the blurred data flow process from the Operations unit until data reach the monitoring and evaluation unit"* (Interview, November 2015). Mate et al (2009) support the findings when they posit that effective monitoring and evaluation of interventions depend on complete, accurate, and timely flow of data between where they are initially generated and where they are analysed and stored.

The last interview question under this theme was whether, there are clearly stated data processing steps followed by the monitoring and evaluation unit when, collecting, collating, analysing, reporting, and storing data. All respondents were unanimous in their responses *"There are no clearly indicated data processing steps followed by the monitoring and evaluation unit to manage its data"* (Interview, November 2015). Again, here they attribute "*The lack of clearly stated data management processes to the fact that there is no monitoring and evaluation data management manual"* (Interview, November 2015). Nash et al (2009), Mate et al (2009), and Kawonga et al (2012) concur with the findings and state that data management challenges in the collection, collating, analysis, reporting, and storing of data can contribute to ineffective monitoring and evaluation system.

### 4.2.2 The MQA's monitoring and evaluation documented data quality assurance processes and systems

The last pre-determined theme on research question 2 had three interview questions. On the question of whether, there are data quality controls in place when the MQA data from paper-based forms are entered into a computer, Respondents 7, 8, 11, 14, and 15 stated, *"There is a checklist used to check the quality of data when they are entered into a computer"* (Interview, November 2015). The rest of respondents mentioned, *"There are no documented*

*and standardised data quality controls used when data are entered into a computer"* (Interview, November 2015). They cited the lack of a monitoring and evaluation data management as the main reason for the lack of data quality controls. Kawonga et al (2012) support the findings and posit that the non-use of nationally defined forms can limit the effectiveness of a monitoring and evaluation system.

On the question on whether all source documents and reporting forms are available for verification and audit purposes, all respondents mentioned the difficult of accessing source documents as the major challenge that the MQA is always experiencing when audited by its internal auditors and Auditor-General. They claim, *"There are cases where the MQA cannot substantiate the achievement of its performance targets due to unavailable supporting documents"* (Interview, November 2015). However, *"This is improving since the establishment of the monitoring and evaluation unit to monitor and evaluate the performance information of the Mining Qualifications Authority"* (Interview, November 2015). The Auditor-General report on performance information for the 2013 MQA Annual Report also identified lack of frequent reviews of validity of reported achievements against source documentation as the main weakness in the reporting of performance information (MQA Annual Report, 2012-2013). Respondent 8 cited, *"The lack of a centrally situated data repository as the main weakness in the storing of the Mining Qualifications Authority performance data"* (Interview, November 2015). Nash et al (2009) agree that poor documentation of services provided and overly burdensome reporting requirements can limit the impact of monitoring and evaluation systems.

On the last question under this pre-determined theme on whether there are national and/or international confidential guidelines used for data maintenance, all respondents concurred, *"There are no national and or international confidential guidelines used by the monitoring and evaluation unit to maintain performance data"* (Interview, November 2015). They further cited again, *"The lack of monitoring and evaluation data management manual as the main reason that contributes to the absence of guidelines used for data maintenance"* (Interview, November 2015). Mate et al (2009) agree with the findings when they identify the maintenance of performance data is the first step to ensuring effective delivery or implementation of an intervention.

## 4.3 Conclusions

We conclude this chapter by providing a summary of participants' responses to the two research questions. To do that we present and summarise research findings in relation to the five pre-determined themes. Research findings conclude that there is a documented organisational structure for the MQA's monitoring and evaluation unit. However, there are no clearly demarcated roles and responsibilities for the monitoring and evaluation unit staff. Reviewed literature (Lahey, 2013) identifies the clarification of roles and responsibilities of monitoring and evaluation personnel as important for the effectiveness of monitoring and evaluation systems. The monitoring and evaluation unit of the MQA has inadequate human resource capacity in terms of both numbers and skills. (Makinde, 2009) found that this can limit the impact of a monitoring and evaluation system. The monitoring and evaluation unit has a dedicated budget to implement its functions. Factors such as sufficient finances account for effective monitoring and evaluation systems (Hardlife and Zhou, 2013). Although the MQA's monitoring and evaluation unit has developed policies, templates, and forms to implement its function; however, there are no standardised and documented reporting procedures, processes, and systems used by the unit. The lack of a data management manual contributes to the confused and unclear manner in which data flow from operations until data reach the monitoring and evaluation unit. Mate el al (2009) posit that effective monitoring and evaluation systems depend on complete, accurate , and timely flow of data between where data are generated and where they are analysed and stored. In addition, the MQA and the DHET reporting timelines are not harmonised. The lack of harmonised monitoring and evaluation systems between key stakeholders impede the effectiveness of the monitoring and evaluation systems (Hardlife and Zhou, 2013).

Lastly, the research findings to the second research question concluded that the MQA faces data management challenges in the collection, collating, analysis, reporting, and storing of performance data. Reviewed past and current studies in the literature review chapter such as Nash et al (2009), Mate et al (2009), and Kawonga et al (2012) found that data management challenges in the collection, collating, analysis, reporting, and storing of data limit effectiveness of monitoring and evaluation systems. Research findings highlighted the challenge of accessing source documents at the MQA as one of factors contributing to the low performance target achievement by the organisation. The

lack of frequent reviews of reported achievements against source documentation was also identified by the Auditor-General report on performance information for the MQA as the main weakness in the reporting of performance information (MQA Annual Report, 2012-2013).

# 5 DISCUSSION OF RESEARCH FINDINGS

This chapter presents the interpretation of the research findings, which will be based on the explanatory framework that has been highlighted in Chapter 2. The interpretation is divided into two categories; monitoring and evaluation structures, processes, and systems involved in the monitoring and evaluation of the Mining Qualifications Authority performance information findings and data collection, collation, analysis, reporting, and storage at the Mining Qualifications Authority.

## 5.1 Monitoring and evaluation structures, processes, and systems for managing MQA performance

This section presents the interpretation of the research findings that relate to monitoring and evaluation structures, processes, and systems involved in the monitoring and evaluation of the MQA performance. The research themes covered under this section include; the MQA's monitoring and evaluation documented monitoring and evaluation unit organisational structure and capacity, the MQA's monitoring and evaluation documented reporting processes and systems, the link between the MQA's reporting system and the DHET findings. The theoretical context is briefly highlighted at the beginning of each section in order to bring proper perspective to the interpretation and analysis of the findings.

### 5.1.1 The MQA's documented monitoring and evaluation unit organisational structure and capacity

Donaldson (2005) posits that a programme theory predicts the outcomes of the programme and specifies the requirements necessary to bring about the desired programme effects. Sharpe (2011) supports the theory by suggesting that programme theory modelling normally uses three components to describe the programme and these are programme activities or inputs, intended outcomes or outputs, and mechanism through which the intended outcomes are achieved. Sedani and Sechrest (1999) in Sharpe (2011) suggest that resources necessary for implementing the programme should also be detailed at the beginning and may include supplies, material, and skills.

As found in 4.1.1, the MQA's monitoring and evaluation unit has a documented organisational structure as a mechanism through which the effectiveness of the

monitoring and evaluation is intended to be achieved. However, roles and responsibilities of the monitoring and evaluation unit personnel are not clearly defined. The programme theory is strongly based on the assumption that requirements necessary to bring about the desired intervention effects change should be specified prior to the commencement of the intervention. Görgens and Kusek (2009) and suggest that for a monitoring and evaluation system to be effective there should be infrastructure such as documented monitoring and evaluation organisational structure. However, (Lahey, 2013) if roles and responsibilities for monitoring and evaluation personnel are not clearly indicated the monitoring and evaluation system will not be effective. With respect to MQA's monitoring and evaluation system although, there is a documented organisational structure for the monitoring and evaluation the lack of clearly defined roles and responsibilities of the monitoring and evaluation personnel impacts negatively on the effectiveness of the monitoring and evaluation system.

The programme theory suggests that for an intervention to be successful, resources such as supplies, materials, and skills should be detailed at the beginning of the intervention (Rogers, 2009). Findings of the research suggest that The MQA's monitoring and evaluation unit organisational structure is not adequately capacitated with staff hence there are many instances that require the unit to seek assistance from other units in order to perform its functions. The lack of human resources in the monitoring and evaluation unit of the MQA has resulted in the ineffectiveness of the monitoring and evaluation system. Sharpe (2011) argues that for an intervention to be successful the programme uses components such as inputs. Makinde (2009) supports the programme theory modelling approach by saying that adequate human and material resources support effective monitoring and evaluation systems. Research findings point out that the inadequate monitoring and evaluation organisational capacity contribute to the ineffectiveness of the MQA's monitoring and evaluation system. In addition, research findings alluded to the fact that the majority of the current monitoring and evaluation personnel at the MQA is not properly trained on monitoring and evaluation practice. Sedani and Sechrest (1999) in Sharpe (2011) posit that for the successful implementation of an intervention, resources such as skills need to be detailed prior to the implementation of the intervention. The lack of properly skilled personnel of the monitoring and evaluation unit at the MQA limits the effectiveness of the monitoring and evaluation system. Lahey (2013) agrees with the findings by suggesting that lack of

skilled personnel to gather, analyse, and report on the performance of government policies and programmes contribute to ineffectiveness of monitoring and evaluation systems.

### 5.1.2 The MQA's monitoring and evaluation documented reporting processes and systems

In this question, the author intended to examine the effectiveness of the MQA's monitoring and evaluation system in respect of whether the monitoring and evaluation unit uses standard processes and systems to monitor and evaluate the performance of the MQA. Sharpe (2011) argues that for a programme to be successfully implemented the mechanism through which the intended outcomes should be achieved needs to be clearly stated prior to its implementation. The findings of the research suggest that the MQA's monitoring and evaluation unit does not utilise standard documented reporting procedure and systems to manage and evaluate the performance of the MQA. Although there is (Leon et al, 2012) a supportive policy environment such as the monitoring and evaluation policies that provide an opportunity for the successful implementation of the successful implementation of the monitoring and evaluation system; however, Makinde (2005) the lack of documented procedures and systems makes the monitoring and evaluation system ineffective. Lahey (2013) agrees with (Sharpe, 2011) by suggesting that to implement monitoring and evaluation smoothly, there should be standardised procedures and systems that are developed and documented. The findings of the research in paragraph two of 4.1.2 indicate that the major weakness in the MQA's monitoring and evaluation system is the lack of documented standard reporting procedures and systems. The programme theory (Sedani and Sechrest, 1999) encourage implementers of interventions to identify materials such as documents used in monitoring and evaluation systems to be detailed at the beginning of the programme before it is implemented. Although there are developed templates used by the monitoring and evaluation unit to monitor and evaluate the performance of the MQA, the lack of documented monitoring and evaluation procedures and system at the MQA limits the effectiveness of the monitoring and evaluation system.

### 5.1.3 The link between the MQA's reporting system and the DHET

The programme theory (Rogers et al, 2000) requires that evaluators make explicit the underlying assumptions about how programmes are expected to work. This interview

question was to understand the harmonisation of reporting times between the MQA and the DHET as the latter has legislative powers on the MQA. The research findings, as detailed in 4.1.3 indicate that reporting timelines of the MQA and the DHET are harmonised only in terms of the MQA meeting reporting deadlines. This compromises the accuracy and quality of performance reports submitted to the DHET by the MQA because those performance reports are submitted without verification by the monitoring and evaluation unit. When there are no explicit assumptions on how a programme is expected to work as suggested by the programme theory, the effectiveness of the programme is negatively affected. The programme theory justifies the intervention in terms of its expected goals. The findings of the research point out that the MQA is always compelled to meet reporting deadlines of the DHET; therefore, this means that their reporting timelines are not linked. Hardlife and Zhou (2013) suggest that the lack of harmonised reporting lines between two stakeholders can limit the effectiveness of the monitoring and evaluation system. In addition, the research findings indicate that although, the MQA is dependent on mining houses to achieve its performance targets the planning cycle of the private sector is not compatible with the planning cycle of the private sector resulting to the MQA struggling to achieve performance targets as planned. In predicting the outcomes of the intervention, the programme theory suggests that requirements necessary to bring about the desired performance effects should be specified prior to the implementation of the intervention. This lack of harmonised reporting timelines between the MQA and the DHET causes a lot of strain to the MQA's monitoring and evaluation system because of conflicting dates for verification of performance information and meeting reporting deadlines.

## 5.2 Data collection, collation, analysis, reporting, and storage at the MQA

The first interview question under this research question observed the MQA's monitoring and evaluation system documented data management procedures, processes, and reporting while the second interview question dealt with the MQA's monitoring and evaluation data quality assurance processes and systems.

### 5.2.1 The MQA's documented monitoring and evaluation unit organisational structure and capacity

Research findings, as detailed in 4.2.1 indicate that the MQA's monitoring and evaluation system does not have documented data management procedures and systems. The programme theory modelling (Sharpe, 2011) requires that to successfully evaluate a programme, evaluators should describe and detail programme inputs or activities. Rogers et al (2000) concur with Sharpe (2011) and state that resources such as materials and supplies necessary to implement the programme should be detailed prior to its implementation. Research findings indicate that although there are developed templates that the monitoring and evaluation unit uses to collect and report the performance of the MQA, there are no documented data management procedures and reporting processes used by the unit. The lack of clearly indicated instructions on how to use the performance reporting templates and forms contribute to confusion and inconsistency in the reporting of the MQA performance. Nash et al (2009) concurs with the findings of the research by stating that the lack of proper reporting tools such as registers and forms can contribute to ineffective monitoring and evaluation systems. Research findings also point out that the lack of a data management manual at the MQA contributes to the blurred data flow process from the Operations unit until data reach the monitoring and evaluation unit. Although, the programme theory (Wilder Research, 2009) is based on the simple logic of **IF** and **THEN** statements, meaning that if you have needed resources to operate an intervention, then you can use them to accomplish your planned activities. If you accomplish your activities, then you will deliver the amount of products and/or services that you intended; however, this did not happen at the MQA because despite the existence of the monitoring and evaluation unit as a resource to monitor and evaluate, its performance continue to decline. Nash et al (2009), Mate et al (2009), and Kawonga et al (2012) agree with the findings and state that data management challenges in the collection, collating, analysis, reporting, and storing of data can contribute to ineffective monitoring and evaluation system.

### 5.2.2 The MQA's documented monitoring documented data quality assurance processes and system

Research findings, as detailed in 4.2.2 indicate that the MQA's monitoring and evaluation unit uses a checklist to check the quality of data when data are transferred from paper-based forms to a computer; however, there are no quality controls such as

documented data quality assurance processes and system that are used to check the quality of data. The programme theory modelling (Sharpe, 2011) normally uses three components to describe the programme and these are programme activities or inputs, the intended outcomes or outputs, and the mechanism through which the intended outcomes are achieved. Although there is an input such as a checklist that the monitoring and evaluation unit uses to check the quality of data; however, (Sedani and Sechrest (1999) these resources necessary for implementing the programme such as data quality assurance processes and systems are inadequate because they are not documented. Research findings point out that the lack of a monitoring and evaluation data monitoring management manual is the main reason that contributes to the ineffectiveness of the MQA's monitoring and evaluation system. Kawonga et al (2012) concurs with the research findings by saying that the lack of documented data quality control system can limit the effectiveness of a monitoring and evaluation system. The Auditor-General's report on the performance of the MQA pointed out the lack of frequent reviews of reported performance achievement against source documentation as the main weakness in the reporting of performance information (MQA Annual Report, 2012). Nash et al (2009) agrees with the report of the Auditor-General by stating that poor documentation of services provided and overly burdensome reporting requirements can limit the effectiveness of the monitoring and evaluation system. The programme theory (Rogers et al, 2000) is based on the premise that resources such as inputs or materials necessary for implementing the programme should be detailed and documented at the beginning of the programme. Research findings indicate that the lack of a documented data management manual at the MQA contributed to the inadequate manner in which performance data is maintained by the monitoring and evaluation unit. Mate et al (2009) concurs with the findings by stating that inadequate performance data maintenance can contribute to the ineffectiveness of a monitoring and evaluation system.

## 5.3 Conclusions

Although the MQA's monitoring and evaluation system has articulated the activities or inputs, the intended outcomes or outputs, and mechanism through which the intended outcomes will be achieved as required by the programme theory (Sharpe, 2011); however, research findings point the following challenges as the main reason for that contributed to the ineffectiveness of the monitoring and evaluation system. First,

although there is a documented monitoring and evaluation organisational structure to support the monitoring and evaluation system; however, the lack of clearly defined roles and responsibilities of the monitoring and evaluation unit personnel limit the effectiveness of the system. Second, the majority of the monitoring and evaluation unit personnel is not adequately trained on monitoring and evaluation practice, resulting in poor implementation of some monitoring and evaluation function. Third, although the monitoring and evaluation unit has developed policies to implement its functions; however, the lack of documented reporting procedures, processes and systems limit the effectiveness of the monitoring and evaluation system. Fourth, there is no harmony between the MQA and the DHET reporting timelines. This compromises the accuracy and quality of performance reports submitted by the MQA to the DHET because those performance reports are submitted to meet the deadlines without verification by the monitoring and evaluation unit. Fifth, the lack of documented data management procedures, processes, and reporting systems makes it difficult for the MQA to produce evidence to support its performance. The Auditor-General identified the reviewing of validity of reported performance achievements against source documentation in the MQA's reporting of performance information as the main weakness. Although, the establishment of the MQA's monitoring and evaluation system was based underlying assumptions as required by the programme theory that the performance of the MQA will improve; however, this did not happen because the monitoring and evaluation unit faced many challenges as explained above.

# 6 SUMMARY, CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

This chapter summarises the research, concludes the research by linking all the chapters of the research from the purpose of the research to what the study achieved. It further provides some practical limitations to the study and finally the chapter recommends some important measures based on the findings of the study, which if implemented may assist to strengthen the effectiveness of the MQA's monitoring and evaluation system.

## 6.1 Summary

The research problem was that the MQA achieved low performance targets despite the establishment of the monitoring and evaluation unit in 2013. This decline in performance target achievement continued for two consecutive financial years of 2012-2013 and 2013-2014. Failure to achieve pre-determined objectives by public entities such as the MQA can result in public oversight structures; namely, Parliament Portfolio Committees to request management of those institutions to appear before the relevant committee to answer questions in this regard. It was not clear whether the MQA's monitoring and evaluation system did not have clearly defined structures, processes, and systems to monitor and evaluate the performance of the MQA or whether there were data management challenges in the collection, collating, analysis, reporting, and storing of performance data.

The purpose of this research was to examine, if at all, the MQA's monitoring and evaluation system is effective in monitoring and evaluating the performance of the MQA. Through this research, an in-depth examination of some features of the MQA's monitoring and evaluation system was undertaken to get a broader and deeper understanding of structures, processes, and systems involved in the monitoring and evaluation of the MQA performance information. We further examined data management processes in the collection, collation, analysis, reporting, and storing process of performance data of the MQA's monitoring and evaluation system.

To understand our research context, we reviewed literature relating to the history and description of the MQA and the establishment of the Sector Education and Training Authorities in general. We further undertook a research problem analysis to understand

the history and description of monitoring and evaluation systems in the South African public sector. To do this, we reviewed briefly monitoring and evaluation systems of other developed and developing countries globally. To uncover the knowledge gap on the effectiveness of monitoring and evaluation systems in general and South Africa in particular, we reviewed past and current research and evaluations on monitoring and evaluation systems. Interrogating these studies revealed some of the factors limiting the impact of monitoring and evaluation systems as unachievable objectives, ineffective reporting methods, and poor timeliness of reporting data. Other challenges in data management of monitoring and evaluation systems include incomplete reporting, inaccurate data, inadequate training of data personnel, lack of timely feedback, and duplication of data collection and reporting.

To help us interpret the results of the findings, we established a theoretical or explanatory framework. We also identified the broad field; namely, implementation studies under which this research is based on. Before we discussed monitoring and evaluation we had to discuss public policy because implementation studies are about public policy implementation. Therefore, without implementation, we could not discuss monitoring nor process evaluation nor summative evaluation. By implication, we could not discuss monitoring and evaluation systems. We further discussed the key attributes of a results chain – inputs, activities, outputs, outcomes, and impacts – as well as the results framework – indicators, baselines, targets, assumptions, and risks. Reviewed literature revealed that inputs, activities, outputs, outcomes, and impacts are five key monitoring and evaluation attributes that are important to implementation studies.

We discussed documented frameworks in monitoring and evaluation such as the theory of change and identified in particular the programme theory as the explanatory framework that helped us to interpret the results of the study. Many authors such as Dahler-Larsen (2001) describe the programme theory as a construction of a plausible and sensible model of how a public programme is supposed to function. To examine the effectiveness of the MQA's monitoring and evaluation system, we reviewed literature that allowed us to understand challenges of monitoring and evaluation systems. As the last component of reviewing literature, we established a conceptual framework – that is, a detailed discussion on how the research was going to advance beyond the literature review.

We discussed and committed to a research strategy, research design, research procedure and methods that the study used. We further outlined some reliability and validity measures as well as limitations of research methodology. Immediately from the panel, the author, integrated comments made by the panel into the draft report, went on to complete the ethical approval consent form obtained from Wits, and submitted it to the school. Thereafter, the author obtained a permission letter to conduct the monitoring and evaluation study at the MQA from its Chief Executive Officer. To collect data, the author set up appointments with the respondents by contacting them telephonically, through emails, and by making verbal follow-ups. After collecting data through interviews, the author processed data by transcribing, thematic analysis, fragmenting data, and conducting content analysis. The analysis of responses was based on five key themes, which had sub-themes developed from interview questions. In analysing responses from participants, the researcher took into consideration thick description. Finally, the author presented findings of the research direct from the responses comparing them with the reviewed literature. In presenting and discussing findings of the research, the author considered the two research questions, which were turned into thesis statements as follows:

1. Monitoring and evaluation structures, processes, and systems involved in the monitoring and evaluation of the Mining Qualifications Authority performance information.
2. Data collection, collation, analysis, reporting, and storage at the Mining Qualifications Authority.

From each research question-turned thesis statement, various interview questions helped to get an in-depth understanding of some aspects of the MQA's monitoring and evaluation system. In chapter five, the author discussed findings of the research based on the two research questions-turned thesis statements and themes using the proposed explanatory framework; namely, the programme theory to interpret them.

## 6.2 Conclusions

Based on the findings of this research that is supported by both reviewed literature and the theoretical or explanatory framework the MQA's monitoring and evaluation system has not been effective in monitoring and evaluating the performance of the MQA. The research findings highlighted the following challenges that the MQA's monitoring and evaluation system is currently facing:

### 6.2.1 There is a lack of organisational capacity at the MQA's monitoring and evaluation unit

Although there is a documented organisational structure and a dedicated budget for the MQA's monitoring and evaluation unit, weaknesses in the areas of human resources hinder the effectiveness of the MQA's monitoring and evaluation system. The MQA's monitoring and evaluation unit is not adequately capacitated to perform its functions effectively and efficiently. This includes shortage of staff members, unclear roles and responsibilities of staff members, and lack of requisite monitoring and evaluation skills and inadequate capacity building initiatives in the monitoring and evaluation unit. The monitoring and evaluation unit personnel experience the effects of these challenges as follows:

- Monitoring and evaluation managers and specialists are always pressurised to perform both administration and monitoring and evaluation key functions because there are no administrators to assist them;
- There is no distinction between the roles of monitoring and evaluation managers and specialists because they perform the same tasks – this blurs the important managerial functions of responsibility, supervising, and accountability;
- There are many instances in which the monitoring and evaluation unit, due to shortage of staff members, seeks assistance from other units;
- The lack of requisite skills in majority of the monitoring and evaluation unit personnel limits the ability of the unit to gather, analyse, and report on the performance; and
- The lack of monitoring and evaluation capacity-building initiatives adds to the challenge of inadequately skilled monitoring and evaluation unit personnel.

### 6.2.2 There are no documented monitoring and evaluation reporting, procedures, processes and systems at the MQA

For effective monitoring and evaluation to take place, some reporting procedures, processes, and systems need to be developed, documented, standardised, and implemented. Although there are documented monitoring and evaluation policies in place, the implementation of those policies is not effective because of the absence of monitoring and evaluation documented and standardised reporting procedures,

processes, and systems. Some monitoring and evaluation, reporting procedures, processes, and systems have been developed; however, their application is inconsistent and confusing because they are not standardised. The lack of documented reporting procedures, processes, and systems results in the haphazard and confusing manner in which the monitoring and evaluation unit of the MQA performs its functions.

### 6.2.3 There are no monitoring and evaluation documented data management reporting procedure and process at the MQA

Although, the monitoring and evaluation unit has developed some templates and forms to collect and report on the performance of the MQA, the reporting templates and forms are not standardised. When templates are not standardised, their utilisation is subject to individual interpretation, which can distort the collection and reporting of performance data. This can lead to inaccurate and poor reporting. There is no monitoring and evaluation data management manual that is used to clearly instruct people on how to complete data collection and reporting templates. The flow process of performance data from the operations unit to the monitoring and evaluation unit is not clear because there is no data management manual used. Unclear data flow processes can result in incomplete data recording. There are data management challenges in the collection, collating, analysing, reporting, and storing of performance data faced by the MQA's monitoring and evaluation system. These data management challenges result from the lack of skilled personnel to gather, analyse, and report on the MQA performance information.

### 6.2.4 There are no monitoring and evaluation documented data quality assurance processes and systems at the MQA

The MQA's monitoring and evaluation system does not have documented data quality controls to check data when entered into a computer from paper-based. The checklist that is used is not documented and standardised; therefore, it use is inconsistent. The lack of and poor quality data is one of the challenges faced by the SETAs including the MQA. In addition, source documents to support the performance of the MQA are not easily accessible because there is no monitoring and evaluation documented system used to store performance data. There is no central repository used to store the MQA performance data. The Auditor-General also identified the lack of validity of reported

performance achievements against source documents as the main weakness in the reporting of the MQA performance information.

### 6.2.5 There is no linkage between the MQA and the DHET reporting systems

The MQA and the DHET reporting timelines are not harmonised. There are many instances where the MQA is rushing to submit reports to the DHET in order to meet deadlines. This results in the MQA submitting performance reports without the monitoring and evaluation unit verifying them. In many instances those reports are inaccurate and of poor quality. In addition, the DHET audit of the MQA performance information usually occurs during the same dates when the monitoring and evaluation unit validates the MQA performance information.

## 6.3 Limitations

As an employee of the MQA, the author avoided interview questions that would have made some respondents, particularly those senior to the author, unwilling to respond, as they would have perceived those questions to be challenging their integrity and managerial style. The MQA's monitoring and evaluation system is not old enough as it was established in 2013. Therefore, there was a limited knowledge and understanding of monitoring and evaluation practice amongst selected participants for the interviews, despite the fact that the author followed a strict criterion in selecting them.

## 6.4 Recommendations

This section concludes this study by recommending some important measures based on the findings of the study, which if implemented may assist to strengthen the MQA's monitoring and evaluation system.

### 6.3.1 Review of the MQA's monitoring and evaluation organisational structure and capacity

The MQA needs to review the current monitoring and evaluation unit organisational structure and capacity by creating vacancies for support staff such as administrators and temporary staff in order to alleviate the pressure exerted to monitoring and evaluation managers and specialists due to the shortage of staff. The monitoring and evaluation

unit is the only unit at the MQA that does not have administrators and temporary staff to assist managers and specialists with administration work. The addition of human resources will ensure that managers and specialists concentrate on the key functions of monitoring and evaluation instead of doing administration tasks. In addition, roles and responsibilities of monitoring and evaluation managers and specialists should be clearly separated. Monitoring and evaluation managers should plan and manage the performance of their specialists instead of finding themselves competing with their subordinates by performing same tasks. These roles and responsibilities should not only be written in individual performance contracts and job profiles of the monitoring and evaluation staff members but communicated to all the MQA staff members in order to create awareness of the benefits of having a monitoring and evaluation unit. The current monitoring and evaluation unit personnel should be encouraged to attend monitoring and evaluation related training in order to acquire requisite skills to perform the monitoring and evaluation function effectively and efficiently.

### 6.3.2 Review of the MQA's monitoring and evaluation reporting, procedures, processes and systems

To implement documented monitoring and evaluation policies effectively and efficiently, the monitoring and evaluation unit should develop and document standard reporting procedures, processes, and systems. The data collection and reporting templates currently utilised by the monitoring and evaluation unit when collecting data for the preparation and reporting of the MQA performance information should be revised and standardised. Once standardised, these templates should be clearly communicated to all staff members. Standardised and clearly communicated monitoring and evaluation reporting procedures, processes, and systems will assist in averting the current inconsistent and confusing manner in which the monitoring and evaluation unit is currently using when preparing and reporting the MQA performance information.

### 6.3.3 Review the MQA's M&E data management procedures, processes and reporting

To ensure that the quality of data is checked and controlled before it is entered into a computer from paper-based forms; the monitoring and evaluation unit should develop a data management manual. This data management manual will assist the monitoring and

evaluation unit to ensure that the data flow process from the operations unit until data reach the monitoring and evaluation unit is clear. The presence of a documented data management manual will eliminate inaccurate and poor reporting of the MQA performance information. To ensure that source documents are easily accessible when required for audit and verification purposes, the MQA should establish a central data repository to store its performance data.

### 6.3.4 Review of reporting the MQA and the DHET reporting timelines

To harmonise the MQA and the DHET reporting timelines, the MQA and the DHET should review the submission deadlines of the MQA performance information to the DHET. The reviewed reporting deadlines should cater for the verification of the MQA performance information by the monitoring and evaluation unit before its submission to the DHET. The MQA reporting timelines to the DHET are too compressed and do not allow for adequate time for the MQA's monitoring and evaluation unit to validate the performance information before it is submitted to the DHET. This results in inaccurate and poor reporting of the MQA's performance information because the MQA is always in a hurry to meet the DHET reporting deadlines.

## 6.5 Future research

The MQA needs to conduct an in-depth study to evaluate the impact, effectiveness, efficiency, sustainability, and relevance of some of its important interventions in particular the bursary scheme. Presently, the MQA is focussing on the monitoring part of the monitoring and evaluation function without evaluating its interventions. This seems to be the case with other public sector development interventions in many African states as was found by Porter and Goldman (2013) when they reviewed six African country case studies.

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# APPENDICES

# Appendix 1.1:

**Appendix 1.1: Interview schedule**

Dear Colleague,

**Re: The effectiveness of the Mining Qualifications Authority's M&E system**

I am a Masters Students from the Wits School of Governance. The purpose of this letter is to seek your participation in this interview.

I am conducting this research to examine the effectiveness of the Mining Qualifications Authority's M&E system. Your participation in this interview is important and valuable as a potential decision maker, as your views may inform decision-making processes of the MQA.

Kindly note that your responses will be treated with confidentiality and are anonymous. In addition, you are not required to disclose your name anywhere on the interview schedule. You may withdraw your participation at any time of this interview, as it is voluntary. I also request your permission to record the interview as part of collecting information from you.

This interview is estimated to take about one and a half hour to complete.

Should you have any queries or would like to be informed of the aggregated research findings please contact the researcher at 078 1100 693 or email at: sithembisog@mqa.org.za.

Thank you for your cooperation.

……....

Yours truly,

Sitembiso Gamakulu

**This interview schedule will serve as a guide for discussion during the interview process.**

**Demographics Information**

The demographic details requested are for analytical purposes only and will not be used to identify any participant. Your responses are anonymous. Please indicate the response category that best describe you to the interviewer.

**Please indicate your position at the MQA**

| **Position** | **Answer** |
|---|---|
| Executive | |
| Manager | |
| Specialist | |

**Please indicate your length of service at the MQA**

| **Years** | **Answer** |
|---|---|
| Less than 1 year | |
| 2 - 4 years | |
| 5 - 7 years | |
| 8 - 10 years | |
| More than 11 years | |

**Please indicate your gender**

| **Gender** | **Answer** |
|---|---|
| Male | |
| Female | |

**Please indicate your age category**

| **Age** | **Answer** |
|---|---|
| 20 – 25 years | |
| 26 – 30 years | |
| 31 – 35 years | |
| 36 – 40 years | |
| 41 – 45 years | |
| 46 – 50 years | |
| Above 50 years | |

**Please indicate your qualifications**

| Qualification | Answer |
|---|---|
| Matric | |
| Degree/Tertiary Qualification | |
| Honours | |
| Masters | |
| Doctorate | |

**FOCUS AREA: ONE: The MQA's M&E documented organisational structure and capacity**

| Questions | Responses | | | | Evidence | Comments concerning response |
|---|---|---|---|---|---|---|
| | Completely | Mostly | Partly | Not at all | | |
| 1. Is there a documented M&E organisational structure at the MQA? | | | | | Documented M&E organisational structure | |
| 2. Are roles and responsibilities of the MQA's M&E staff clear? | | | | | M&E staff Job Profiles and IPCs | |
| 3. Is the M&E unit adequately resourced? | | | | | Vacancy list and actual M&E staff employed | |
| 4. Has all M&E staff received M&E related training in the past 2 years? | | | | | List of trained M&E staff | |
| 5. Is there a training plan for all M&E staff? | | | | | M&E staff IDPs | |
| 6. Is there a dedicated budget for M&E unit? | | | | | | M&E unit budget |

**Summary:**
**Please provide strengths and weaknesses of the M&E organisation structure and capacity**

| Strengths | Weaknesses |
|---|---|
| | |
| | |
| | |

**Recommendations:**
**What are your recommendations to strengthen the M&E organisational structure and capacity?**

| Weaknesses | Recommendations |
|---|---|
| | |
| | |

**FOCUS AREA: TWO: The MQA's M&E documented processes and systems**

| Questions | Responses | | | | Evidence | Comments concerning response |
|---|---|---|---|---|---|---|
| | Completely | Mostly | Partly | Not at all | | |
| 7. Are there M&E policies that guide the implementation of M&E functions at the MQA? | | | | | Documented M&E policies | |
| 8. Are there standard reporting procedures that used in M&E? | | | | | Documented M&E standard reporting procedures | |
| 9. Is there a system used by the M&E unit in implementing its functions at the MQA? | | | | | Documented M&E system | |

**Summary:**
**Please provide strengths and weaknesses of the MQA's M&E processes and systems**

| Strengths | Weaknesses |
|---|---|
| | |
| | |
| | |

**Recommendations:**
**What are your recommendations to strengthen the MQA's M&E processes and systems?**

| Weaknesses | Recommendations |
|---|---|
| | |
| | |

**FOCUS AREA: THREE: The MQA's M&E documented data management, procedures, processes and reporting**

| Questions | Responses | | | | Evidence | Comments concerning response |
|---|---|---|---|---|---|---|
| | Completely | Mostly | Partly | Not at all | | |
| 10. Have data collection and reporting forms/templates been developed by the M&E unit? | | | | | Standardised data collection and reporting templates/forms | |
| 11. Are there clearly indicated instructions on how to complete the M&E unit's data collection and reporting forms/templates? | | | | | M&E data management manual | |
| 12. Are there clearly indicated data flow processes from Operations unit until data reach the M&E unit? | | | | | M&E data management manual | |
| 13. Are there clearly stated data processing steps followed when, collecting, collating, analysing, reporting, and storing data? | | | | | M&E data management manual | |

**Summary:**
**Please provide strengths and weaknesses of the MQA's M&E data management and reporting processes**

| Strengths | Weaknesses |
|---|---|
| | |
| | |
| | |

**Recommendations:**
**What are your recommendations to strengthen the MQA's M&E data management and reporting processes?**

| Weaknesses | Recommendations |
|---|---|
| | |
| | |

**FOCUS AREA: FOUR: The MQA's documented data quality assurance processes and systems**

| Questions | Responses | | | | Evidence | Comments concerning response |
|---|---|---|---|---|---|---|
| | Completely | Mostly | Partly | Not at all | | |
| 14. Are data quality controls in place when data from paper-based forms are entered into a computer? | | | | | M&E data management manual | |
| 15. Are all source documents and reporting forms available for verification and audit purposes? | | | | | Source documents | |
| 16. Are there any national and/or international confidential guidelines used for data maintenance? | | | | | M&E data management manual | |

**Summary:**
**Please provide strengths and weaknesses of the MQA's M&E data quality assurance and systems**

| Strengths | Weaknesses |
|---|---|
| | |
| | |
| | |

**Recommendations:**
**What are your recommendations to strengthen the MQA's M&E data quality assurance and systems?**

| Weaknesses | Recommendations |
|---|---|
| | |
| | |

**FOCUS AREA: FIVE: The link between the MQA's reporting system and DHET**

| Questions | Responses | | | | Evidence | Comments concerning response |
|---|---|---|---|---|---|---|
| | Completely | Mostly | Partly | Not at all | | |
| 17. Are the MQA's and DHET's reporting timelines harmonised? | | | | | The MQA's reporting schedule to DHET | |

**Summary:**
**Please provide strengths and weaknesses of linkages between MQA's reporting system and DHET**

| Strengths | Weaknesses |
|---|---|
| | |
| | |
| | |

**Recommendations:**
**What are your recommendations to strengthen linkages between MQA's reporting system and DHET?**

| Weaknesses | Recommendations |
|---|---|
| | |
| | |

# Appendix 2.1:

**Appendix 2.1: Profile of the author**

Sitembiso Gamakulu completed his undergraduate Bachelor of Commerce Degree at the University of Transkei (now Walter Sisulu University) majoring in Industrial Psychology and Economics. In 1984, he started his work career in the former homeland of Transkei. He worked with various development institutions including Transkei Small Industrial Development Organisation – first as a Business Development Officer and finally promoted to a Regional Manager for the UMzimkhulu Region. During the merger of development institutions in mid-1990s, Sitembiso left the then Eastern Cape Development Agency to pursue his Masters of Business Administration studies with Technikon Natal (now Durban University of Technology), which he completed in 1999. After completing his studies he came to Johannesburg where he worked for various development organisations; namely, The Nations Trust (now National Youth Development Agency) as Operations Manager, National Productivity Institute (now Productivity South Africa) as Project Manager for Eastern Cape, and African Bank as Community Development Manager for Eastern Cape. From May 2010 to March 2013, he worked for the Eastern Cape Provincial Treasury as Manager – Strategy Management. This is where he developed a passion for planning, monitoring and evaluating government interventions. The Mining Qualifications Authority currently employs Sitembiso and the sponsors this study. His summarised area of responsibility and accountability is to ensure that planning, monitoring, and evaluation within the MQA are aligned with set standards and meet the relevant government frameworks. In 2014, he completed a Post-Graduate Diploma in Public Sector Monitoring and Evaluation at Wits School of Governance. This has led him to enrol for the degree of Masters in Management (in the field of Public Sector Monitoring and Evaluation with the same institution. This study is in partial fulfilment for that degree.

# Appendix 3.1:

**Appendix 3.1: Permission letter for monitoring and evaluation research**

**Date:** **22 July 2015**

**From:** **Sam Seepei**
**Chief Executive Officer**

**To:** **Wits School of Governance**

**Subject:** **Permission Letter for Monitoring and Evaluation Research**

Good Day,

This is to confirm that Mr Sitembiso Gamakulu who is currently the Employee of the Mining Qualifications Authority has been granted permission to conduct the research in partial fulfilment for the degree of Masters of Management (in the field of Public Sector Monitoring and Evaluation). The research will benefit the organisation in examining the importance and effectiveness of the monitoring and evaluation system as a management tool in implementing development interventions.

Sincerely,

**Sam Seepei**
**Chief Executive Officer**

# Appendix 4.1:

**Appendix 4.1: Sample of an Interview Transcript**

**Respondent 4:**

The fourth interview was conducted with the male Regional Operations Manager at the MQA Head Office and took one and a half hour. His number of years at the MQA is between 5 and 7 years and his age is between 31 and 35 years. His highest qualification is a Bachelor's Degree. After the formal greeting and introduction was done the actual interview session progressed as follows:

SG: Is there an M&E organisational structure at the MQA?
R4: Yes, there is.

SG: Are roles and responsibilities of M&E staff are clearly indicated?
R4: I would say partly because even though presentation on the M&E roles and responsibilities were done it still appears than most staff members still do not clearly understand these roles and responsibilities.

SG: Would you say the M&E unit is adequately resourced?
R4: (Emphasising) Not at all, because you there is always requests for assistance in such cases where learner verification visits have to be conducted.

SG: Has all M&E staff attended M&E related training in the past 2 years.
R4: (Pause) Other than those studying M&E related courses at Wits, I never heard any M&E staff member attending M&E related training.

SG: Do you know of any training plan for the M&E unit?
R4: This one is tricky because I don't work for the unit; however, what I know is that for all MQA staff members at the beginning of each financial year we have to prepare and sign Individual Development Plans that that encompass all the training needs of that particular staff member.

SG: Would you say there a dedicated M&E budget?
R4: Uhm!!!! What I know is that each MQA unit including the M&E unit has its administration budget to cater for such things as travelling and accommodation.

SG: In summary, what would you say are the strengths and weaknesses of the M&E organisational structure and capacity?

R4: I would say their strengths are that they have:

- Knowledgeable and skilled Specialists and Managers
- Most of M&E staff members have Auditing and M&E experience.

(Pause) Weakness in their structure and capacity are:

- Lack of knowledge of the MQA overall operational administration by most M&E staff members
- Lack of knowledge of the MQA MIS by most M&E staff member
- The M&E structure is small leading to them always seeking assistance especially when conducting learner verification visits.

SG: Having identified the strengths and weaknesses of the M&E structure and capacity, what can you recommend to strengthen the structure and capacity?

R4: Uhm!!!! My simple recommendation would be that there should be a comprehensive training in the MQA MIS and other Operations processes for all M&E staff members to assist them in better understanding the MQA MIS and other processes.

SG: Moving to the MQA's M&E processes and systems; are there M&E policies to guide the implementation of M&E functions at the MQA?

R4: Mostly, because I have access to the M&E Policy Framework.

SG: Would you say there are any standard reporting procedures used by the M&E unit?

R4: I would say mostly because not all M&E reporting procedures are standardised; however, whenever I assisted the M&E unit in conducting learner verification visits I prepare a report and all other M&E staff members do that.

SG: Do you know of any system used by the M&E unit in implementing their functions?

R4: Partly, although there is no documented M&E system, there are templates that are used to collect and report performance data every quarter.

SG: Can you provide me the strengths and weaknesses of the MQA's M&E processes and systems and recommend on how to strengthen these processes and systems?

R4: (Pause) What I have noted as strength is that there are policies and processes as well as a learner verification schedule in place.

Weaknesses that I have identified include:

- Lack of full capacity to carry out all learner verification visits
- Not all MQA staff members are aware of M&E reporting documents and processes.

I would recommend that the M&E unit conduct induction workshops continuous to all MQA staff members about their reporting processes and systems. In addition, the M&E unit should develop sample reports that they can discuss with other units.

SG: Have data collection and reporting forms or templates been developed by M&E?
R4: Uhm!!!! Yes, although not all data collection and reporting templates are standardised, some have been developed and were communicated by the M&E Manager and are currently used to collect data for the preparation of the quarterly performance report.

SG: Are there clearly indicated instructions on how to complete data collection and reporting forms?
R4: Let me think! Completely, instructions as well as training on how to complete data collection and reporting templates were provided to relevant MQA staff members.

SG: Are there clearly indicated data flow processes from Operations unit until data reach the M&E unit?
R4: Uhm!!!!Yes, although there is no M&E data management manual that is used to process and report data, there are clearly indicated processes on how data should flow from Operations to the M&E unit.

SG: Are there any clearly stated data processing steps when collecting, collating, analysing, reporting, and storing data?
R4: Again here, I would say mostly because although there is no M&E data management manual a formal communication was made by the M&E Manager.

SG: In the MQA's M&E data management and reporting processes what would you say are the strengths and weaknesses and what are your recommendations in strengthening the M&E data management and reporting processes?
R4: Tough one, but I will try. The strength would be the ability to manage data and conduct evaluations, whereas, as a weakness not all the MQA employees have access to such data,
My recommendation would be that the M&E unit should share lessons learnt from evaluations with the rest of the MQA staff.

SG: Let's talk about data quality assurance processes and systems; are data quality controls in place when data from paper-based forms are captured into a computer?
R4: Mostly, although there is no M&E data management manual there are processes and checklist used to guide such processes.
SG: Are all source documents and reporting forms available for verification and audit purposes?

R4: Uhm!!!! Partly, sometimes source documents are not easy to retrieve when required by both Internal Auditors and Auditor-General.

SG: We are almost there my brother; are there any national or international confidential guidelines used for data maintenance?
R4: No, I have not seen any M&E data management manual.

SG: What would you say are strengths and weaknesses of the MQA's data quality assurance and system?
R4: In summary the strengths are:

- Fully fledged record keeping
- The MQA is ISO accredited

My noted weaknesses are:

- Late submission of records by other units to M&E for validation
- The MQA does not always conform to ISO
- Lack of full capacity to carry out all learner verification visits

SG: Any recommendations to strengthen the MQA's data quality assurance and systems?
R4: Uhm!!!! I would recommend that:

- All the MQA employees should be mandated to follow ISO standards
- Disciplinary steps should be taken to employees not conforming to ISO

SG: The very last question. Are the MQA's reporting timelines harmonised with DHET's timelines?
R4: Completely, because it is a legislative mandate that the MQA has to comply with in order to exist. Moreover, from what I know is that the MQA always meet its deadlines.

SG: What are strengths and weaknesses of linkages between the MQA's reporting system and DHET?
R4: Uhm!!!!From my experience the strength is that:

- There are always physical records to back up what the system reports
- The MQA has got a dedicated Manager responsible for reporting its performance to DHET

What I have noted as a weakness is incomplete reporting because sometimes dates on records fall back to the previous reporting period due to late submission of supporting documents such as learnership agreements.

SG: Your recommendation to strengthen the linkages between MQA's reporting system and DHET.

R4: (Pause with a smile) I would recommend that the MQA through M&E send regular communiqués to the mining and minerals sector cautioning them about the impact of late submissions of learnership agreements to the DHET report.

SG: (In closing) Thanks a lot Mokgubi! We shook hands.