EXPLORING THE VALUE OF A PROJECT MANAGEMENT OFFICE IN AN ORGANISATION

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Declaration of authenticity

I declare that the research project, Exploring the Value of a Project Management Office in an Organisation, is my own work and that each source of information used has been acknowledged by means of a complete reference. This dissertation has not been submitted before for any other research project, degree or examination at any university.

[redacted]

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Muhammed Sha

04 March 2019

Pretoria, South Africa

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Acknowledgements

"We are what we repeatedly do. Excellence, therefore, is not an act but a habit."
(Aristotle)

This research project is the culmination of years of dedication and perseverance, in my quest for continued knowledge and learning. As is the goal of any learning experience, I have acquired knowledge, experience, and a renewed appreciation for the value that any learning brings. Naturally, this would not have been possible without the support of many people.

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With heartfelt gratitude

Summary

Although there is a significant body of literature that examines, in depth, the concept of a Project Management Office (PMO), it nevertheless remains a challenge for many organisations to understand and derive sustained value from the implementation of this office. Often, the question that arises is: what value, if any, can the creation of a PMO add to medium and large organisations?

Thus, the purpose of this study involves an exploration of the value of a PMO in an organisation, and guidelines to assist medium to large organisations in the implementation thereof, especially in cases where there is often a conspicuous absence of a PMO.

As a means of addressing the primary research question, this study investigates a series of secondary research questions (sub-questions) designed to highlight key challenges that can be addressed and/or benefits that can be realised by an organisation through the implementation of a PMO.

The research design is based on the concept of the research onion, commencing with the outer layer – the philosophy – and systematically moving towards the core of the onion – represented by the data collection and analysis. The study is based on an interpretivist philosophy, it follows an inductive approach, and a qualitative design is used as the methodology. A case study constitutes the research strategy, where interviews and observations are utilised as the chosen data collection instruments.

A method of triangulation – based on interviews, observations and relevant literature – serves as a means to verify and validate the data results. According to these results, there is a strong justification for the value that can be derived through a PMO. The findings in this study further provide guidelines that enable organisations to derive maximum value from the implementation of a PMO.

The scope of this study highlights that the concept of a PMO bears further investigation in order to continuously and rigorously improve the value that PMOs can contribute to the ongoing success of an organisation. Recommendations from the researcher as a result of issues identified during the course of the study in hand include further research on the effectiveness and efficiencies derived from a PMO once implemented in an organisation; investigating the PMO as a revenue-generating entity rather than a support entity within an organisation; and explorations to investigate any alternative project management methodologies that can be utilised in the execution of projects and programmes.

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PMO	Project Management Office
AMP	African Management Philosophy
WMP	Western Management Philosophy

Chapter 1: Overview

1.1 Introduction

Project management has been practised in some form or other for centuries; however, organisations only began implementing a more formal approach to this discipline in the mid-1950s (Azzopardi, 2006).

According to the Project Management Institute (2013:369), a Project Management Office (PMO) can be defined as follows: "[A]n organisational body or entity assigned various responsibilities related to the centralised and coordinated management of those projects under its domain."

Hobbs, Aubry and Thuillier (2008) state that as project management as a discipline has evolved over time, so too has the PMO. Even as the business landscape has evolved, the nature of projects undertaken by organisations has also developed and grown more complex. Consequently, organisations realised the need to develop a central support structure dedicated to the management of project portfolios (Meredith, Shafer, Mantel Jr & Sutton, 2016; Aubry & Hobbs, 2010).

The traditional PMO focused on the delivery of projects, programmes, and their governance, utilising traditional methods and techniques in the management of projects (Kerzner, 2018).

According to Hobbs *et al.* (2008), PMOs have been transformed in the dynamic world of business to offer great value to organisations. They are strategically aligned with the organisation's strategy and objectives, and they involve stakeholder management, benefits management, portfolio management, talent management, agile methodologies and project lifecycle management (Pinto, 2013; Hurt & Thomas, 2009).

In the world of business today, the only constant is change. Multi-national organisations and local organisations that have weathered the storm of recessions and economic turmoil have done so due to their ability to transform and adapt to constant change in their environment and industry (Hobbs *et al.*, 2008; Kerzner, 2003).

As noted by Hobbs *et al.* (2008) and Forrester (2013), organisations have evolved and transformed to mitigate the macro challenges that they face by transitioning and developing into a more flexible organisational form wherein projects hold more of a strategic importance. The strategic importance of projects has led to the development of a new organisational entity commonly known as the PMO.

The PMO provides project managers the leverage to interact across the entire spectrum of an organisation; they do not operate in a 'silo' or within a specific functional department. Project managers are exposed to emerging trends in various industries and can utilise the exposure and knowledge gathered to further enhance the value that the PMO can bring to the organisation (Hurt & Thomas, 2009; Hobbs *et al.*, 2008)

Stanleigh (2006) performed a study of 750 organisations globally to determine why they set up a PMO. Their responses included the following (in order of importance):

- Successful implementation of projects (82%).
- The re-usability of Project Management (PM) tools, techniques and processes (74%).
- Organisational efficiencies (66%).
- Creation of a project management-orientated culture (64%).
- Enhancement of staff professionalism in project management (48%).

The above evidence suggests that the role of the PMO is regarded as important and strategic in creating success in an organisation (Project Management Institute, 2013; Hill, 2004). Based on the findings reported by Stanleigh (2006), it was necessary to determine the value of a PMO at the time of the study.

1.1.1 PMO trends as identified in 2016

Organisations that are currently in the process of implementing (or that intend to implement) a PMO, should consider the latest trends with regard to PMOs globally.

According to Ten Six Consulting (2016), the following were identified as essential trends to observe in PMOs in 2016:

- Managing a PMO in the 21^{st} century.
- Building maturity in a PMO.
- Utilising data visualisation in the PMO.

These trends are also supported by the project success rates where PMOs have been implemented – as is discussed below.

1.1.2 Project success rates with the implementation of a PMO

Figure 1.1: Results from the Gartner 2010 survey – adapted from Gartner (2010)

The findings of the survey conducted by Gartner (2010) and depicted in Figure 1.1 are as follows:

- The success rate of projects by world-class organisations are approximately 90%.
- World-class organisations deliver business value at nearly triple the standard industry success rate.
- World-class organisations have based the success rate on successfully established PMOs.

PMOs have not been equally successful or well received in all organisations, because it is quite a challenge to measure the contributions that a PMO makes to an organisation's overall performance (Hill, 2004; Kwak & Dai, 2000).

Many researchers (Forrester, 2013; Singh, Keil & Kasi, 2009; Aubry, Hobbs & Thuillier, 2007; Kwak & Dai, 2000) identify common reasons for unfavourable views of the PMO office. For example, the PMO office is viewed as an overhead and an expense to the organisation. It is considered a further layer of bureaucracy that consumes resources and slows down the business, and the return on investment is difficult to justify.

Hobbs *et al.* (2008) agree that a PMO is regarded as a support function that does not contribute to the monetary value of the organisation. However, for the purposes of this the study, it is important to focus on an exploration of the value of a PMO in an organisation and guidelines to assist medium to large organisations in the implementation thereof.

1.2 Researcher's Perspective of This Study

The researcher is currently participating in the implementation of a PMO as part of a unit at the researcher's workplace. The researcher's position in this study is therefore that of a strong support for a PMO. The researcher believes – as argued by Sheaff (2012) and Aubry *et al.* (2007) – that a PMO can provide the following benefits/value to any organisation:

- Alignment of projects with the organisation's strategy and objectives.
- Alignment of project management processes with various business units and functional departments.
- Consistency when external stakeholders/client/customers interface with business units from multiple organisations.
- Improvement in the visibility of project status through standardisation of reporting mechanisms and utilisation of an enterprise-wide Project Programme Portfolio Management tool that allows for the aggregation of project status and financial data to programme and portfolio level.
- Improved governance, monitoring and controlling of projects, and improved project resource planning, especially for multi-disciplinary projects that make use of resources from multiple business units and functional departments.
- Improved risk management and mitigation, including the improved delivery of On-Brief, On -Budget, On-Time (OBOBOT) projects.
- Improved level of maturity of project management within the organisation and improved customer satisfaction through the successful delivery of project and business benefits.

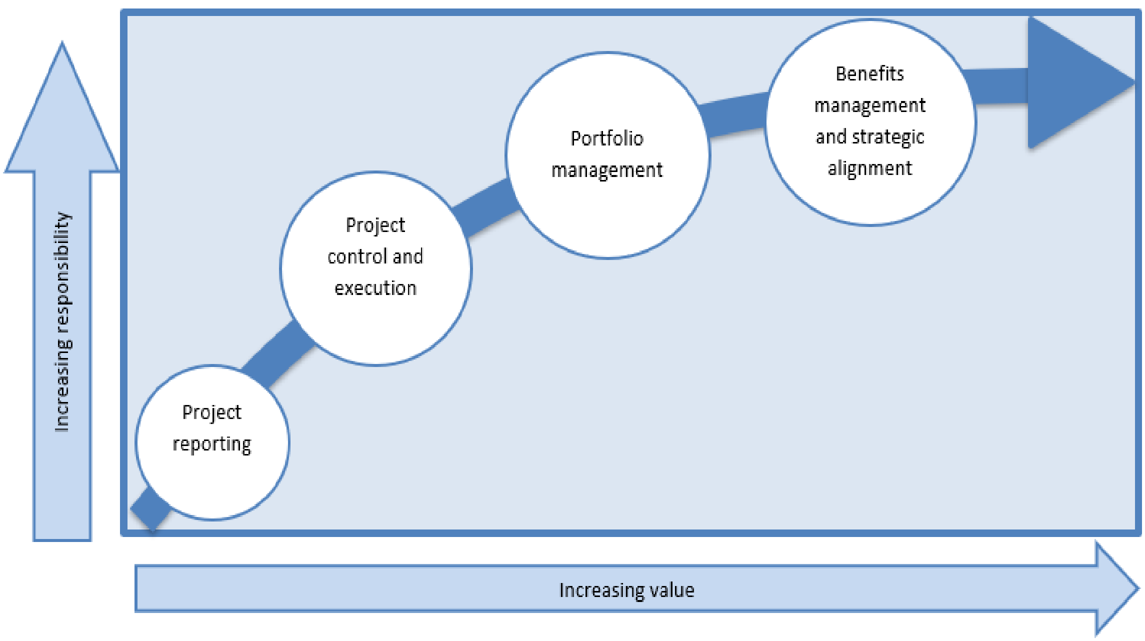

Figure 1.2: PMO value continuum – adapted from ESI International (2010)

According to ESI International (2010), the PMO value continuum clearly shows that the value a PMO adds to an organisation increases substantially when the PMO moves closer to the project-reporting (and higher) levels of involvement, because it is strategically aligned with the organisation's objectives.

ESI International (2010) also posits that interaction between the PMO and senior management is vital to realise what value the PMO offers the organisation in terms of strategic planning, managing benefits and business alignment.

1.3 Research Philosophy

According to Creswell and Clark (2017) the term 'worldview' relates to a fundamental series of beliefs and ideas that inform one's actions. A person's worldview is often based on past research experiences, discipline orientations and mentor preferences.

Creswell and Clark (2017) and Saunders and Lewis (2016) state that an interpretivist research philosophy is a suitable approach towards qualitative research. It allows a researcher to interact closely with the participants in the study and to understand their viewpoint and their reality. An interpretive approach recognises that there are multiple realities; therefore, the researcher decided to choose this approach for this study.

Hennink, Hutter and Bailey (2010) are interpretivists who believe that people's perceptions, as well as their varied backgrounds and experiences, contribute to their reality, and it is also informed by the broader social context in which they exist.

The interpretive approach recognises that there are multiple realities (Creswell & Clark, 2017). As stated earlier, the researcher decided to utilise the interpretive philosophy to conduct the research study in hand, as it would allow the researcher to interact directly with the study participants and thus understand and interpret their viewpoints and realities.

It was the researcher's intent to adopt an empathetic stance to understand, explore and describe the participants' viewpoint in this research study (Saunders & Lewis, 2016).

1.4 Research Approach

Creswell and Clark (2017) state that a research approach may be qualitative, quantitative, or mixed, depending on the researcher's worldview.

Saunders and Lewis (2016) in turn refer to two approaches to theory development – deductive or inductive – that can be adopted by the researcher, based on the latter's reasoning.

Inductive reasoning begins with observation and not with a pre-established truth or assumption. When adopting an inductive approach, researchers arrive at conclusions about classes or objects based on specific instances or occurrences (Saunders & Lewis, 2016).

In this study, the researcher approached the problem from an inductive reasoning perspective. The study also followed an interpretivist philosophy, which logically led to a qualitative design, and an inductive approach to theory development was applied as part of the case study. According to Creswell and Clark (2017), a qualitative approach to a research design allows the researcher to make use of participants' views to attach meaning to a phenomenon. Such an approach utilises various methods of data collection, including question/answer sessions, interviews, or surveys. Typically, such data is collected from within the participant's sphere of existence before it is analysed and a final report is written. Creswell and Clark (2017) postulate that this form of research is beneficial to identifying the participant's worldview, based on the participant's subjectivity.

1.5 Research Design and Methodology

According to Creswell and Clark (2017), research designs are types of inquiry within mixed methods, qualitative and quantitative approaches that provide a specific direction for the procedures in a research design.

The research design describes the theory of how the research study is to be conducted and the process to be followed. It incorporates the theoretical and philosophical assumptions on which the study is based and the methods adopted in the study (Saunders & Lewis, 2016).

According to Saunders and Lewis (2016), the research design process can be explained in terms of the research onion, which is used to describe different layers of the onion. The researcher has adapted the research onion as shown in Figure 3.2 to serve as the research design in this study. This is further discussed in Section 3.2.

This research study applied an interpretivist philosophy, with an inductive approach, and a qualitative design was used as the methodology. As a case study was utilised for this research study, purposive sampling as an example of non-probability sampling was applied. This is further mentioned in Section 3.2.5.

Interviews and observations were utilised as the chosen data collection instruments within the case study. The different sources of data collection were used to create a strong justification for the validity of the study.

The researcher furthermore utilised the QDA Miner Lite (2016) software as a tool to perform the data analysis, coupled with hermeneutics and the data analysis process suggested by Creswell and Clark (2017). (See Section 3.3.)

More detail on the research methodology can be found in Chapter 3.

1.6 Theoretical Framework for Conducting the Study

Theoretical frameworks are usually based on the propositional statements that result from existing theories (Saunders & Lewis, 2016). Furthermore, researchers often use theories to test explanations for answers to their research questions (Creswell & Clark, 2017).

As adapted from Creswell and Clark (2017), literature can be used in a qualitative study and its application in this study is indicated in Table 1-1:

Table 1.1: Using literature in a qualitative study – adapted from Creswell and Clark (2017)

Use of Literature	Application
• Literature frames the problem in the introduction to the study	• Applied in Chapter 1 and Chapter 2 of this research study
• A review of the literature is presented in a separate section	• Applied in Chapter 2 and Chapter 3 of this research study • Addresses SRQ-2 and SRQ-3
• Literature is presented at the end of the study • Literature is the foundation for comparing and contrasting the results of the study	• Applied in Chapter 3 (Data Integrity Processes)

Do Valle, E Silvia and Soares (2008) have identified benefits that a PMO can provide to an organisation, including:

- Standardisation of procedures, processes and methodologies.
- Contributions to the financial performance of the organisation by optimising effort and resources among the portfolio of projects and programmes.
- Effective communication that creates an environment for integrated planning and control among the portfolio of project and programmes.

1.7 Problem Statement

According to Creswell and Clark (2017), the sources of research problems are various; a research study is often triggered by a research problem.

Various project management challenges and inconsistencies prevail in organisations. According to Bates (1998) and Block and Frame (1998), these include the following:

- No or minimal alignment of projects with the organisation’s strategy.
- Non-standardised project management processes and procedures.
- Non-standardisation of project methodologies.

- Lack of professional domain support.
- Lack of communication and synergies between business units and functional departments within the organisation.
- Lack of a centralised repository for project management knowledge.
- Difficulty with resource manageability.

The problem this study intends to address, involves guidelines to assist medium to large organisations in deriving value from the implementation of a PMO, and particularly within the organisation of choice in the case study.

PMO initiatives are increasingly becoming the programmes of choice of most successful organisations.

1.8 Research Aim

The purpose of this study involves an exploration of the value of a PMO in an organisation, and guidelines to assist medium to large organisations in the implementation thereof. Problems continue to prevail in medium to large organisations when there is a conspicuous absence of a PMO.

1.9 Research Questions and Objectives

The primary or main research question that drives this study was formulated as follows:

How can value be derived by an organisation based on the implementation of a PMO?

In order to address the main research question, the researcher identified three key sub-research questions (SRQ) that need to be answered:

- Sub-research question 1 (SRQ-1): What are the primary challenges that organisations face in implementing a PMO office?
- Sub-research question 2 (SRQ-2): What value (if any) will the implementation of the PMO office add to organisations?
- Sub-research question 3 (SRQ-3): How should a PMO be strategically aligned with the organisation's objectives?

The sub-research questions outlined above aim to achieve the following objectives:

- Investigate/explore the available literature to determine the primary challenges facing a PMO office.
- Determine the stages of maturity in the implementation of a PMO, as well as the role and functions of a PMO as it evolves in line with the strategic objectives of the organisation.

- Identify the specific medium to large organisation in which to conduct a case study that will address the purpose of this research.
- Conduct the case study research in the medium to large organisation to ascertain what value can be derived through the creation of a PMO within this type of organisation.
- Understand the challenges, limitations and problems that organisations experience when implementing a PMO.

1.10 Limitations and Scope

According to Yin (2017), any research study will have some shortcomings.

One of the limitations that the researcher envisaged in this study was that it would be based on a single case study in a single medium to large organisation based in one province (Gauteng) in South Africa (See Section 5.7 and 3.2.4.3).

A further limitation was identified as the lack of literature that exists on PMOs seen from a South African perspective. (See Section 5.7 for more detail about the shortcomings of this study.)

1.11 Ethics

Williams (2000) states that ethical clearance refers to a number of nationally and internationally recognised principles that provide guidelines to a researcher on how to conduct research in an ethical manner.

Ethical aspects need careful consideration to ensure the protection of the rights of study participants. A participant's rights should not be comprised by or during the research study.

According to Williams (2000), participants should have the right to

- request all information remain confidential;
- not participate in the research study;
- opt out of the study at any time; and
- provide informed consent to take part in the study.

The participants were alerted to the above rights and they were required to verbally and in signature acknowledge their understanding of their rights, before their involvement in the research study commenced.

An ethical clearance certificate was obtained from the Da Vinci Institute. Evidence of ethical approval can be found in Appendix B.

1.12 Dissertation Structure

- Chapter 1 – Introduction

Chapter 1 provides an overview of the study, including an introduction, background, and context to the research. This chapter also includes the purpose, problem statement, and research questions.

- Chapter 2 – Literature Review

Chapter 2 discusses important literature that covers the significant aspects of the research topic and questions.

- Chapter 3 – Research Methodology

Chapter 3 presents a thorough description of how the research was conducted, including the research methodology and design followed in the study.

- Chapter 4 – Data Analysis and Research Findings

Chapter 4 offers the raw data collected by means of the data collection process, as well as through interviews with participants in the case study and from observations and supporting literature. This chapter also focuses on the analysis of the data and presents all the themes identified through data analysis.

- Chapter 5 – Synthesis of Findings, Discussion, Conclusion, Limitations and Recommendations

Chapter 5 summarises the researcher's findings based on the results of the research and data analysis. This is followed by conclusions and recommendations.

1.13 Conclusion

This chapter focused on introducing the research and on establishing the context and purpose for the study. The researcher also presented the primary and secondary questions for the study.

Next, Chapter 2 presents crucial literature that the researcher used to answer the research questions identified in Chapter 1.

Chapter 2: Literature Review

2.1 Introduction

This chapter discusses the literature that was reviewed to address the primary research question posed in this study, namely how organisations can derive value based on the implementation of a PMO. The researcher further conducted research to answer the sub-research questions as listed in Section 1.9 and below. By answering these sub-research questions, the researcher tried to provide guidelines for organisations to gain value from the implementation of a PMO as a practical contribution of this study.

Chapter 2 begins with the various definitions of a PMO, a high-level overview of project management's role within an organisation, followed by the need for a PMO in an organisation. The researcher also presents literature pertaining to the research sub-research questions, namely:

- SRQ-1: What are the primary challenges that organisations face in implementing a PMO office?
- SRQ-2: What value (if any) will the implementation of the PMO office add to organisations?
- SRQ-3: How should a PMO be strategically aligned with the organisation's objectives?

In conclusion, the researcher summarises the findings presented in this literature review.

2.2 Definition of a PMO

Various definitions of a PMO are proposed in the literature. For instance, the Project Management Institute (2013:10) describes a PMO as follows: "…a management structure that standardizes the project-related governance processes and facilitates the sharing of resources, methodologies, tools, and techniques. The responsibilities of the PMO can range from providing project management support functions to actually being responsible for the direct management of a project."

A PMO is the central management entity that manages, controls, guides and implements projects. It serves to provide support functions to project teams, to organisational management, and to project managers (Aubry & Hobbs, 2010).

A PMO is also responsible for various functions, including the supply of specialised resource skills; risk management; the compilation of a project knowledge repository and dissemination of the information therein; provision of support in project management processes and procedures; and project planning (Bassi, Vigato, Buffoni, Bonetti, LuciaSwitzerland & Vaccargiu, 2018; Santos & Varajão, 2015; Marsh, 2000).

The PMO serves as a fundamental unit of overall project oversight within the project management environment. It provides the platform for ensuring that project management principles and practices are applied to all projects (Hill, 2013).

Some authors (Desouza & Evaristo, 2006; Shenhar, 2001) argue that there exists no universal definition of a PMO, and that every successful PMO developed by any organisation is subject to customisation and continuous effort. Since there is no blueprint for establishing a PMO (Desouza & Evaristo, 2006), the establishment of a PMO is dependent on the nature, size and structure of the organisation involved. However, one of the main criteria for establishing a successful PMO is to ensure that the structure is closely aligned with the corporate culture of the organisation (Desouza & Evaristo, 2006). According to Desouza and Evaristo (2006), effective PMOs yield quick improvements and continuously strive to enhance the performance of project teams.

Dai and Wells (2004) state that a PMO is regarded as an organisational entity that focuses on assisting and providing guidance to organisational management, project managers and project teams on strategic issues in the implementation of project management tools, techniques, methodologies, principles and practices (as indicated in Chapter 1).

The PMO forms the nucleus for project management implementations across the organisation and plays a supporting role in the application of effective project management tools and techniques (Kwak & Dai, 2000).

There are also different terms to describe a PMO. Some researchers refer to a PMO as a project office (Project Management Institute, 2013; Kerzner, 2009); a project support office (Kwak & Dai, 2000); a centre of excellence (Hill, 2004; Kwak & Dai, 2000); or a centre of expertise (Dai & Wells, 2004).

A project office is developed within an organisation to support project managers in the execution of their duties and responsibilities. Good relationships among the project office personnel, functional managers and personnel working on projects are essential (Kerzner, 2009).

A PMO serves as a support function for all the projects implemented in an organisation (Meredith *et al.*, 2016; Aubry & Hobbs, 2010). The PMO may act as a centralised repository for project resources, where technical resources are provided by functional departments. The PMO is responsible for budgeting, scope management, governance and risk management activities (Meredith *et al.*, 2016).

For the purpose of this research, the researcher elected to accept the following definition of a PMO as stated by the Project Management Institute (2013:10): "…a management structure that standardizes the project-related governance processes and facilitates the sharing of resources, methodologies, tools, and techniques. The responsibilities of a PMO can range from providing project management support functions to actually being responsible for the direct management of one or more projects.”

The researcher’s decision to adopt this definition was due to the fact that it was geared towards medium to large organisations; it aligned well with the researcher’s work environment and with the PMO applicable to this study.

2.3 The Role of Project Management in Organisations

Many organisations invest large amounts of money and resources in projects, in the hope that a successful outcome will ensure great returns on their investment in the form of profit, greater efficiencies, and a competitive advantage. However, in spite of huge investments, many organisations fail to reap the desired benefits (Project Management Institute, 2013).

A common issue surrounding programmes and projects within organisations are conflicts between project and programme managers, executives and other key stakeholders regarding project management, budgets and deadlines. Difficulties arise due to disagreements about how and where to assign resources, how tasks should be scheduled, etc. Combined, these issues have a negative impact on project performance (Kendall & Rollins, 2003). Statistics indicate that approximately 50% to 80% of all projects fall short and do not yield the desired outcomes or objectives (Desouza & Evaristo, 2006). Studies that are more recent indicate that approximately 19% of projects fail, 29% are successful, while the remaining 52% are considered challenged (Hastie & Wojewoda, 2015).

The widespread failure to achieve the desired outcomes and objectives is further exacerbated by projects not being delivered on time, on budget and in line with the client’s requirements. An inability to reuse information or lessons learnt from previous projects, coupled with a reluctance to share or disseminate knowledge throughout the organisation, are two of the main reasons why projects do not succeed. Other reasons include a lack of management support and buy-in; a lack of functional user involvement; inadequate adherence to proper project governance frameworks; lack of processes around conceptualisation and execution, which include flawed assumptions about what technology can and cannot accomplish (Ramadani, Kurnia & Breidbach, 2018; Zheng, Hatakka, Sahay & Andersson, 2018; Desouza & Evaristo, 2006).

From a global perspective, organisations situated across different industries, and varying in size, are eager to become more competitive in their market by looking at ways to enhance and improve their systems and processes. These organisations are establishing project management as a core competency and as a way of becoming more competitive (Bolles, 2002). Based on an analysis of the Standish Group’s CHAOS Report for 2015, some factors contributing to the success of organisations include executive sponsorship, emotional maturity, user involvement, and skilled resources (Hastie & Wojewoda, 2015).

In an attempt to improve the management of projects, and their performance, organisations rely on the use of project management as a practice. One of the roles of project management is to enforce discipline in terms of project governance and standardisation, and increase visibility of projects to stakeholders within the organisation (Fernandes, Ward & Araújo, 2015).

In order to realise the benefits of project management as a practice, organisations need to ensure that implementation of project management is the synchronization of the "hard" and "soft" components. The "hard" components include the project management process, training and tools and techniques, as well as knowledge management. The "soft components include organisational learning, change management, the creation of project management awareness (culture) and general project management systems that focus on project performance. These components aid in improving standards and guidelines, project management competencies and helps to develop awareness of the projects managed within the organisation (Fernandes *et al.*, 2015).

2.4 Need for a PMO

The need for a PMO results from an increase in the number of complex and demanding projects being undertaken across the business world (Aubry & Hobbs, 2010). Furthermore, the challenges described in Section 2.3, combined with a lack of coordination between parties concerned, have motivated organisations to establish a Project Management Center of Excellence (PMCoE) or PMO (Bolles, 2002).

PMOs are becoming especially prevalent in industries that handle high-risk, high-cost projects. These include Information Technology (IT), telecoms, defence and aerospace industries (Desouza & Evaristo, 2006). However, some industries have reservations about the establishment of a PMO, for example the building and construction industries, where serious questions remain about the value that can be added to these areas, especially in terms of project performance and outcomes (Engwall & Jerbrant, 2003).

According to Cranfield University School of Management (2013), approximately 70% of organisations currently have a semblance of a PMO in existence. However, these PMOs experience varying degrees of success. Organisations are incentivised to maintain a PMO for numerous reasons: to reduce the risk of project failure and increase the chances of business success; to ensure maximum return on investment; to make efficient use of resources; and to utilise resources effectively across a range of projects and programmes (Project Management Institute, 2013). In addition, PMOs enable organisations to monitor performance, serve as a source of training and knowledge, and provide a standard of governance against which to manage projects (Salameh, 2014).

From a business standpoint, executives determine the need for a PMO based on the value that this entity can offer executives in terms of achieving targets on which they are measured. According to Kendall and Rollins (2003), executives will embrace the implementation of a PMO if it is capable of delivering the following:

- Ensuring the successful completion of a greater number of projects.
- Ensuring that projects are successfully completed in a shorter period.
- Contributing to the bottom line of the organisation.
- Assisting executives in meeting their objectives.

2.5 Functions of the PMO

The aim of a PMO is to provide ongoing support and ensure the success of projects and programmes in an organisation. The underlying key to the success of the PMO is to ensure proper alignment with the organisation's goals, strategies and objectives (Project Management Institute, 2013; Kerzner, 2009).

Organisations need to clearly define the functions and roles of their PMOs. According to Reddy and Priyadarshini (2016), PMOs can take responsibility for various functions, including the maintenance of a centralised set of standard processes and procedures with which to govern programmes and projects; and the establishment of a centralised set of project management tools and support services. The PMO also ensures that proper project management standards, risk management and governance frameworks are adhered to. It serves as a central repository for knowledge, resources and project management tools (Reddy & Priyadarshini, 2016).

According to the Project Management Institute (2013), PMOs can take on various functions based not only on the type and scope of the organisation, but on the type and scope of the PMO itself. Table 2.1 presents the key roles and functions that a PMO can perform, as identified by Salamah and Alnaji (2014).

Table 2.1: Key roles and functions of a PMO – adapted from Salamah and Alnaji (2014)

Function	Description
Standards, Methodologies, and Processes	A PMO focuses on the standardisation of project management methodology, processes and procedures.
Project/Programme Delivery Management	A PMO provides the following services: project resource management; project schedule, cost and scope management; project risk management; stakeholder management; and communication management.
Portfolio Management	A PMO is responsible for portfolio management, which includes project prioritisation, strategic alignment and portfolio reporting. It also allocates resource management according to project prioritisation, which is aligned with the organisation's strategic prioritisation objectives.

Function	Description
Talent Management	A PMO supports training, career path development and capability, as well as skills development for resources within the PMO.
Governance	A PMO provides a governance framework for all projects and programmes within an organisation.
Administration and Support	The PMO provides an administration and support function that includes project management tool provisioning, and implementation support. It also engages in a consulting role for proof of concepts and contracting.
Knowledge Management	A PMO defines knowledge-management policies and manages intellectual collateral and property, lessons learned, content management, and collaboration.

In addition to the roles and functions identified in Table 2.1, Hill (2013) identifies five areas that a PMO can be categorised into, based on its function:

1. **Practice management:** Lays the foundation for project management activities within a collaborative project management environment. Practice management includes the development of project management processes, practices and project management tools; and the definition of standards and metrics. It also aims to develop and manage the PMO's project archives and provide a reference library for project teams.
2. **Infrastructure management:** Establishes project management as a professional discipline in the organisation. It includes analysing the project management environment's as-is state with a view to moving towards a future desired state. In this regard, infrastructure management involves the development of policies and standards to assist the PMO in achieving functional maturity. Emphasis is placed on defining project structures and obtaining stakeholder support to achieve project objectives.
3. **Resource integration:** Takes responsibility for resource management, including ensuring the capability and availability of team members. Collaboration with resource managers is essential to ensure proper acquisition, training, support and management of project managers and team members.
4. **Technical support:** Utilises the skills of experienced project management resources to mentor and develop project managers and team resources. Plays a support, audit and planning role in all projects managed within the project management environment.
5. **Business alignment:** Ensures that initiatives within the project management environment are aligned with the organisation's business objectives. This functional category manages the organisation's project portfolio to ensure that projects contribute towards business performance.

The five functional categories described above can be broken down further into 20 project management functions, as identified by Hill (2013) in Table 2.2.

Table 2.2: Twenty functions of a PMO grouped according to the five functional categories – adapted from Hill (2013)

Capability	PMO Functions
Practice Management	1. Project management methodology 2. Project knowledge management 3. Project management tools 4. Standards and metrics
Infrastructure Management	5. Assessment 6. Project governance 7. Organisation and structure 8. Facilities and equipment support
Technical Support	9. Project auditing 10. Project recovery 11. Planning support 12. Mentoring
Resource Integration	13. Resource management 14. Career development 15. Team development 16. Training and education
Business Alignment	17. Project portfolio management 18. Business performance 19. Vendor/contractor relationships 20. Customer relationships

Based on the research of Salamah and Alnaji (2014), and coupled with the 20 functions of a PMO as identified by Hill (2013), the researcher believes that as an organisational unit the PMO has the capability to provide the organisation with a range of functions. The range and scope of functions identified serve to entrench the idea of the PMO as an indispensable unit that proffers value to the organisation in terms of meeting its business objectives.

2.6 Levels of a PMO

The roles and functions of the PMO can be described at three distinct levels: operational, tactical, and strategic (Desouza & Evaristo, 2006).

Table 2.3 presents an overview of the different levels at which a PMO can be implemented in an organisation.

Table 2.3: Levels of a PMO – adapted from (Aubry & Hobbs, 2010; Desouza & Evaristo, 2006; Hill, 2004)

Level	Definition	Function
Operational	At operational level, the PMO provides basic project support on a project-by-project basis, and ensures adherence to basic project management principles	• Conducts project evaluations • Integrates knowledge derived from projects • Monitors customer satisfaction
Tactical	At tactical level, the PMO provides support across multiple projects and manages cross-project dependencies	• Integrates different project initiatives • Integrates resources across different projects • Ensures consistent quality of products and services generated by projects • Supports knowledge sharing
Strategic	At strategic level, the PMO utilises a combination of operational and tactical methods, while ensuring that project initiatives are aligned with organisational objectives	• Ensures alignment with organisational strategic objectives • Aligns with the strategic growth of the organisation • Supports efficient and effective knowledge management

The different levels at which the PMO functions within an organisation, and its role and function, should be determined by the type of organisation and by its objectives in implementing a PMO (Hubbard & Bolles, 2012; Aubry & Hobbs, 2010). There is no unique approach to be followed when implementing a PMO (Hubbard & Bolles, 2012; Desouza & Evaristo, 2006; Shenhar, 2001). This argument is based on the understanding that while the fundamental role that a PMO plays in an organisation remains the same across industries and regions, it evolves in line with the changing needs of the organisation concerned. The role of the PMO is also adjusted in keeping with its organisational context and the governance structure it is subject to (Hubbard & Bolles, 2012; Desouza & Evaristo, 2006; Shenhar, 2001).

2.7 Positioning of Different Types of PMOs

PMOs can be classified in different ways. Some are categorised as broad functional groups (Hill, 2013; Aubry *et al.*, 2007; Dai & Wells, 2004), while others are considered important due to the central role they play in developing an organisation's project management infrastructure (Hill, 2013).

According to (Hubbard & Bolles, 2015), the various types of PMOs can be grouped into seven different model categories. The type of PMO chosen is based on organisational preference and the role it is expected to play in project management endeavours within the organisation. It is not subject to a particular standard or governance structure. Furthermore, the type of PMO is determined by the type of organisation (Hubbard & Bolles, 2015).

Table 2.4 illustrates the relative position of the seven types of PMOs within a large organisation.

Table 2.4: Types of PMOs in an organisation – adapted from Hubbard and Bolles (2015)

Position of PMO and Business Focus	Managerial Focus	Common Titles Used
Project Support Organisation (PSO) (Administrative)	• Administrative support of one or more non-complex projects.	Project Support Office
Project Office (Operational)	• Provides direct support of a single non-complex project. • If authorised, manages the project.	Project Office
Project PMO (Operational)	• Provides management of a single, large, and complex project, where the success or failure may affect various areas of the organisation.	Project Management Office
Business Unit PMO (Operational)	• Provides project management across the Business Unit. • Manages projects and programmes. • Oversees Project PMOs, Project Offices, and Project Support Organisations.	Programme Management Office Project Management Office
Division PMO (Tactical)	• Provides project management across divisions. • Manages Project Portfolio(s). • Manages Project Programmes as required. • Oversees Business Unit and Project PMOs.	Portfolio Management Office Project Portfolio Management (PPM) Office Programme Management Office

Position of PMO and Business Focus	Managerial Focus	Common Titles Used
Enterprise PMO (Strategic)	• Provides enterprise-wide project management. • Ensures project work is congruent with the purpose, vision and mission of, and with the strategic business plan across the enterprise. • Oversees Division and Business Unit PMOs. • Operates as a Project Management Centre of Excellence.	Enterprise Project Management Office Portfolio Management Office Project Portfolio Management (PPM) Office Corporate Project Management Office
Project Management Centre of Excellence (PMCoE) (Methodology)	• Establishes and implements project business management standards, methodology, practices, tools, templates, education, training and project management competency on an enterprise-wide, division, business unit, or project basis.	Corporate Centre of Excellence

While the types of PMOs listed in Table 2.4 provide a different focus and function, and can be implemented in various ways, the most influential are those that are positioned strategically at a corporate level within the organisation. Positioning a PMO strategically within the organisation is of great importance in inculcating project management disciplines and best practices across the organisation (Hubbard & Bolles, 2015; Bolles, 2002).

2.8 Evolution of the PMO Framework

According to Hill (2013), the role and function of a PMO evolves in line with the PMO's level of maturity, and in line with the organisation's maturity in the domain of project management. A competency continuum can be used to demonstrate the five stages through which a PMO progresses as it achieves different levels of functional capability (Reddy & Priyadarshini, 2016; Hill, 2013). The stages are identified as follows: the Project Office, the Basic PMO, the Standard PMO, the Advanced PMO, and the Centre of Excellence.

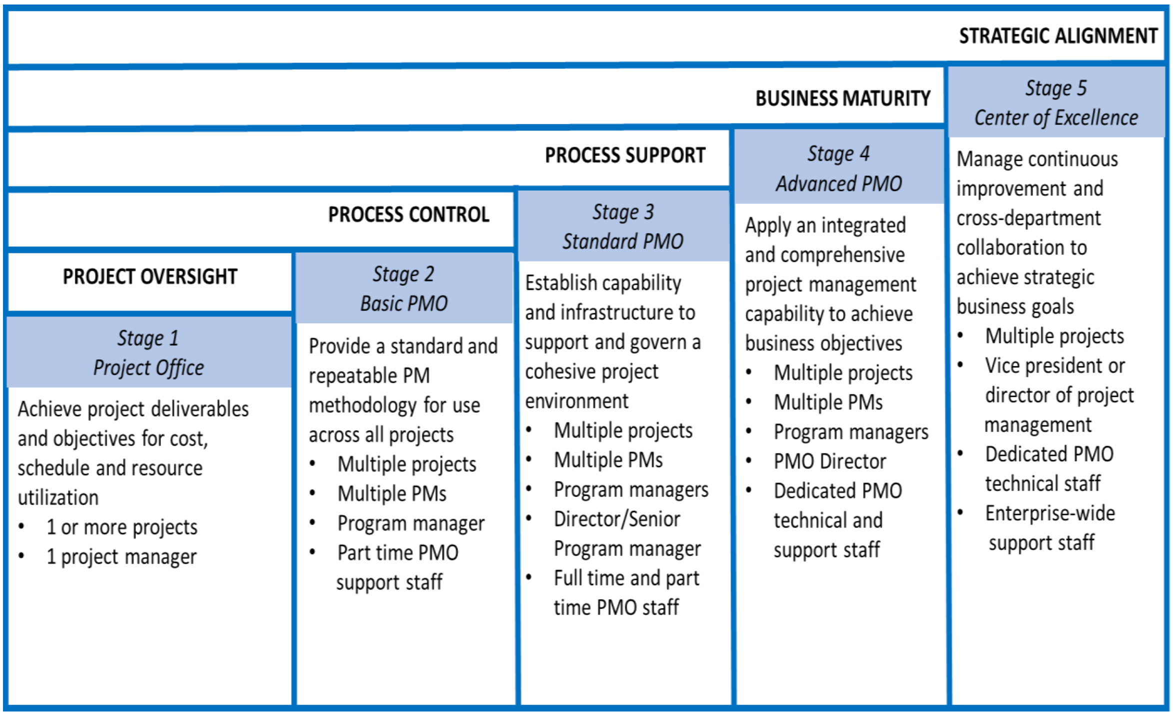

Figure 2.1: PMO capabilities across the PMO competency continuum – adapted from Hill (2013)

Each of the five stages will now be discussed in more detail.

2.8.1 The Project Office

As a Project Office, the PMO oversees the project environment in terms of the execution and completion of programmes and projects under the leadership of a project manager (Reddy & Priyadarshini, 2016; Hill, 2004). The role of Project Office is to ensure consistent applications of specified project management principles and practices.

Hill (2013) identifies the following project management activities that are the responsibility of the Project Office:

- **Application of modern project management principles and techniques:** The Project Office, under the leadership of the project manager, ensures the successful execution of projects and programmes, in line with project objectives. The Project Office also monitors all budget, schedule and resource constraints associated with projects and programmes. By monitoring these constraints, the Project Office is well-positioned to analyse and troubleshoot issues before they escalate.
- **Application of organisation-specific policies, standards and executive decisions in projects:** The Project Office is responsible for executing projects and programmes that are in line with the organisation's policies and procedures. It also ensures that business processes are implemented within the project management environment.
- **Facilitation of technical performance and project management methods:** The Project Office often oversees projects of a highly technical nature. As such, it is the

Project Office's responsibility to ensure that project teams are able to execute projects that are technically complex, whilst functioning within the boundaries of the project management environment.

- **Provision of project and technical oversight:** The Project Office is responsible for the implementation of technical and non-technical methods and procedures that have been mandated by higher-stage PMOs in the organisation.

The Project Office serves as an implementer within the project management environment. It does not possess programme level authority and therefore has no impact on the organisation from a strategic perspective (Reddy & Priyadarshini, 2016; Hill, 2013). However, for a Project Office to achieve optimal project oversight capability, Hill (2013) recommends that the Project Office examines its role in terms of the competency stages set out in Figure 2.1.

2.8.2 The Basic PMO

As the Project Office progresses along the competency continuum, it evolves into a Basic PMO (Reddy & Priyadarshini, 2016; Hill, 2013). At this stage, the Basic PMO is capable of overseeing and controlling multiple projects simultaneously. The Basic PMO may also be referred to as the Programme Office in certain industries (Reddy & Priyadarshini, 2016; Hill, 2013).

Within this stage, the Basic PMO functions as the highest centralised authority of project management. Organisations may also implement several Basic PMOs within the organisation, where each PMO functions under the leadership of its own programme manager. However, for each Basic PMO to achieve optimal capability, it should fall under the leadership of a designated programme manager (Hill, 2013).

The Basic PMO is staffed minimally, although it has the potential to change when given the appropriate resources and organisational support. With the appropriate resources and organisational support, the Basic PMO should be able to achieve maximum competence within a year (Hill, 2013).

Hill (2013) identifies the following activities that the Basic PMO executes as part of its normal functions:

- Standardising of project management approaches across the organisation, including the implementation of common tools, methods and procedures.
- Execution of project reporting and analysis, and responding to project variations so as to achieve project objectives and evaluate project performance and project managers.
- Grounding project management as a recognised discipline within the organisation by providing standardised methodologies, frameworks, roles and responsibilities under the management of qualified project managers and project teams.

In the execution of the activities described above, the Basic PMO ensures that the project environment is realised as a professional discipline within the organisation (Reddy & Priyadarshini, 2016; Hill, 2013).

2.8.3 The Standard PMO

At Stage 3 of the capability continuum, the Standard PMO provides an enhanced supportive function. Emphasis is placed on individual and project performance, and the PMO is now responsible for a range of areas, including the management of multiple projects and project managers (Reddy & Priyadarshini, 2016; Hill, 2013).

According to Hill (2013) and Reddy and Priyadarshini (2016), the Standard PMO can be developed as part of the natural evolution from a Basic PMO, where an organisation is seeking to enhance its existing project management capability. Optionally, the Standard PMO can be implemented as an organisation's initial effort to establish a project management office as a core business competency. In this regard, the Standard PMO will still include the basic functionality provided by a Basic PMO.

The Standard PMO operates with minimal staff. However, staffing needs can be addressed as the Standard PMO increases its functions and assumes more responsibility. With appropriate resources and executive support, a Standard PMO should achieve full maturity within three years (Reddy & Priyadarshini, 2016; Hill, 2013).

Hill (2013) identifies various activities of a Standard PMO: it serves as a central hub for project management support; facilitates interaction between the business and project environments; ensures project management excellence; serves as a liaison between the project management environment and members of executive management; and it influences the resource allocation to projects. Furthermore, a Standard PMO is responsible for ensuring that the project management environment accommodates the 20 PMO functions that were identified in Table 2.2 (Hill, 2013). The purpose of each capability with a PMO function is to enhance business value and optimise the project management environment. However, implementation of all 20 functions within a single PMO is not necessary (Reddy & Priyadarshini, 2016; Hill, 2013).

2.8.4 The Advanced PMO

As the Standard PMO evolves, it transforms into an Advanced PMO that already possesses the basic PMO capabilities present in the project management environment. This evolutionary process takes place within two years of the establishment of the Standard PMO capability. The Advanced PMO serves to integrate common business practices and objectives with project management practices and objectives (Reddy & Priyadarshini, 2016; Hill, 2013).

According to Hill (2013), the Advanced PMO assumes the role of an independent business unit that utilises its own funding in providing project management best practices, processes, principles and governance. The Advanced PMO collaborates with other business units in order to achieve project management and business best practices.

The Advanced PMO is staffed with highly qualified, skilled project resources who possess the necessary knowledge and business acumen to implement advanced solutions within the project management environment (Reddy & Priyadarshini, 2016; Hill, 2013).

The 20 PMO functions identified by Hill (2013) in Table 2.2 should be re-evaluated and integrated in line with the Advanced PMO's increased capabilities and functions to derive maximum efficiencies within the business operations.

2.8.5 The Centre of Excellence

As it reaches full maturity, the Advanced PMO transforms into a separate entity known as the Centre of Excellence. This evolutionary process can be realised within two years of the Advanced PMO having reached full maturity. However, this entity can also be developed as an independent unit to provide strategic guidance and support to lower-level PMOs who report to the Centre of Excellence and are aligned with its business practices (Reddy & Priyadarshini, 2016; Hill, 2013).

The Centre of Excellence operates under the leadership of a senior executive who reports to the organisation's chief executive officer (CEO). It is responsible for enterprise-wide project management operations and places a key focus on strategic business activities (Reddy & Priyadarshini, 2016; Hill, 2013).

Hill (2013) identifies several activities of the Centre of Excellence: it provides management guidance for enterprise-wide project management operations; serves as a representative of the project management environment across all business units; increases stakeholder awareness and relationships; and performs research on project management environment functions and business effectiveness. Hill (2013) further suggests that the 20 functions identified in Table 2.2 should be further examined and adapted in line with the evolving needs of the Centre of Excellence and subordinate PMOs.

Hill (2013) argues that the PMO may be considered a business integration activity, where organisations need not evolve to Stage 5 of the continuum in order to achieve their organisational objectives. In addition, the likelihood that any individual PMO will implement all 20 functions is unlikely; rather, PMOs will make adaptations and adjustment to their functions based on the organisation's requirements (Hill, 2013).

The level of maturity of the case study organisation (used in this study) is indicated and discussed in Chapter 4 (Section 4.6).

2.9 Challenges Encountered When Implementing PMOs

In theory, the main goal of a PMO is to provide guidance, management, governance and support to an organisation in the management of its projects and programmes (Aubry & Hobbs, 2010). Unfortunately, the vast majority of PMOs never achieve their desired objectives or they simply fail to deliver results (Reddy & Priyadarshini, 2016). According to Reddy and Priyadarshini (2016) and Desouza and Evaristo (2006), more than 50% of PMOs fail within the first four years of inception. The core reason for this failure is an unclear definition of the PMO within the organisation, where its role and functions have not been clearly defined, or they have not been aligned with the organisation's objectives. Thus, a lack of direction and clear objectives is the major cause of PMO failure (Reddy & Priyadarshini, 2016; Aubry & Hobbs, 2010).

Singh *et al.* (2009) identified a rigid organisational culture – where stakeholders are resistant to the idea of change – as one of the key challenges facing organisations when implementing a PMO. This challenge is most often realised with the absence of a PMO champion who demonstrates the value that the PMO can offer the organisation as a means of obtaining buy-in from executives in the organisation. Such a champion is needed to drive the implementation process and obtain support from key stakeholders and leaders. Singh *et al.* (2009) state that organisations require the mind-set of their people to change and embrace an organisation that is centred around project management.

The absence of an experienced programme manager is also a challenge (Salamah & Alnaji, 2014; Singh *et al.*, 2009). This individual is responsible for hiring qualified and experienced project managers and core team members as part of the PMO team. The programme manager understands the culture and dynamics of the organisation, which helps to reduce conflict and resistance to the implementation of the PMO.

Many organisations fail to implement a flexible change management strategy while they are in the process of implementing the PMO (Salamah & Alnaji, 2014; Singh *et al.*, 2009). This is a key requirement to ensure continued buy-in and support from across the organisation.

Standardised processes and procedures should furthermore be introduced when implementing a PMO to ensure the consistent use of methodologies and tools (Salamah & Alnaji, 2014; Singh *et al.*, 2009).

According to Aubry and Hobbs (2010), a key reason for PMO failure is the lack of its alignment with the organisation's strategic objectives. Organisations have to cope with various universal challenges when implementing strategic PMOs (Forrester, 2013). For instance, they experience resistance to organisational change, where project managers, executives and staff view the PMO as an unnecessary bureaucratic structure that only increases overhead costs (Forrester, 2013; Singh *et al.*, 2009; Hobbs, 2007). It is argued that a crucial obstacle to realising the potential of the PMO is an organisational mind-set that views the PMO as an added cost to, rather than as an investment in its projects (Englund, Graham & Dinsmore, 2003).

Another challenge is the inconsistent evaluation of project management expertise, due to an inadequate understanding on the part of organisational leaders of the function and demands of the project management discipline (Forrester, 2013).

Organisations also fail to assess the capabilities of project managers within the PMO, where project managers lack a clear understanding of the role of each stakeholder within the project (Forrester, 2013). This results in unclear communication between the PMO and project stakeholders, which is detrimental to the execution and success of the project (Forrester, 2013; Hobbs, 2007).

Finally, within the context of the management of a project in a PMO, different stakeholders, including technical, non-technical and business management resources, have different levels of understanding of PMO terminologies (Forrester, 2013). For instance, the client and project resources each has a different understanding of the term 'value', which results in miscommunication between people in different project roles (Forrester, 2013).

Table 2.5 lists additional challenges facing a PMO as identified by Salamah and Alnaji (2014) and Aubry and Hobbs (2010).

Table 2.5: Challenges facing a PMO (Salamah & Alnaji, 2014; Aubry & Hobbs, 2010)

Challenge Facing a PMO	Description of Challenge
Undefined Project Methodology	Failure to implement a standardised project methodology that is well defined within the PMO. This leads to inconsistent management practices and control practices, inconsistencies in respect of project reporting, and the failure to meet the assigned target(s).
Failure to Track Resource Utilisation	PMOs fail to provide a metric-based analysis of resources, in terms of tracking actual time worked against planned time allocated. This increases the difficulty in planning resource capacity and ensuring that adequate resources are assigned to project tasks. Over- or under-utilisation of resources leads to missed deadlines, and to incorrect estimates of project schedules and costs.
Lack of Empowerment	PMOs are not given autonomy to make decisions. Decision making remains the purview of executive leadership within the organisation, and they view the PMO as a body to approve executive decisions, rather than as a business enabler.

Challenge Facing a PMO	Description of Challenge
Unavailability of Skilled Resources	This is especially prevalent in matrix organisations, where skilled resources are assigned to a range of projects. Consequently, they are unable to complete assigned tasks adequately and on schedule. Constant unavailability of skilled resources results in inadequate project performance and in failure to deliver projects successfully and on time.

Based on the research by Salamah and Alnaji (2014) and Aubry and Hobbs (2010), it is evident to the researcher that the challenges facing a PMO are numerous and varied. A central theme that emerges is a lack of understanding about the function of a PMO and the value that such a unit can bring to an organisation.

2.10 Value of a PMO

The position of a PMO within an organisation, and the value it adds, have long been debated by many researchers (Kerzner, 2009; Hobbs, 2007; Desouza & Evaristo, 2006; Dai & Wells, 2004; Hill, 2004). According to Hurt and Thomas (2009), organisations that implement a PMO either reap rewards in terms of organisational growth, or in the case of failure of the PMO, the organisation loses its investment. Thomas and Mullaly (2008), as quoted by Hurt and Thomas (2009), developed a framework that can be used to determine the value a PMO offers an organisation. A section of this framework is presented in Table 2.6.

Table 2.6: Value framework – adapted from Thomas and Mullaly (2008) as quoted by Hurt and Thomas (2009)

Level of Value	Actual Value Offered
Satisfaction	Do key stakeholders perceive the PMO to offer value in terms of project management initiatives? At this basic level, satisfaction can be gauged through the use of self-report satisfaction measures, or perceptions of how satisfied a client is with the service offered. Objective measures are also used; i.e. is the client a repeat customer?
Aligned Use of Practices	Do initiatives handled by the PMO result in proper implementation of project management processes and procedures? Questions to be asked at this level include whether the PMO has followed a specified plan of action, and whether members of the PMO are knowledgeable about their roles. This is determined by an evaluation of the PMO's policies and procedures in relation to actual project management.

Level of Value	Actual Value Offered
Process Outcomes	Are project management processes effective? Has the PMO offered the organisation any improvement in project processes as a result of its project management initiatives? This can be determined through an analysis of elements such as lessons learnt, budgetary performance, and delivery execution.
Business Outcomes	Is there evidence of improved business efficiency gains? This includes improved customer satisfaction and increased business growth for the organisation as a result of previous successful PMO endeavours.
Return on Investment	Has the PMO provided an acceptable return on investment? Areas that are investigated at this highest level include whether the implementation of the PMO has resulted in increased revenue for the organisation and cost savings.

2.10.1 The value of a strategic PMO

According to Forrester (2013), organisations need to reconfigure their approach to project management. Hurt and Thomas (2009) and Pinto (2013) posit that for PMOs to offer greater value, it is imperative for it to transform from its traditional tactical role to a strategic role. In this regard, the PMO should drive business leadership and improve strategies that deliver enhanced business outputs. The PMO should strive to proffer more consistent project management initiatives and be innovative in project execution. This viewpoint is shared by Forrester (2013), who argues that successful PMOs strive to define goals and objectives to add greater value to the organisation – over and above its standard PMO role.

According to Rajegopal, McGuin and Waller (2007) and Forrester (2013), the strategic PMO is one that is connected to the organisation at executive level and plays an integral role in the planning and execution of organisational initiatives. Thus, it can be argued that the PMO plays a pivotal role in enabling the organisation to achieve sustained business growth and a competitive advantage in the market (Caliste, 2013).

Forrester (2013) conducted a series of 40 interviews with project management leaders and executives to determine the role that executive management played in their organisations' PMOs. Based on the outcomes of these interviews, it was established that the role played by PMOs aligned with executive management, correlated with the successful business outcomes of each organisation. In these instances, strategic project selection and delivery served as a means for the PMO to provide increased profit margins and revenue to the organisation. In addition, these organisations experienced a number of benefits as a result of their implementation of a strategic PMO. Examples are a reduction in operational costs, improved product and service delivery, as well as greater client satisfaction. In most cases, two-thirds of executives and project managers who were interviewed had achieved positive results within two years of implementing the PMO at a strategic level (Forrester, 2013).

Based on the results of this study, Forrester (2013) identified four characteristics of successful strategic PMOs, as presented in Table 2.7.

Table 2.7: Characteristics of successful strategic PMOs (Forrester, 2013)

Characteristics	Description
Present at the executive table	Members of a strategic PMO play a role in executive management and report to other members in terms of project performance and alignment of strategy to the organisation's objectives. The PMO Champion is often a member of the executive management team.
Part of the strategic team	PMOs participate in strategic planning and provide continuous feedback to managers at an executive level about performance, labour costs and customer engagements. This falls under the aegis of the PMO's portfolio management function.
Embrace core competencies	It is vital for PMOs to maintain continuous project management excellence. Successful PMOs are supported by their organisations, where the latter provide constant support to project managers in the form of learning and development programmes designed to enhance their project management skills.
Have consistent objectives	Regardless of whether a PMO is customer-facing or business-facing, the common objective is to drive business success. This is attained by aligning business stakeholders with operational excellence.

Strategic PMOs can achieve the highest levels of project management maturity and success by ensuring that their project management practices, principles and processes are aligned with the organisation's corporate strategy (Hill, 2013; Project Management Institute, 2013; Stanleigh, 2006). However, Hill (2013) states that there are limitations to the extent to which a PMO can align organisational project management competencies with the strategic business goals of the organisation. Hill (2013) further argues that in order to attain the highest level of project management maturity in an organisation, strategic alignment is key. Such strategic alignment provides the greatest value to an organisation.

2.10.2 Benefits of a PMO

According to Kerzner (2003), as quoted by Hurt and Thomas (2009), the roles and functions of the PMO have evolved over the years in line with changes to the business landscape. Thus, the benefits of PMOs have developed to accommodate for these changes. Table 2.8 outlines the evolution of PMO benefits across the decades (Hurt & Thomas, 2009).

Table 2.8: Evolution of PMO benefits – adapted from Kerzner (2003), as quoted by Hurt and Thomas (2009).

1990 - 2000	2001 - Present
More work accomplished in less time and with fewer resources; quality is not compromised	Operations are standardised
Profits are increased	Improved capacity planning
Scope changes are handled methodically	Improved dissemination of information across the organisation
Improved customer relations	Enhanced operational efficiencies
Enhanced operational efficiencies	Consolidation of company silos
Improved decision making in organisations	Improved knowledge management
Increased competitive advantage	Less organisational bureaucracy
Enhanced risk management processes	Investment in talent management

Organisations are incentivised to implement a PMO based on its unique needs and objectives. As such, no PMO is identical and consequently; every organisation has different benchmarks to gauge the benefits realised by the PMO (Jones & Lucey, 2009).

Kerzner (2003) identifies the following benefits that have been utilised as a yardstick by organisations to measure value:

- Strategic alignment of projects in line with organisational objectives.
- Delivery of projects on time and within budget, and in accordance with defined quality metrics.
- Auditability of objectives across the organisation's hierarchical structure.
- Provision of quality information for decision making across the organisation.
- Standardised reporting, tracking and monitoring of processes and procedures in project implementation.
- Development of PMO resources in terms of coaching and mentoring.

According to Hubbard and Bolles (2012), a PMO can provide numerous benefits to its organisation, including the following:

- Improved project management capabilities and skills.
- Enhanced operational efficiencies and a competitive and strategic advantage.

- A uniform approach for the implementation of projects and programmes.
- Project successes and realised business objectives.
- Successful transformation of the organisation's systems and procedures.
- An interface between the PMO and business units across the organisation.
- A resource pool of qualified and talented project professionals to implement complex projects.
- A cost-saving mechanism across projects.

It is evident from the benefits identified by Kerzner (2003) and Hubbard and Bolles (2012), that, when implemented correctly, a PMO has the potential to provide an organisation with the means to enhance its business outcomes and meet its strategic objectives. This is evidenced by a case study by Stanleigh (2006), as quoted by Reddy and Priyadarshini (2016), who surveyed 750 organisations about their motives for implementing a PMO (see the discussion in Section 1.1). These were the findings:

- 82% of respondents experienced a higher success rate of projects.
- 74% of respondents reported an ability to reuse PM tools, techniques and processes.
- 66% of respondents reported increased organisational efficiencies.
- 64% of respondents succeeded in developing a project management-oriented culture in the organisation.
- 48% of respondents declared an increase in staff professionalism in respect of project management.

These findings further emphasise the value that a PMO creates for the organisation in terms of improved cost and operational efficiencies, enhanced project quality and the delivery of exceptional project management expertise (Reddy & Priyadarshini, 2016).

Reddy and Priyadarshini (2016) summarise the main benefits of PMOs in organisations as follows:

- **Reduced risk:** As a central repository, the PMO ensures that project risk is reduced.
- **Adherence to project budgets:** The PMO co-ordinates enterprise management of budget resources, which ensures that projects do not exceed budgetary constraints.
- **Adherence to project timelines:** The PMO ensures enterprise management of project timelines through the implementation of policies and procedures, and the use of universal templates and documentation.
- **Enhanced project quality:** The PMO provides quality assurance for all projects, thus ensuring that project quality is increased and standards are maintained. Quality is further enhanced through centralised communication management, where the PMO operates and manages available project tools. Furthermore, the PMO serves as a repository for best-practice behaviour and information.

In order to realise the full extent of benefits offered by a PMO, an organisation should treat the implementation of the PMO as a project and apply all the related project management principles, practices and processes (Meredith & Mantel Jr, 2011). According to Kerzner (2003), a PMO is representative of the organisation's intellectual property; thus, the PMO should be managed appropriately to reap its full value.

2.11 PMOs from a South African and African Perspective

2.11.1 Background

Historically, studies have indicated that project management philosophy originated in the East and West, with little to no evidence of project management in Africa. This leads to the assumption that project management is not inherent to Africa and South Africa (Marnewick, Erasmus & Joseph, 2018). Moreover, according to Van der Merwe (2012) (as quoted by Marnewick *et al.* (2018)), the American and European schools of thought dictated the standards and methodologies used within project management globally, giving rise to the PMBOK® Guide (Project Management Institute, 2013), PRINCE2® (Office of Government Commerce, 2009), and the APM Body of Knowledge (Association for Project Management, 2006).

Van Der Merwe (2012) (as cited by Marnewick *et al.* (2018)) suggests that projects and project management in Africa are largely unsuccessful, because existing theorists fail to account for the unique factors that contribute to the African way of life and of conducting business.

2.11.2 An African worldview

While project management in Africa and South Africa is based largely on Western ontology, there exists a unique African philosophy regarding management that influences the manner in which African managers behave when executing and managing projects (Mapunda, 2013). Mapunda (2013:9) argues that "…the African philosophy of management is premised on African traditional cultures, which have a strong influence on the organisational culture of African organisations ...despite many Africans undertaking university degrees based on Western ontology at home and overseas, they inadvertently revert to African management philosophy in their (African) organisations".

Ubuntu is a concept and an African worldview that is framed in the statement, "I am because we are, and because we are, I am" (Van Zyl, 2015:254). Ubuntu focuses on a person's relationship with others and how the manner in which a person relates to others makes them human. Thus, Ubuntu is a core part of being human and a valuable member of society (Van Zyl, 2015:254).

Ubuntu emphasises society and relationships with others as a whole, rather than with the individual – "I am a person because of my relationships with other people". Among African people, Ubuntu is the oil that nurtures their relationships; it therefore implies a relational approach to leadership (Van Zyl, 2015:254).

Ubuntu recognises the significance of group solidarity in African cultures. It is an African leadership style that incorporates group and community support, collaboration and sharing. The concept of Ubuntu dictates that during difficult times, burdens should be shared, and in doing so, suffering is shared and reduced. Ubuntu encourages team work within communities for the greater good of all (Khomba, 2011).

2.11.3 African Management Philosophy

Goldman (2013), as quoted by Marnewick *et al.* (2018), states that African Management Philosophy (AMP) is founded in the African concept of Ubuntu. AMP encompasses the following principles, as summarised by Marnewick *et al.* (2018):

- **Solidarity:** Agreement exists between individuals, who share common interests and viewpoints.
- **Compassion:** Individuals are empathetic towards one another, which in turns creates a feeling of solidarity.
- **Respect:** People hold one another in esteem and interact with one another by respecting the other person's rights, values, opinions and ideas.
- **Dignity:** People respect and honour one another's sense of self-worth and human nature.
- **Humanness:** A person's character is dependent on, and influenced by, their community.
- **Caring:** According to Metz (2007) (in Marnewick *et al.* (2018:11)), "caring can take place at six levels, that is, conation (wishing someone well), cognition (someone is worthy of assistance), intention (one individual aims to help another individual), volition (acts to help another individual), motivation (acts for another person's sake) and affection (feeling good when someone is benefitted from our actions)".
- **Sharing:** Individuals share both in the successes and disappointments of others in their community.

Western project management philosophy, which is founded on the concept of capitalism, is in its own right capable and successful within the context of the Western world. However, this ideology cannot be infused into AMP in its purest form, because it promotes unethical behaviour and encourages the pursuits of individualistic goals, which contradict the principles of Ubuntu on which it is founded (Marnewick *et al.*, 2018).

2.11.4 Infusing AMP into project management

The Project Management Institute (2013:5) defines project management as "…the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements". Marnewick *et al.* (2018) argue that the tools and techniques defined in the definition above are not affected by the project management principles being followed. However, knowledge and skills, as related to project management competencies, *are* affected by management principles and can thus be infused into AMP.

The PMBOK Guide, consisting of 10 knowledge areas and 47 processes, is the most prevalent project management standard in Africa (Marnewick *et al.*, 2018). As stated by Marnewick *et al.* (2018), only selected processes are suitable for incorporation into AMP. Other processes, of a more technical nature, will remain consistent regardless of the project management methodology being followed. For instance, based on Table 2.9, cost management processes are used for budgetary and cost control purposes. These processes will remain consistent because there are only a limited number of ways in which they can be executed.

Table 2.9: Infusion of PMBOK Guide processes into AMP – adapted from Marnewick et al. (2018)

Knowledge Area	Processes	Infused AMP
Integration management	1. Develop project charter	-
	2. Develop project management plan	-
	3. Direct and manage project work	√
	4. Monitor and control project work	√
	5. Perform integrated change control	-
	6. Close project or phase	-
Scope management	7. Plan scope management	-
	8. Collect requirements	√
	9. Define scope	√
	10. Create work breakdown structure	-
	11. Validate scope	√
	12. Control scope	√
Time management	13. Plan schedule management	-
	14. Define activities	-
	15. Sequence activities	-
	16. Estimate activity resources	-
	17. Estimate activity duration	-
	18. Develop schedule	-
	19. Control schedule	-
Cost management	20. Plan cost management	-
	21. Estimate costs	-
	22. Determine budget	-
	23. Control costs	-

Knowledge Area	Processes	Infused AMP
Quality management	24. Plan quality management	-
	25. Perform quality assurance	-
	26. Control quality	-
Resource management	27. Plan human resource management	√
	28. Acquire project team	√
	29. Develop project team	√
	30. Manage project team	√
Communication management	31. Plan communication management	√
	32. Manage communications	√
	33. Control communications	√
Risk management	34. Plan risk management	-
	35. Identify risks	-
	36. Perform qualitative risk analysis	-
	37. Perform quantitative risk analysis	-
	38. Plan risk responses	-
	39. Control risks	-
Procurement management	40. Plan procurement management	√
	41. Conduct procurements	√
	42. Control procurements	√
	43. Close procurements	√
Stakeholder management	44. Identify stakeholders	√
	45. Plan stakeholder management	√
	46. Manage stakeholder engagement	√
	47. Control stakeholder engagement	√

It should be noted that as a management concept, AMP is not a replacement for Western knowledge of project management (Marnewick *et al.*, 2018). Karsten and Illa (2005) (as quoted by Marnewick *et al.* (2018:11)) state that AMP "…can support the development of a hybrid management system operating in Africa within which these Western concepts can find their proper African translation".

Project-oriented organisations in South Africa are slowly beginning to adopt the concept of centralised and formalised project management processes that are strategically aligned with the organisation's objectives. However, the extent to which organisations have adopted this approach varies, depending on the industry. Currently, there exists no research to indicate which industry is leading South African companies in the adoption and implementation of PMOs (Khalema, Van Waveren & Chan, 2015).

2.12 Conclusion

This chapter discussed the literature as pertaining to the primary and secondary research questions identified in this research study.

Chapter 3 examines the research methodology that was utilised in this research study, and discusses the research philosophy, approach, strategies, and techniques and procedures that were adopted.

Chapter 3: Research Methodology

3.1 Introduction

A review of the literature was presented in the previous chapter. This chapter outlines the research methodology and explains how the research study was conducted. It deals with the research philosophy, the research approach, the research strategy, the data collection methods, and data analysis. Each layer of the research process onion as suggested by Saunders and Lewis (2016) is then used to discuss the research methodology that was applied in this study.

3.2 Research Process

The researcher followed the process illustrated in Figure 3.1 as the research process for this study.

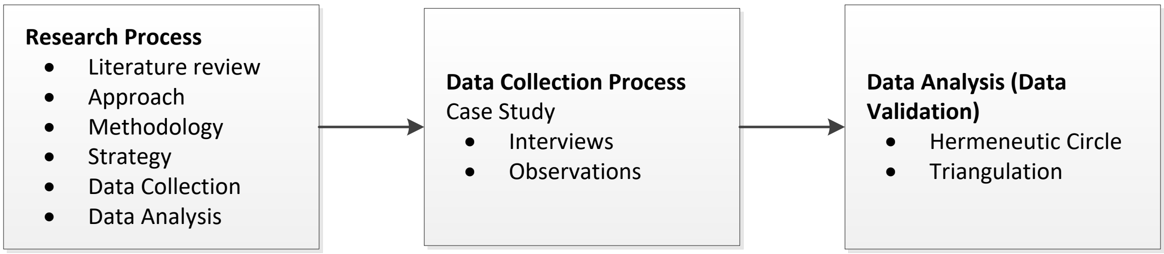

Figure 3.1: The research process – adapted from Saunders and Lewis (2016)

According to Saunders and Lewis (2016), the research design process is explained in terms of the research onion, which describes the different layers of the onion being peeled off.

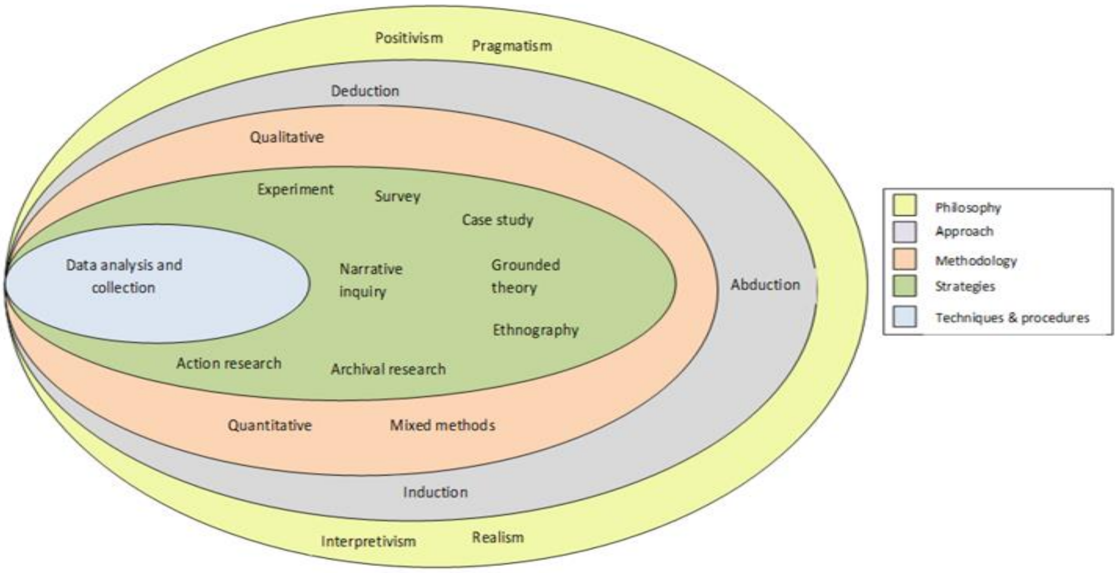

Figure 3.2: The research onion – adapted from Saunders and Lewis (2016)

The research onion is a guide for the research process that commences with the outer layer, the philosophy, and it systematically moves towards the core of the onion, namely data collection and analysis.

The design used in this research study was adapted from the research onion.

3.2.1 Research philosophy

The purpose of a research philosophy is to communicate how knowledge develops, and the environment in which that knowledge exists (Saunders & Lewis, 2016). According to Guba and Lincoln (1994) a philosophical assumption represents a worldview. This worldview, as defined by Creswell and Clark (2017), is the manner in which the researcher positions him- or herself in the world. It is based on past research experiences, discipline orientations and mentor preferences, and includes the research adopted by the researcher.

While there are various philosophical paradigms in existence, the most pertinent are positivism, realism and interpretivism (Saunders & Lewis, 2016). These paradigms represent the outer first layer of the research onion, as illustrated in Figure 3.2.

The different paradigms are defined as follows:

- **Positivism:** As a philosophy, positivism "…relates to the philosophical stance of the natural scientist. This entails working with the observable social reality and the end product can be law-like generalisations similar to those in the physical and natural sciences" (Saunders, Lewis & Thornhill, 2009:129). Some researchers (Creswell & Clark, 2017; Knox, 2004) state that positivism is linked to quantitative methods with a deductive approach. As a worldview, positivism can be regarded as a scientific method that includes elements such as reductionism, determination, measurement and theory verification (Creswell & Clark, 2017). Thus, positivism was not suited to the current study, since it utilised qualitative methods with an inductive approach.
- **Realism:** Realism is also related to scientific enquiry. Saunders *et al.* (2009:114) state that "…the essence of realism is that what the senses show us as reality is the truth: that objects have an existence independent of the human mind". Essentially, realism is objective and focuses on real-world practices (Creswell & Clark, 2017; Saunders *et al.*, 2009). According to Creswell and Clark (2017), realism is problem centred and pluralistic and it can be applied to mixed-method research. As a paradigm, realism was not suited to the study in hand, as it was approached from the viewpoint that objects have a direct influence on humans and cannot exist independently of humans.
- **Interpretivism:** This philosophy "…advocates that it is necessary for the researcher to understand the differences between humans in our role as social actors" (Saunders *et al.*, 2009:129). According to Myers (2013) reality, whether socially or constructed, obtains meaning only through language, human consciousness and shared meaning. As a philosophy, interpretivism is used to generate theory using

qualitative methods with an inductive approach (Creswell & Clark, 2017; Knox, 2004).

The researcher utilised the interpretive philosophy (as indicated in Chapter 1) for this research study because the interpretive approach recognises that there are multiple realities (Creswell & Clark, 2017). The researcher embraced interaction with participants, and recognised the participants' viewpoints and realities. Moreover, the researcher made use of the researcher's own past and current experiences related to the research, thus enabling the researcher to be a part of the study.

3.2.2 Research approach

The research approach defines the reasoning that was adopted by the researcher (Saunders & Lewis, 2016). This approach can be *inductive* or *deductive*:

- **Inductive reasoning** occurs when the researcher arrives at a hypothesis based on individual and separate facts, thus leading to a single conclusion (Leedy & Ormrod, 2005). In such instances, the researcher develops theory based on data that has been collected and analysed (Knox, 2004). According to Saunders and Lewis (2016), this approach enables the researcher to develop a more enhanced theoretical perspective. Inductive reasoning is inherently related to qualitative studies (Creswell & Clark, 2017). This is emphasised by Thomas (2015), who states that induction is the process of developing theory based on numerous observations and experiences.
- **Deductive reasoning** "…begins with one or more premises … which are statements or assumptions that the researcher initially takes to be true. Reasoning then proceeds logically from these premises towards conclusions…" (Leedy & Ormrod, 2010:32). The researcher then develops a theory and designs a research strategy to verify or test its validity (Knox, 2004). Deductive reasoning was not suitable for the study reported on here, since it was related to a quantitative rather than a qualitative study (Creswell & Clark, 2017).

The differences between an inductive and deductive approach are illustrated in Table 3.1.

Table 3.1: Differences between deductive and inductive approaches to research – adapted from Saunders et al. (2009)

Deductive Reasoning	Inductive Reasoning
Moving from theory to data	Gaining an understanding of the meanings that humans attach to events
Collection of quantitative data	Collection of qualitative data
The need to explain casual relationships between variables	A clear understanding of the research context
Researcher is independent of what is being researched	Researcher participates in the research process
A highly structured approach	A more flexible structure that permits changes as the research progresses
Necessary to select samples in order to generalise conclusions	Less concerned with the need to generalise

The researcher approached this research study from an inductive reasoning perspective. An inductive approach allows a research study to be driven by the collection of data (Saunders & Lewis, 2016).

According to Creswell and Clark (2017), the use of the inductive theory follows a 'bottom-up' approach.

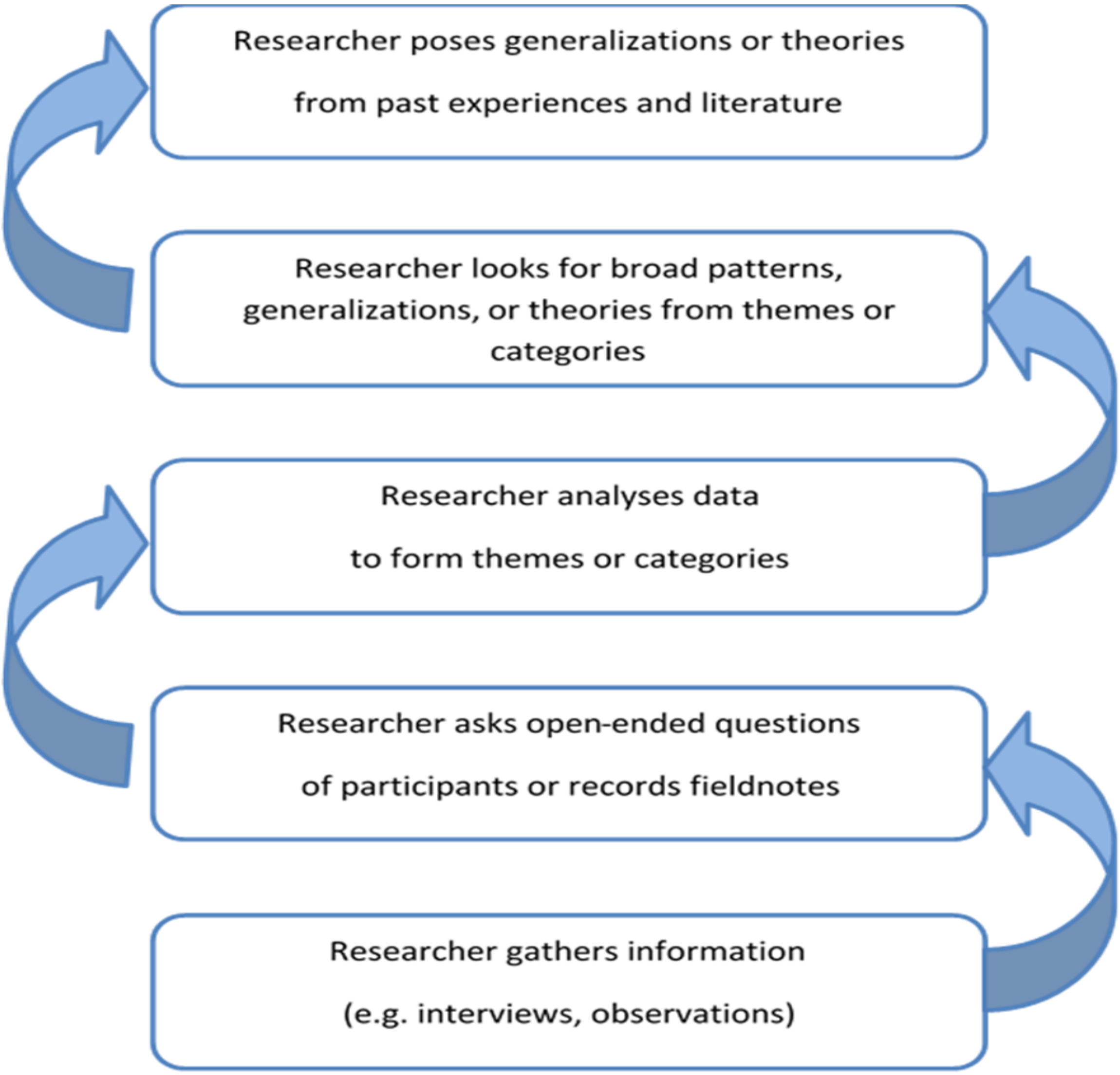

Figure 3.3: The inductive logic of research in a qualitative study – adapted from Creswell and Clark (2017)

The researcher adopted the inductive approach in this study by gathering information/data from participants and creating themes. These themes were further developed into patterns and generalisations that were compared to the researcher's personal experiences as well as to the available literature (Saunders & Lewis, 2016). The QDA Miner Lite (2016), a qualitative data analysis software tool, was used to assist with this process (Chapter 4, Section 4.3.5).

The researcher utilised the information gathered from the participants to address SRQ-1; SRQ-2 and SRQ-3 as shown in section 1.9 of this research study.

3.2.3 Research methodology – qualitative

The research methodology used in this study involved qualitative research. This approach was considered to be most appropriate for this study since it explored people's experiences in a project management office.

The research methodology can be described as the plan of how the researcher intends to answer the research questions. The third layer of the research onion illustrates the most popular research methodologies, namely action research, ethnography, grounded theory, case study, survey and experimentation (Saunders & Lewis, 2016).

According to Creswell and Clark (2017), a qualitative approach to a research design allows a researcher to make use of participants' views to attach meaning to a phenomenon. This approach utilises various methods of data collection, including question/answer sessions, interviews or surveys. Typically, this data is collected from within each participant's sphere of existence before it is analysed and a final report is written. Creswell and Clark (2017) postulate that this form of research is beneficial to identifying the participant's worldview, based on his or her own subjectivity.

Creswell and Clark (2017) argue that the use of qualitative methods involves discussions related to the sampling for the study, as well as the overall data collection and recording procedures. Qualitative methods delve into the data analysis steps in more detail, and they also analyse methods to present, interpret and validate data, as well as to ultimately identify the potential outcomes of the study.

In a qualitative study, theory is utilised in various ways. In certain qualitative studies, theory constitutes the end point. A qualitative study is an inductive process whereby theories and models are derived using data gathered from broad themes (Creswell & Clark, 2017).

Based on Creswell and Clark (2017), the researcher was motivated to use a qualitative research methodology in the current study for the following reasons:

- **Natural setting:** The researcher gathered data where the participants were exposed to the problem being studied within their natural surroundings.
- **Researcher as a key instrument:** The researcher was involved in the process of data collection personally by observing the behaviour of and interviewing the participants.
- **Multiple sources of data:** The researcher made use of multiple forms of data, including interviews and observations.
- **Reflexivity:** The researcher utilised his own experiences to mould the direction of the research study.

3.2.4 Research strategy

Saunders and Lewis (2016) define a research strategy as the path followed by the researcher in an attempt to answer the research questions. Popular research strategies include experimentation, survey, case study, grounded theory, ethnography, and action research – all of which are illustrated in the third layer of the research onion (Saunders & Lewis, 2016). A number of these strategies are discussed below.

3.2.4.1 Experimental research

The purpose of experimental research is to identify the cause-and-effect relationship that exists between variables, through the manipulation and control of one or more of these variables (Seabi, 2012).

According to Leedy and Ormrod (2010:223) "…a researcher can most convincingly identify cause-and-effect relationships by using an experimental design". They further state that in experimental research, "…the researcher manipulates the independent variables and examines its effects on another, dependent variable" (Leedy & Ormrod, 2010:228). In this instance, the independent variable represents the variable that the researcher studies as the *cause* of something else that the researcher manipulates, while a dependent variable represents the variable that is manipulated; to an extent, it *depends* on the independent variable.

Experimental research utilises hypotheses as a means to identify links between variables; it does not focus on the research questions (Saunders & Lewis, 2016). This focus on quantitative studies (making use of hypotheses) therefore makes experimental research unsuited to this study.

3.2.4.2 Surveys

Survey data represents data gathered from a small sample, within a large population. It is analysed and can be used to describe characteristics, attitudes, experiences and beliefs (Creswell & Clark, 2017; Seabi, 2012; Leedy & Ormrod, 2010). The aim of a survey is to obtain generalisations about a population, based on a small sample (Creswell & Clark, 2017; Leedy & Ormrod, 2010).

The survey research strategy is often linked to deductive reasoning and used to address questions related to 'what', 'where', 'who', 'how much', and 'how many' (Saunders & Lewis, 2016). This strategy may be referred to as descriptive quantitative research since it involves asking people questions and then tabulating their answers (Leedy & Ormrod, 2010). Survey research can be conducted telephonically, face to face, or by using questionnaires (Leedy & Ormrod, 2010).

Survey research was found to be not suitable for the purpose of this research, since it does not afford the researcher the opportunity to ask participants further probing questions based on their responses to the survey questions.

3.2.4.3 Case study

Yin (2017) describes a case study as an empirical inquiry that investigates an occurrence within a real-world context where the relationship between the occurrence and context is not apparent. A case study research strategy is relevant when the researcher is interested in the real-life context of the research (Saunders & Lewis, 2016). Depending on the context of the research, a case study can take the form of single or multiples cases that are studied to examine the research questions (Yin, 2017; Saunders & Lewis, 2016; Leedy & Ormrod, 2010).

Stake (2008) and Yin (2017) (quoted by Creswell and Clark (2017)) state that case studies are a type of investigation primarily found in the field of evaluation. A thorough investigation in the form of a case study could take various forms, i.e. a programme, event, activity or process. Case studies are governed by time and activity, and researchers make use of various data collection procedures over a given period of time to collect detailed information (Creswell & Clark, 2017; Leedy & Ormrod, 2010).

According to Stake (2008) six steps are proposed conducting case study research:

1. Determining and defining the research question.
2. Selecting the case and determining data-gathering and analysis techniques.
3. Preparing to collect data.
4. Collecting the data in the field.
5. Evaluating and analysing the data.
6. Preparing reports.

For the purpose of this research, the researcher conducted a case study in a medium to large organisation. According to Gartner, medium-sized organisations are typically made up of between 100 to 999 employees. In addition, these organisations earn more than $50 million but less than $1 billion in annual revenue. In comparison, large organisations have a staff complement of more than 1000 and generate an annual revenue in excess of $1 billion (Gartner, 2019).

From a South African perspective, medium-sized organisations employ between 50 and 249 employees while large enterprises are generally comprised of more than 250 people. In terms of annual revenue, medium-sized organisations generate an annual revenue of ≤ R 85 million while large organisations generate > R 85 million in annual revenue (Business Tech, 2019).

Based on these definitions, the organisation in this case study falls into the category of a large organisation, based on its staff complement (2 344) and annual revenue (R 2 534 billion) as at 31 March 2019 (CSIR, 2019). The is a world-class African research and development organisation, which undertakes directed, multidisciplinary research and technological innovation designed to improve the quality of life of South Africans. The organisation places much emphasis on the science, engineering and technology competences. CSIR (2007).

The use of this organisation within the construct of this case study provided the researcher with data from which to derive answers to the research questions. The researcher conducted a single case study within the researcher's organisation of choice and adapted the case study research steps above as proposed by Stake (2008). The organisation involved in the case study is a market leader in its field.

According to Yin (2017) there are five reasons to conduct a single case study, namely when the single case represents a

- critical,
- extreme,
- representative,
- revelatory or
- longitudinal case.

According to Yin (2017), a representative case study may typically represent a project among other projects and the purpose of a case study is to record the circumstances and conditions of everyday or commonplace situations. The researcher used the rationale of a representative case as the reason for conducting a single case study in a medium to large organisation. In relation to the organisation used in this case study, the implementation of the PMO serves as an implementation of a project, amongst various others.

The aim of the researcher was to answer the primary research question posed in this study, namely how can value be derived by an organisation based on the implementation of a PMO. It was the researcher's intention to gather data from participants who had been exposed to the problem being studied, and to do so within their natural surroundings. The researcher was personally involved in the process of data collection, and observed participants' behaviour.

3.2.5 Research sampling

Sampling is described as a process of deciding on the specific entities to be included in the study. Prior to the process of data collection, it is important to identify a suitable sample from which to obtain usable data (Leedy & Ormrod, 2005).

According to Saunders and Lewis (2016) a researcher needs to consider whether or not to utilise sampling as part of their research study, irrespective of the research questions and objectives of the study.

In the case of non-probability sampling, the population is assumed to be evenly represented and the results drawn can therefore be more accurate (Maree, 2007).

According to Creswell and Clark (2017) sampling serves the purpose of setting boundaries to qualitative research. The goal of sampling is to purposefully select the participants for the study.

The researcher needs to consider whether it is practical or impractical to collect data for the research study based on the entire population; if impractical, a sample of the population should be selected (Saunders & Lewis, 2016).

This research study made use of non-probability sampling and involved a single case study in a medium to large organisation. Participants were purposefully selected by means of a purposeful sampling technique; only those participants who provided added value to the study in hand were chosen (Creswell & Clark, 2017; Leedy & Ormrod, 2005).

Purposive sampling, according to Saunders and Lewis (2016), is the use of one's personal judgement to select cases that will best enable the researcher to answer the set research questions and meet their objectives (as indicated in Chapter 1, Section 1.9).

The staff complement of the organisation in this case study as at 31 March 2019 is 2 344 (See Section 3.2.4.3). The staff complement of one of the divisions in which the PMO was implemented is 240. Out of this pool, 20 candidates with distinct and explicit attributes, knowledge and experience were identified as the containers of the information required for this study (Nieuwenhuis, 2007). These individuals were directly influenced and impacted by the implementation of the PMO within the division. Based on the selected number of individuals, 11 were amenable to participating in this study.

The selected respondents had to meet the following criteria in terms of their position and experience:

- Competency area managers with a minimum of 10 years' experience in interacting with PMO offices.
- Project management office managers with a minimum of 10 years' experience managing a PMO office.
- Principal project managers with a minimum of 10 years' experience in programme and project management.
- Senior project managers with a minimum of 10 years' experience in project management.
- Project managers with a minimum of 5 years' experience in project management.

- Other project team members with a minimum of 5 years' experience in interacting with PMO offices.

3.2.6 Data collection methods

According to Creswell and Clark (2017), research methods take the form of data collection, analysis and interpretation that researchers propose for their studies. Data collection describes the manner in which the researcher will gather the research findings. According to Saunders and Lewis (2016), the fifth layer of the research onion illustrates the different data collection methods and it involves secondary data, observations and interviews.

According to Yin (2017) there are six sources from which data can be collected:

Table 3.2 Sources for data collection – adapted from Yin (2017)

Sources for Data Collection	Sources Utilised in This Study
Archival records	X
Interviews	✓
Documentation	X
Direct observation	X
Participant observation	✓
Physical artefacts	X
Literature review	✓

Different sources of data collection needed to be used to create a strong justification for the validity of the study. The researcher therefore used different data collection techniques, such as observations and interviews in this research study. Data was collected in the field where the participants were exposed to and experienced the problem being studied.

Creswell and Clark (2017) argue that the collection procedures in qualitative research involve basic types of data collection, as well as their strengths and limitations. The researcher used interviews and observation as modes of data collection in this study.

3.2.6.1 Interviews

According to Creswell and Clark (2017), qualitative interviews are characterised by personal interaction between the interviewer and participant. Interviews could entail telephonic interviews or focused group interviews. The interview should furthermore be semi-structured and consist of questions to ascertain the participants' opinions, beliefs and ideas. Details about the interview questions used in this study are presented in Appendix A.

Creswell and Clark (2017) state that an interview can be performed as a semi-structured, open-ended interview, where the researcher makes interview notes. A semi-structured interview is a data collection technique that involves a two-way conversation or oral questioning (either of individuals or a group) by means of which the researcher endeavours to understand the participants' views, beliefs, ideas and opinions (Creswell & Clark, 2017).

In the current study, the researcher adopted a semi-structured interview approach, and the interviews took the form of structured questions that elicited views and opinions from the participants in the PMO office. Interviews were approximately 45-60 minutes in duration.

The researcher derived meaningful information from the data that was collected and it helped the researcher to identify patterns and relationships, and in turn, to relate these findings to literature in Chapter 2.

Since semi-structured interviews allow for 'probing', the researcher was able to verify an understanding of the presented data (Driskell, Blickensderfer & Salas, 2013; Qu & Dumay, 2011)

Maree (2007) suggests three probing strategies that can be utilised in the interview process:

- **Detail-orientated probes** – ensuring that the researcher understands the detail provided by the participant.
- **Elaboration probes** – requesting the participant to elaborate on a certain scenario.
- **Clarification probes** – checking that the researcher has accurately understood and recorded the participant's response.

The researcher employed the probing strategy as part of the interview process, to better understand and accurately record the participants' responses to interview questions.

3.2.6.2 Observations

Observations involve the careful examination, analysis and interpretation of respondents' behaviours, as well as the methodical recording of the data that was gathered (Saunders & Lewis, 2016).

As a data collection approach, observation can be performed by spending more time as a participant than as an observer, and by gathering field notes (Creswell & Clark, 2017).

The researcher played a participatory role in the case study that was conducted in a medium to large organisation. This provided the researcher with the opportunity to gather field notes and gain access to information that would otherwise have been inaccessible to a researcher (Creswell & Clark, 2017). The relevant observation outcomes were noted as additions to support the study's findings/results. For the purposes of the study in hand, the anecdotal records were used to collect and keep notes of the observations. Anecdotal records – informal, written records – were based on the researcher's observations of participants performing their duties. These records were objective and reflected the attitudes, behaviours, skills and insights demonstrated by the study participants while working (Intel Corporation, 2007).

Participant observation generally provides unusual opportunities to collect case study data. The most distinctive opportunity is related to one's ability to gain access to events or groups that are otherwise inaccessible to scientific investigation (for example, observations from and during semi-structured interviews) (Yin, 2017).

According to Gill and Johnson (2002) (quoted by Saunders *et al.* (2009)), the role of the participant observer can be classified as one of four category types:

- **Complete participant**, where the researcher attempts to join the group within which the research is being conducted. In joining the group, the researcher does not reveal his or her purpose to group members. This approach raises various ethical concerns, including being placed in a position where the researcher can pry into the behaviour and motivations of research subjects, without their consent.
- **Complete observer**, where the researcher does not disclose his or her identity or purpose to the research subjects. In the role of complete observer, the researcher adopts a non-participatory role in the group's activities.
- **Observer as participant**, where the researcher adopts the role of 'spectator' and observes without participating in activities. In this instance, the researcher's identity and purpose are clear to all participants. The advantage is that the researcher is able to execute research functions with full disclosure.
- **Participant as observer**, where the researcher reveals his or her identity and purpose. In this instance, the objective of the researcher is to gain the trust of participants.

In the role of complete participant and complete observer, the researcher conceals his or her identity (covert observation). The advantage of this approach is that it does not condition or influence the behaviour of the research subjects. When adopting the role of observer as participant or participant as observer, the researcher reveals his or her identity (overt observation) (Saunders *et al.*, 2009).

In the current study, the researcher performed an overt observation, in the role of *observer as participant*, and fully disclosed the purpose and goal of the research study. This approach ensured that the researcher was able to obtain information from participants more easily. Moreover, this approach raised fewer ethical considerations about the researcher's interaction with participants (Saunders *et al.*, 2009).

The researcher also used the observation method to gather data from meetings and group discussions.

3.3 Data Analysis

In qualitative research, the analysis of data is a process consisting of seven steps whereby the researcher focuses on certain data and disregards other. The aim of this process is to aggregate data into a smaller number of themes (Creswell & Clark, 2017).

The researcher utilised the data analysis steps suggested by Creswell and Clark (2017) to analyse the data gathered for this research study (see Figure 3.4).

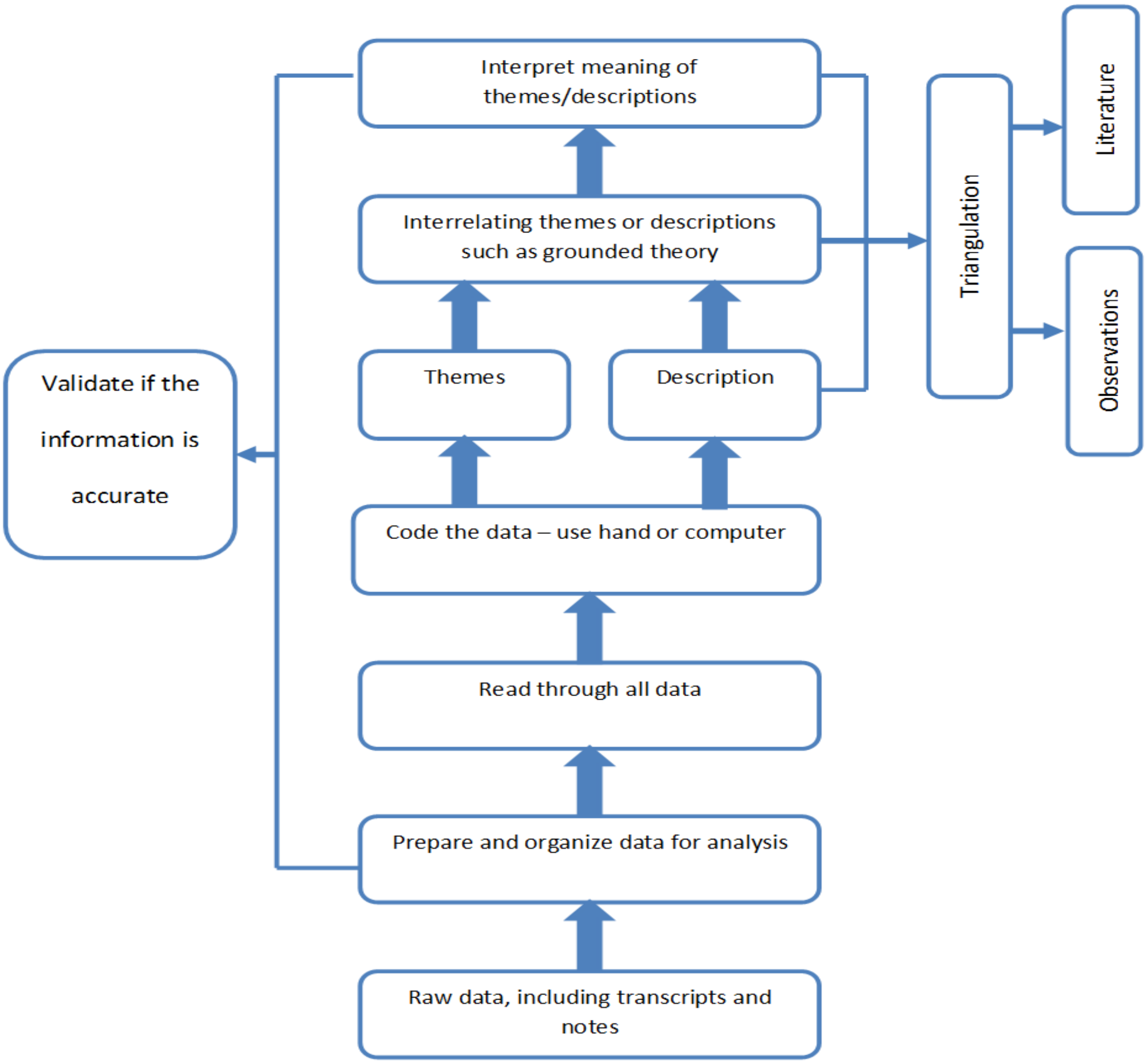

Figure 3.4: Seven steps of data analysis in qualitative research – adapted from Creswell and Clark (2017)

The researcher used the QDA Miner Lite (2016) software as a tool to perform the data analysis and used its coding to derive themes.

3.3.1 Hermeneutic Circle

According to Klein and Myers (1999), hermeneutics is one mode of analysis associated with interpretive research. Hermeneutics suggests a way of understanding the meaning of data or text correspondents. The most fundamental principle of hermeneutics is that of the hermeneutic circle (Klein & Myers, 1999), which involves the understanding of a complex whole based on the meanings of its parts and their interrelationships. The hermeneutic circle is used to validate data during the data analysis process (Klein & Myers, 1999).

Hermeneutics and interpretivism are closely linked and the interpretation process is supported by seven principles of interaction between the researcher and subjects (Klein & Myers, 1999):

1. The principle of the hermeneutic circle.
2. The principle of contextualisation.
3. The principle of interaction between the researcher and the subjects.
4. The principle of abstraction and generalisation.
5. The principle of dialogical reasoning.
6. The principle of multiple interpretations.
7. The principle of suspicion.

The present study was conducted from an interpretivist philosophical perspective and the researcher adopted the principles of the hermeneutic circle. The researcher utilised the results obtained from the case study in a medium to large organisation, and the observations and interviews were the parts that formed the whole of the case study.

3.4 Data Integrity Processes

According to Creswell and Clark (2017) there are eight primary strategies to determine the validity of a study. One of the eight strategies is triangulation, and Creswell (2014:251) suggests the following strategy:

“Triangulate different data sources of information by examining evidence from the sources and using it to build a coherent justification for themes. If themes are established based on converging several sources of data or perspectives from participants, then this process can be claimed as adding to the validity of the study.”

The researcher employed two types of triangulation in this study. Multiple data sources were used to collect the data and multiple measures of data collection were employed.

During this study, the researcher made use of semi-structured interviews, observations and literature to ensure that triangulation could be performed to validate or contradict the study’s findings or results.

3.5 Conclusion

This chapter examined the researcher's motives and explanations for the adoption of a particular research methodology. Figure 3.5 illustrates the researcher's applied research process, which involved each layer of the research onion.

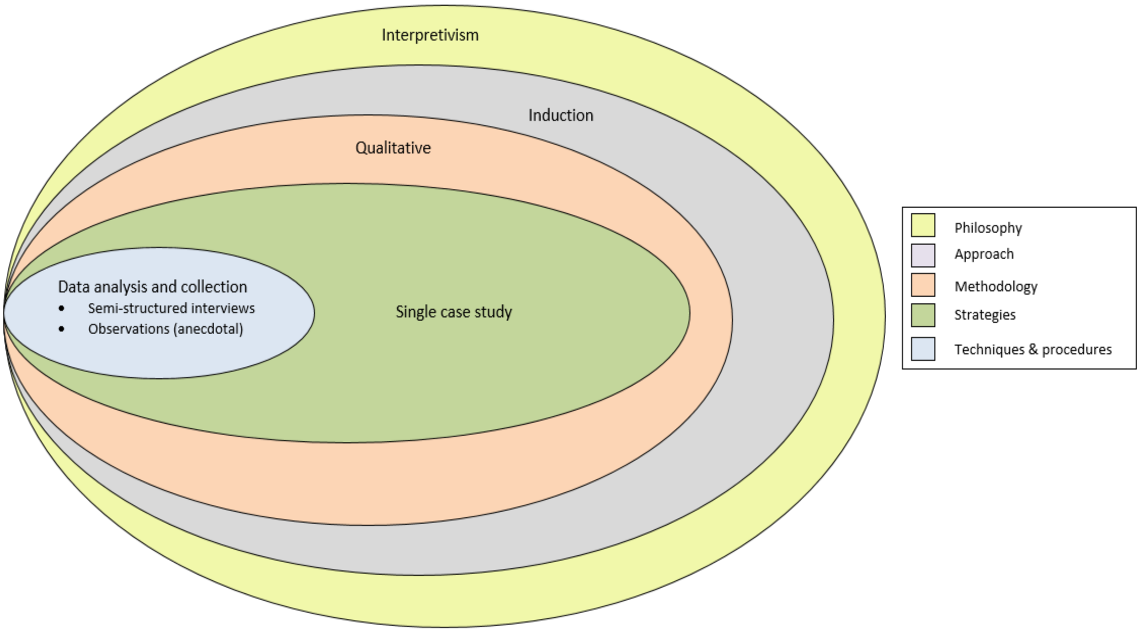

Figure 3.5: Applied research onion

It is evident from Figure 3.5 that the research in hand was based on an interpretivist philosophy, which led to a qualitative design and the application of an inductive approach to theory development in a case study conducted in a medium to large organisation. This qualitative approach to research design enabled the researcher to make use of participants' individual views to attach meaning to a phenomenon (Creswell & Clark, 2017). In line with the qualitative approach, the researcher was able to use various methods of data collection, such as question/answer sessions, interviews, and observations (Creswell & Clark, 2017).

In Chapter 4 the researcher analyses the data collected by means of the case study in a medium or large organisation, including all themes that were identified. A method of triangulation assisted the researcher in determining the validity of the findings obtained from different data sources.

Chapter 4: Data Analysis and Research Findings

4.1 Introduction

Chapter 3 focused on the research methodology used in this study. It also discussed the selection criteria for participants who were chosen to participate in the interviews conducted in this study.

This chapter describes the data analysis process followed by the researcher during the course of this case study. The data analysis was informed by the hermeneutic circle as indicated in Section 3.3.1, but the process followed for the data analysis involve the steps suggested by Creswell and Clark (2017) (see Figure 3.4).

The researcher utilised semi-structured interviews and observations as the instruments for data collection in this research study.

4.2 Data Collection Process

4.2.1 Interviews

The researcher carried out semi-structured interviews as part of the data collection process for this case study. Interviews were conducted from 25 January 2019 to 1 February 2019. The duration of each interview was between 45 to 60 minutes per candidate. The researcher obtained the necessary ethnical clearance (see Appendix B) and consent approvals from each individual participating in the interview process. The researcher provided each interviewee with a copy of the interview questions prior to the interview; the motive was to ensure that participants would be adequately prepared for the interview and be familiar with the areas of discussion. Interview questions were sent to participants via email, along with an invitation to be interviewed at a convenient time and place of the participant's choosing.

The researcher approached 20 potential candidates to participate in this research study. Out of this pool, 11 candidates responded favourably and granted permission to be interviewed by the researcher.

The researcher opted to use a computer to note down participants' responses to the interview questions. This method of noting down each response proved unobtrusive, as participants needed not be self-conscious about being recorded on tape during the interview process; their responses were transcribed.

4.3 Data Analysis Process

The data analysis process outlined below is adapted from Figure 3.4.

4.3.1 Read through the raw data and transcripts

The researcher gathered the raw data and notes from the interviews and observations in preparation for data analysis (Creswell & Clark, 2017). The researcher read through the interview transcripts several times in order to become familiar with the responses and to more easily identify common themes emerging from the case study.

4.3.2 Prepare and organise data for analysis

The researcher consolidated the relevant parts of the interview by scanning the transcripts for information related to the primary and secondary research questions (Creswell & Clark, 2017). The researcher then cleaned up the transcripts to omit areas of the interview that were not directly related to the topic of discussion, including pieces of conversation that cropped up in relation to the participant's shared work with the researcher and discussions about everyday issues. The researcher eventually organised the responses from all participants per question. In other words, all responses to Question 1 from all respondents were consolidated into a single document for analysis, and so on. In this way, the researcher was able to get an overview of the responses related to each interview question, which allowed the researcher to more easily identify common themes in the data.

4.3.3 Read through all data

The researcher re-read the transcripts to gain a better understanding of the information. This included gaining a general idea of what participants stated, the tone of their ideas, and the level of credibility of the data (Creswell & Clark, 2017).

4.3.4 Code the data

Patton (2015) states that data coding is the process of sorting data based on common concepts and themes. According to Creswell and Clark (2017), it is possible to perform data analysis at any point in the data collection process. For this research study, the researcher selected to analyse data collectively – in other words, once all interviews had been concluded – in order to be able to more easily identify common themes across all responses. The researcher commenced with coding the data manually by segmenting sentences and paragraphs into categories (themes) and labelling those categories with a term. While these categories were sometimes based on the actual language of the participant (Creswell & Clark, 2017), more often they were developed by identifying a particular interest in each theme. This allowed the researcher to identify codes that matched each theme, based on a broader interpretation of the data.

4.3.5 Generate suitable themes

The researcher began searching for themes by sorting the data according to common areas of interest, based on the primary and sub-research questions posed in this study (as outlined in Section 1.9). Potential themes were grouped together, along with potential codes that could form part of each theme.

The researcher then reviewed the data once more to verify that pertinent data matched the themes that had been identified. Based on the themes, the researcher subsequently also coded data that had been overlooked during the initial (manual) review process.

According to Creswell and Clark (2017), researchers may utilise various qualitative software programs that have grown in popularity since they allow researchers to easily sort, organise and analyse data for patterns and behaviours. For this research study, the researcher utilised the computer software QDA Miner Lite (2016) to begin coding the data according to themes.

QDA Miner Lite (2016) is a qualitative data analysis software tool that is used to present accurate and transparent data findings. Using this tool ensured that the researcher was able to perform an analysis process that was efficient, consistent and credible.

The researcher created a new 'project' within the software application, and uploaded copies of each participant's transcript into the project structure. The researcher then created nodes for the different themes that had been identified in Sections 4.3.4 and 4.3.5. Next the researcher linked the codes to each theme. The codes and themes are displayed as a hierarchy in Figure 4.1; for instance, the theme 'Value' contains related codes that include 'Efficiencies' as well as 'Standards and processes'. This enabled the researcher to easily and consistently apply a code to relevant data in the transcript and identify relationships within the data. The hierarchical coding structure is illustrated in Figure 4.1.

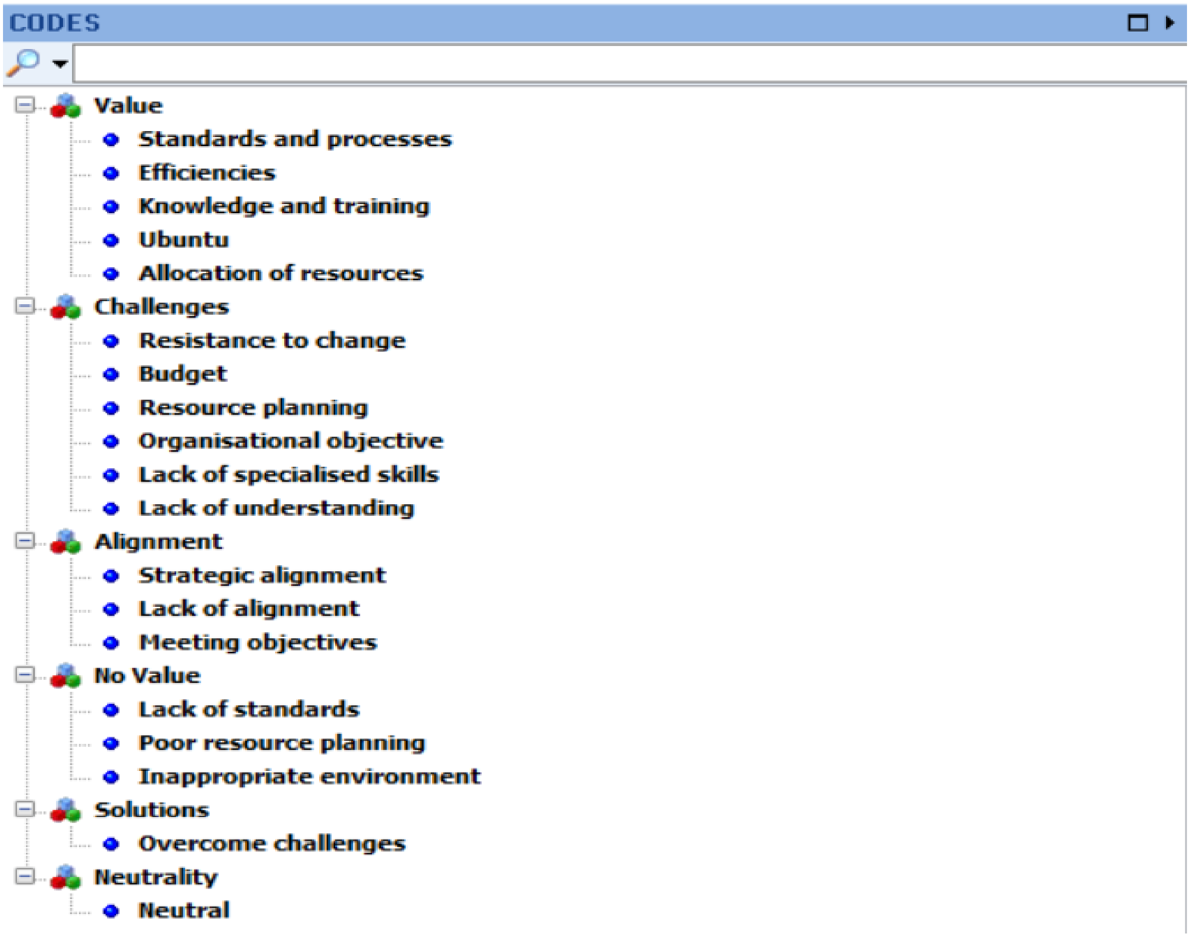

Figure 4.1: Hierarchy of themes and codes

The process followed by the researcher when using QDA Miner Lite (2016) is illustrated in Figure 4.2.

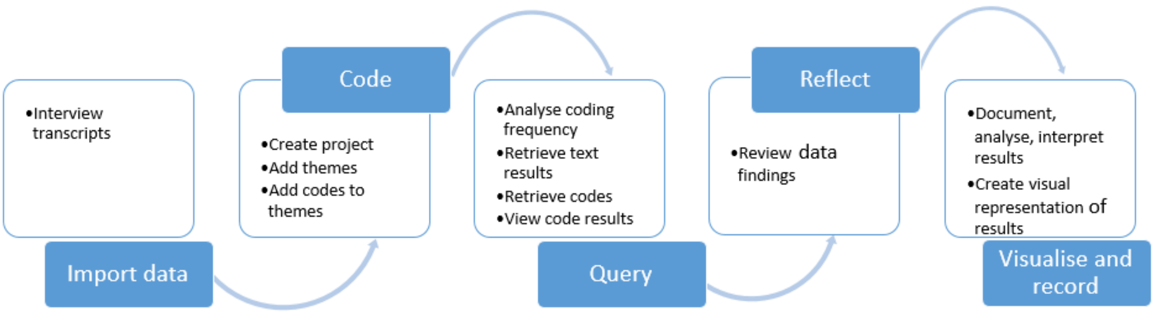

Figure 4.2: Data analysis using QDA Miner Lite (2016) – adapted from Ndiege (2014)

The data obtained from the results of the coding process was used by the researcher to draw conclusions about the results of the interviews.

4.3.6 Interrelate the themes

The researcher used a narrative approach to convey the findings of the analysis. To do this, the researcher categorised the interview questions in terms of their relationship to the research sub-questions. Next the researcher created themes that were related to each sub-question, as well as to the codes that were included within each theme. Based on this approach, the researcher analysed each code in terms of the analysis provided by the QDA Miner Lite (2016) software. Evidence in terms of extracts from the responses of participants was also included to support the findings. The researcher chose to discard all those results that contributed less than 10% to the findings.

4.3.7 Interpret the themes

As part of the final step in the data analysis process, the researcher interpreted the findings and results of the case study data collected, based on the researcher's personal body of knowledge. The interpretations were developed against the backdrop of the researcher's personal culture, history and experiences (Creswell & Clark, 2017).

4.3.8 Validate the accuracy and reliability of information

Validating the findings of the interviews occurred continuously throughout the research process outlined in Figure 3.4. However, according to Creswell and Miller (2000) (quoted by Creswell and Clark (2017)), it is useful to validate the findings in qualitative research to determine their accuracy based on the viewpoints of the researcher, participants, and readers of the research study.

The researcher may determine the qualitative validity, which refers to verifying the accuracy of findings using certain methods, including triangulation. The researcher may also determine qualitative reliability by ensuring the researcher's approach is consistent across other projects and when utilised by different researchers (Creswell & Clark, 2017).

In this research study, the researcher utilised a process of *triangulation* (Section 3.4) to determine the validity and accuracy of the findings. The researcher examined the evidence from three different data sources (interviews, observations, and literature) to determine if the themes identified were coherent in terms of the results (Creswell & Clark, 2017).

The researcher further validated the results of the research study (interviews, observations, literature) in terms of the sub-research questions identified in Section 1.9. The goal was to determine whether the results were indeed aligned with the main purpose of the research study, as outlined in Section 1.8.

4.4 Results from Data Sources

This section deals with the results from interviews, observations and literature, in order to ensure that triangulation was applied correctly.

4.4.1 Results from interviews

The results obtained from the interview process are based on the responses of 11 participants who had been selected according to the criteria identified in Section 3.2.5.

The results of the interviews were used to find answers to the sub-research questions.

Table 4.1: Mapping of sub-research questions to the interview questions

Sub-Research Questions (SRQs)	Interview Questions
(SRQ-1): What are the primary challenges that organisations face in implementing a PMO office?	Question 6
(SRQ-2): What value (if any) will the implementation of the PMO office add to organisations?	Question 1, 2, 3 ,4, 8
(SRQ-3): How should a PMO be strategically aligned with the organisational objectives?	Question 5

Table 4.1 illustrates the relationship between the sub-research questions and the questions asked in the interview. It is evident that a large number of the interview questions were geared towards identifying what value, if any, was added to an organisation through the creation of a PMO. This approach was purposefully selected by the researcher in order to answer the primary research question in this research study: how can value be derived by an organisation based on the implementation of a PMO? (See Section 1.9.) A copy of the interview questions can be found in Appendix A.

4.4.2 Results for sub-research question 1

SRQ-1: What are the primary challenges that organisations face in implementing a PMO office?

4.4.2.1 Results obtained from the interviews

The interview question used to find an answer to the first sub-research question was as follows:

- Question 6: What do you think are the major challenges organisations experience when implementing a PMO?

The researcher identified the theme 'Challenges', which related to the above interview question. Within this theme, the following codes were identified:

- Resistance to change
- Budget
- Resource planning
- Organisational objectives
- Lack of specialised skills
- Lack of understanding

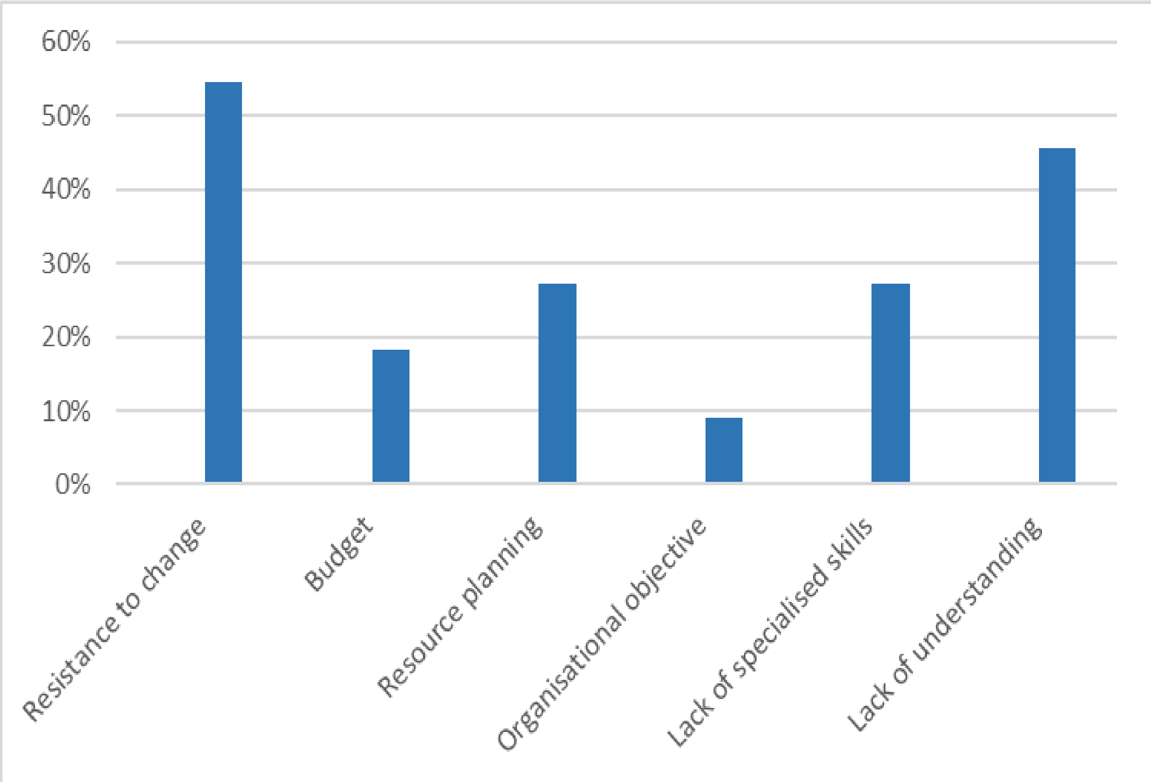

Figure 4.3: Interviewees' responses to the codes within the theme 'Challenges'

As indicated by the interviewees' (verbatim) responses to Question 6, more than half identified resistance to change as a major challenge experienced by organisations when implementing or managing a PMO.

- Participant 2: *Obtaining buy-in from line managers. People are often resistant to change. We see this currently in the organisation.*
- Participant 4: *Getting a PMO to be accepted and respected in the company. The organisation is struggling with this currently, I believe.*
- Participant 9: *Probably [lack of] buy-in from all stakeholders. Line and divisional managers almost always feel that they are losing control of their projects and clients. I see this all the time.*

These findings also related to the code 'Lack of understanding', where less than half the participants voiced a concern that the purpose and role of the PMO were largely misunderstood by stakeholders.

- Participant 6: *Lack of clarity on the PMO's function within the organisation. Most people don't seem to understand what the PMO does.*
- Participant 8: *…it's a pity that the value a PMO can add isn't always understood…*

On a smaller scale, resource planning, budget constraints and lack of specialised skills were also among the issues raised by participants.

- Participant 1: *Project resources allocation is a major issue.*
- Participant 5: *The biggest challenge has been the achievement of the centralised execution of the management of resources and ensuring optimum project management resource planning.*

In Question 7, respondents were asked how they believed organisations could overcome the challenges identified in Question 6 so as to smoothen the implementation of a PMO.

Question 7 read as follows: How can organisations overcome these challenges to ensure a smooth implementation of the PMO?

The majority of participants believed that some of the challenges identified above could be overcome by the organisation.

- Participant 1: "*Communicate the processes to the rest of the division, allow people's buy in.*"
- Participant 2: *"Make the benefits of a PMO clear from the onset to everyone…"*
- Participant 4: *"Executive support and open visibility of life before and life after a PMO. PMO needs to be marketed and promoted to be seen as a "go to" resource for the company."*

4.4.2.2 Findings from the literature

Based on the results obtained from the interviews in relation to SRQ-1 (see Section 4.4.2.1), the literature discussed in Chapter 2 was also applied to show contradiction of or support for these results.

- In Section 2.9, the literature highlighted the challenges that organisations face when implementing a PMO, where a lack of direction and clear objectives were identified as major causes of PMO failure (Reddy & Priyadarshini, 2016; Aubry & Hobbs, 2010).
- Table 2.5 illustrates that the challenges faced by a PMO (as suggested by Salamah and Alnaji (2014) and Aubry and Hobbs (2010)) include undefined project

methodology, failure to track resources, and a lack or unavailability of skilled resources.

- Forrester (2013) identifies various challenges that exist universally in the implementation of PMOs. These include resistance to organisational change, where the PMO is considered an unnecessary bureaucratic structure that increases overhead costs (Forrester, 2013; Singh *et al.*, 2009; Hobbs, 2007).
- Englund *et al.* (2003) argue that a major obstacle in attaining the true potential of a PMO is an organisational mind-set that views the PMO as a cost, and not as an investment in its projects.

The literature identified above demonstrates support for SRQ-1 in terms of the challenges experienced during the implementation of a PMO.

4.4.2.3 Results that emerged from the researcher's observations

The anecdotal observation as related to SRQ-1 is presented in Appendix C.

4.4.3 Results for sub-research question 2

SRQ-2: What value (if any) will the implementation of the PMO office add to organisations?

4.4.3.1 Results obtained from the interviews

The interview questions that were used to address the second sub-research question covered issues such as the respondents' views on the need for a PMO in the organisation, and the value of the PMO in instances where a PMO was already in existence. Respondents were also asked their views on the functions and roles of a PMO, and how a PMO could be used to improve project performance. Finally, participants shared their views on how Ubuntu contributed value (if any) to the PMO.

The five interview questions that were used to address the second sub-research question are presented below.

- Question 1: Do you see a need for establishing a PMO within your organisation/division? Please describe the main reason for this need?
- Question 2: Is a PMO currently implemented in your organisation? If Yes, based on your knowledge and experience, what value and benefits does it contribute?
- Question 3: In your opinion, what are the most important functions or roles that the PMO undertakes?
- Question 4: In what area do you think the PMO plays a major role in improving project performance? Please provide an example.
- Question 8: Ubuntu – "I am, because you are". African Management Philosophy (solidarity, compassion, respect, dignity, humanness, caring, sharing) is founded in Ubuntu, which is described as "a pervasive spirit of caring and community, harmony

and hospitality, respect and responsiveness, that individuals and groups display for one another". Based on the above, how does the organisation's PMO draw on the concepts of Ubuntu to create value?

The results of the interviews showed that the majority of participants identified a definite need for establishing a PMO in the organisation.

Drawing on the results from this pool, the researcher then identified the theme 'Value', which related to the five interview questions above. Five codes were included in this theme:

- Standards and processes
- Efficiencies
- Knowledge and training
- Ubuntu
- Allocation of resources

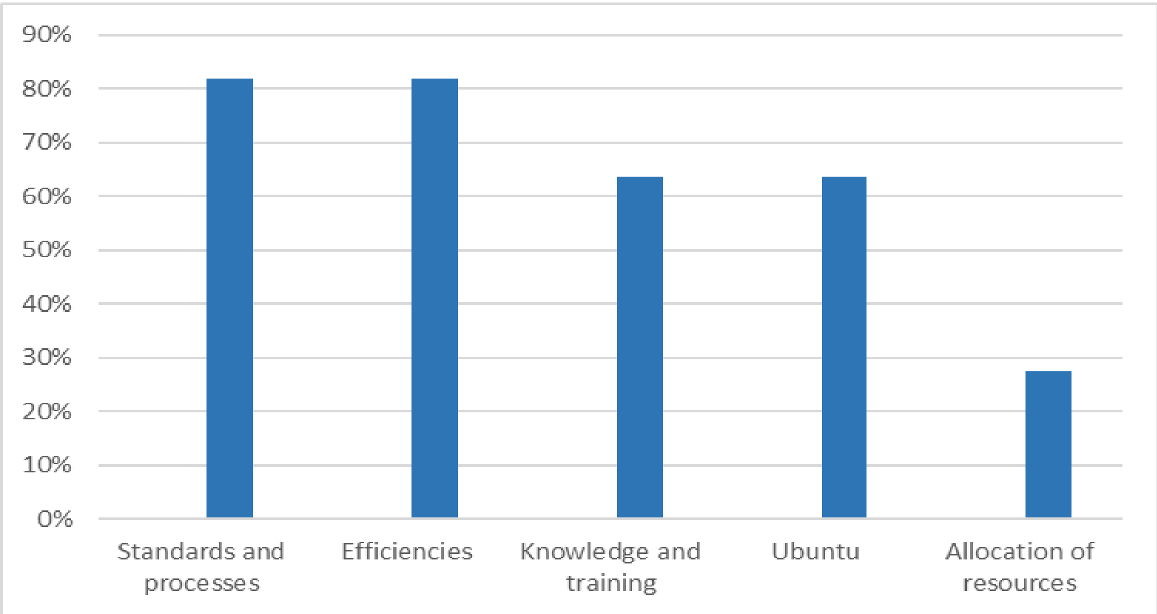

Figure 4.4: Interviewees' responses to the codes within the theme Value

The majority of participants believed that standards and processes and efficiencies, as functions provided by the PMO, contributed the greatest value to the organisation. Their verbatim responses are quoted below.

- Participant 1: *Indeed… I believe there is a need as it allows [the organisation] to set up standards and processes to ensure efficiency in the organisation and the management of resources.*
- Participant 4: *Yes, depending on the organisation's needs, expectations and culture… it is… to set and maintain standards, best practices, and continuous improvement of project management. Also, to provide unswerving project*

management guidance, methods, systems and… tools for consistent project outcomes.

- Participant 6: *Yes, absolutely. It would help coordinate and standardise the project management activities used across the organisation.*

Knowledge and training are other aspects of value identified by respondents, where respondents believed that shared knowledge and coaching/mentoring should form a key service provided by the PMO.

- Participant 8: *…this also provides a community of practice where capabilities can be shared and where guidance can be provided to junior PMs. Essentially, like coaching.*
- Participant 9: *The PMO should manage the career and capability of its members (the project managers). That is, equip project managers with the necessary training to operate effectively.*
- Participant 11: *I must admit that the PMO does look after the training and development needs of PMs, which is important.*

More than half the participants recognised that the PMO contributes value to the organisation and to team members, based on the principles of Ubuntu.

- Participant 1: *It's [Ubuntu] inclusivity because we tackle all projects with respect and constantly engage with our stakeholders to ensure we deliver according to their needs… and overall, we aim to deliver solutions that...impact in our communities.*
- Participant 10: *When you realise your own limitations and know you're dependent on your team… this leads to successful delivery of projects… everyone contributes their unique skills to the project. Drawing on the concepts of Ubuntu speaks directly to this, we need to treat each other with respect... work towards the same goal.*

Finally, allocation of resources was identified as contributing marginally to the value of a PMO.

- Participant 7: *…to enable seamless succession or replacement of human resources when necessary.*
- Participant 9: *Also liaise with line managers with the view to discuss issues experienced by project managers.*

Participants also raised the issue of inadequate resource planning and allocation as one of the important challenges facing the PMO (see Section 4.4.2).

4.4.3.2 Findings from the literature

Based on the results obtained from the interviews in relation to SRQ-2 (see Section 4.4.3.1), the literature discussed in Chapter 2 was also applied to show contradiction or support for these results.

- In Section 2.10, the literature highlighted the value that the implementation of the PMO office can add to organisations, such as organisational growth, standardisation of processes and procedures, enhanced operational efficiencies, and a common pool of skilled and qualified resources (Reddy & Priyadarshini, 2016; Hubbard & Bolles, 2012; Kerzner, 2003).
- Research conducted by experts (Kerzner, 2009; Hobbs, 2007; Desouza & Evaristo, 2006; Dai & Wells, 2004; Hill, 2004) indicates that the position of a PMO within an organisation, and the value it adds, has been contested in numerous organisations. Hurt and Thomas (2009) argue that organisations that implement a PMO either reap rewards in terms of organisational growth, or the PMO fails, and the organisation consequently loses its investment.
- Kerzner (2003) and Hubbard and Bolles (2012) identify various benefits (Section 2.10.2) that a PMO may provide to an organisation, in terms of enhancing its business outcomes and meeting its strategic objectives. These findings are supported by a case study from Stanleigh (2006), as quoted by Reddy and Priyadarshini (2016) (see Section 2.10.2).

These literature findings further emphasise the value that a PMO holds for the organisation in terms of the realisation of improved cost and operational efficiencies, enhanced project quality and delivery, coupled with exceptional project management expertise (Reddy & Priyadarshini, 2016).

4.4.3.3 Results that emerged from the researcher's observations

The anecdotal observation as related to SRQ-2 is presented in Appendix C.

4.4.4 Results for sub-research question 3

SRQ-3: How should a PMO be strategically aligned with the organisational objectives?

4.4.4.1 Results obtained from the interviews

The interview question that was used to address the third sub-research question is presented as follows:

- Question 5: Is the PMO strategically aligned with the organisation/divisional objectives? If Yes, please state the value that is derived from this alignment?

The researcher identified the theme 'Alignment', which related to the above interview question. Within this theme, the following codes were identified:

- Strategic alignment
- Lack of alignment
- Meeting objectives

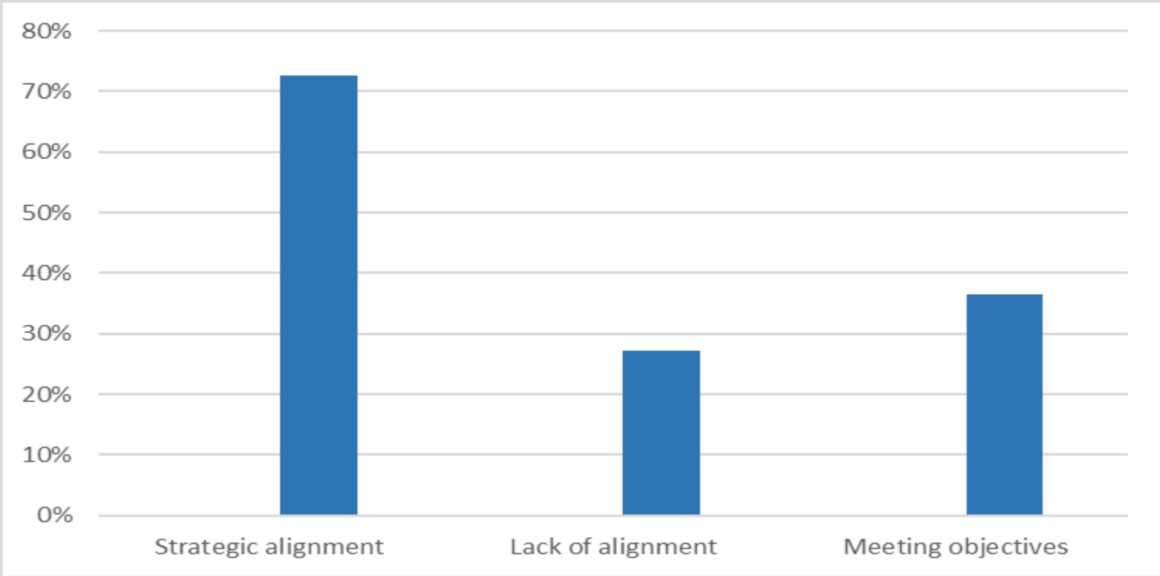

Figure 4.5: Interviewees' responses to the codes within the theme Alignment

Based on the findings of the interviews, the majority of respondents felt that the PMO was strategically aligned with the needs of the organisation.

- Participant 2: *Yes. The project management practices within the organisation focus on the organisation objectives.*
- Participant 6: *Yes. Project managers are assigned to the competency areas where they support the divisional strategy.*
- Participant 7: *Yes. Through the human resources assigned from the PMO, the PMO has a direct contribution to internal process and financial perspectives of the organisation/divisional scorecard. So, facilitating execution of R&D projects requiring management control enabled by Project Management as well as financial sustenance through contract R&D whose success is underpinned by Project Management.*

The idea of a PMO being strategically aligned with the organisational/divisional objectives is not supported a small margin of participants. In these instances, participants believed that strategic alignment was of no or little value.

- Participant 1: *Yes, [but] divisionally we haven't done relatively well to support the divisional strategy/mandate.*
- Participant 3: *In my opinion there's no alignment evident.*
- Participant 9: *Yes, within my division. However, value derived is viewed by the divisional head as how do the PMO support his or her objectives and not necessarily the work and role of project managers.*

The researcher also determined that some participants felt that the PMO was indeed meeting its objectives as outlined by the organisation.

- Participant 2: *The project management practices within the organisation focus on the organisation objectives.*
- Participant 9: *The PMO also supports the divisional objectives by assisting with business development wherever it can.*

4.4.4.2 Findings from the literature

Based on the results obtained from the interviews in relation to SRQ-3 (see Section 4.4.4.1), the literature discussed in Chapter 2 was also applied to show contradiction or support for these results.

- The literature presented in Section 2.10.1 is indicative of the value proffered by a strategic PMO within an organisation.
- A study by Forrester (2013) to determine the role that executive management played in their organisations' PMOs established that the role played by PMOs that had been aligned with executive management, correlated with the successful business outcomes of each organisation.
- Rajegopal *et al.* (2007) and Forrester (2013) argue that the strategic PMO is one that is connected to the organisation at executive level and plays an integral role in the planning and execution of organisational initiatives. This view is supported by Caliste (2013), who argues that the PMO plays a pivotal role in enabling the organisation to achieve sustained business growth and gain a competitive advantage in the market.

The literature identified above demonstrates support for SRQ-3, in terms of a PMO being strategically aligned with the organisational objectives.

4.4.4.3 Results that emerged from the researcher's observations

The anecdotal observation as related to SRQ-3 is presented in Appendix C.

4.4.5 Results regarding the concept of Ubuntu

The researcher included two questions that addressed the concept of Ubuntu in relation the PMO. The questions were as follows:

- Question 8: Ubuntu – "I am, because you are". African Management Philosophy (solidarity, compassion, respect, dignity, humanness, caring, sharing) is founded in Ubuntu, which is described as "a pervasive spirit of caring and community, harmony and hospitality, respect and responsiveness, that individuals and groups display for one another". Based on the above, how does the organisation's PMO draw on the concepts of Ubuntu to create value?
- Question 9: Have you, over the past two years, engaged with projects that reflect the concept of Ubuntu? If Yes, please list these projects, along with a brief

description of each (e.g. Health Patient Registration System implemented in approximately 3200 facilities.)

The researcher elected to utilise Question 8 in an effort to address SRQ-2. The motivation for this decision was based on the idea that Ubuntu, as a principle, creates value in terms of AMP. The results for this question were discussed in Section 4.4.3.

Question 9 was not included in the main research findings that were used to address the sub-research questions. This decision was motivated by the desire to demonstrate the extent to which the PMO adds value to the organisation, based purely on the concept of Ubuntu.

The results of this question highlighted the number of participants (7) who indicated participation in projects (11) that had an impact on communities across South Africa (see a verbatim response below). The projects ranged from the health and pharmaceutical industry, to rural land development and reform. Participants played key roles in the execution of these projects that were managed under the aegis of the PMO.

- Participant 10: *The HPRS has been implemented across the country, not only improving the public health system but also the lives of thousands of patients on a daily basis. The project team is very passionate and driven about this project… [the project goal is] very much in line with the concept of Ubuntu. This allows us to implement the project successfully.*

4.5 Hermeneutic Circle

This study was conducted from an interpretivist philosophical perspective, which sought to allow the researcher to interact with various participants in the research study in order to understand their viewpoint and realities (Creswell & Clark, 2017). This philosophy is related to hermeneutics, which according to Klein and Myers (1999), is one mode of analysis associated with interpretive research. The concept of hermeneutics was discussed in Section 3.3.1.

Klein and Myers (1999) state that hermeneutics and interpretivism are closely linked. The interpretation process is supported by seven principles of interaction between the researcher and subjects. These principles were utilised by the researcher in this research study and are presented in Table 4.2:

Table 4.2: Application of Hermeneutic principles – adapted from Klein and Myers (1999)

	Principle	Explanation	Application
1.	**Hermeneutic Circle**	Understanding data by way of iterating between the interdependent meaning of parts of the data, and the whole they form. Attempting to understand each part of the data as part of a larger context.	Data gathered from interview participants was identified, understood and considered in relation to the sub-research questions in the case study. The interview results extracted from the sub-research questions were considered in relation to the primary research question, which forms the whole of the research study (Chapter 4).
2.	**Contextualisation**	Providing the audience (reader) with some context about the research environment in order to enable the audience (reader) to understand how the current situation emerged.	Contextualisation was applied in Section 1.7 which reflected on the problem statement that had led to this research study, as well as the environmental context of the researcher's organisation of choice.
3.	**Interaction**	Reflecting on how the data is socially constructed as a result of interaction between the researcher and participants in the research study.	The principle of interaction was applied through the process of interviews, where data was collected in a series of one-on-one interactions with participants. (See Sections 4.4.2.1, 4.4.3.1 and 4.4.4.1.)
4.	**Abstraction and Generalisation**	Relating the idiographic details of the data interpretation to a theory that describes human understanding and social action and allows the reader to track how the researcher arrived at the researcher's theoretical insights.	This was applied throughout Chapter 3, which outlined the research methodology of this study – more specifically, in the researcher's use of the research onion in Section 3.5.

Principle	Explanation	Application
5. Dialogical Reasoning	Bearing in mind that contradictions may occur between the theory that guided the research, and the research findings.	This principle was applied throughout, being constantly cognisant that data analysis is sensitive to the possibility of contradictions that may arise between the theory and the real findings. Some participants contradicted literature that supported the question of whether a PMO can add value to an organisation (Section 4.6).
6. Multiple Interpretations	Keeping in mind the possibility that interpretations among participants may differ from one individual to another.	Multiple interpretations were applied by the researcher during the interview analysis, where the researcher identified and documented different participants' viewpoints relating to the same question. These viewpoints were reported in the direct quotations as supplied at the end of each identified theme in Sections 4.4.2.1, 4.4.3.1 and 4.4.4.1.
7. Suspicion	Being sensitive to the possibility of discovering biases, distortions and false preconceptions in the data collected from participants.	This was applied by the researcher during the interview process where the researcher was not aware of the possibility that participants may answer questions with prejudice. A false assumption held by the researcher was that all participants would respond favourably, in support for the value that a PMO offers the organisation. However, certain participants responded in favour of a decentralised (divisional) PMO, as opposed to a PMO implemented at organisational level (central PMO). (See Section 4.6.2.) In an effort to resolve any bias, the researcher established a baseline from which to gauge responses, based on a uniform understanding of the role and function of the PMO within the organisation.

The hermeneutic principles in Table 4.2 were applied in the analysis of the research findings to gain an understanding of how the data was gathered, explaining what the data means, and making it the researcher's own. These principles were applied repeatedly in order to form a network of interpretations (Klein & Myers, 1999), which is discussed in detail in Chapter 4.

4.6 Addressing the Primary Research Question

In order to address the primary research question – *How can value be derived by an organisation based on the implementation of a PMO?* – the researcher utilised both the findings that emerged from the literature review (Chapter 2) and the results of the data analysis (Chapter 4).

It should be noted that the data analysed in Chapter 4 and results of the sub research questions served as the foundation for addressing the primary research question.

The PMO associated with the organisation in this case study is currently at Stage 4 in the evolution of the PMO framework, which is an Advanced PMO (see Section 2.8). The organisation's high level of maturity is due to the nature and composition of the implemented PMO. The latter has an integrated and comprehensive project management capability geared towards achieving business objectives. It is responsible for the management of various projects and employed multiple project and programme managers. A dedicated group of PMO technical and support staff are all managed by a PMO director.

4.6.1 Findings from the literature

The role and functions of a PMO vary greatly from one organisation to the next. The definition put forward by Reddy and Priyadarshini (2016) supports this view, and Salamah and Alnaji (2014) and Hill (2013) further support this view in identifying the different key roles and functions of a PMO. Primary functions include the maintenance of standard processes and procedures with which to govern programmes and projects, and the introduction of a centralised set of project management tools and support services. These functions can be further subdivided into areas such as practice and infrastructure management, resource integration, technical support and business alignment. It is evident that the PMO has the ability to entrench itself as an indispensable organisational unit. It should also be noted that the functions of a PMO are unique to the organisation and as such, not all PMOs will execute all functions, or part thereof.

According to Hill (2013), the role and functions of a PMO evolve in line with the PMO's level of maturity, and in line with the organisation's own maturity in the domain of project management. The competency continuum was used to demonstrate the different frameworks in the maturity of the PMO as it progresses through achieving the different levels of functional capability (Hill, 2013). Hill (2013) concludes that the PMO may be considered a business integration activity, where organisations need not evolve to Stage 5 of the continuum to achieve their organisational objectives. In addition, the likelihood that any individual PMO will implement all 20 functions is unlikely; rather, PMOs will make adaptations and adjustment to their functions based on the organisation's requirements (Hill, 2013).

Much research has been performed to investigate the positioning of a PMO within an organisation, and to determine the value-add it offers (Kerzner, 2009; Hobbs, 2007; Desouza & Evaristo, 2006; Hill, 2004; Kwak & Dai, 2000). Some researchers (Hurt & Thomas, 2009; Thomas & Mullaly, 2008) believe that organisations that implement a PMO reap rewards in terms of organisational growth. Others (Reddy & Priyadarshini, 2016; Aubry & Hobbs, 2010) feel that many PMOs fail as a result of unclear objectives and a lack of organisational support.

PMOs that have reached maturity are those that have transformed from the traditional tactical role to a strategic role (Pinto, 2013; Hurt & Thomas, 2009). Forrester (2013) concurs with this view, namely that successful PMOs strive to define further goals and objectives to add greater value to the organisation, over and above its standard PMO role.

There is wide agreement that strategic PMOs can attain optimum levels of project management maturity by ensuring that their project management practices, principles and processes are aligned with the organisation's corporate strategy (Project Management Institute, 2013; Stanleigh, 2006; Hill, 2004). However, Hill (2004) argues that the PMO's role in aligning organisational project management competencies with strategic business goals is inadequate. Hill (2004) posits that for an organisation to attain full project management maturity, strategic alignment is key.

In keeping with the evolution of the roles and functions of the PMO over the years, the benefits associated with the PMO have developed as well. Hurt and Thomas (2009) trace the evolution of the benefits of a PMO across the decades, from 1990 to present. However, the researcher notes that these benefits are merely a goal for PMOs to aspire towards; every organisation will realise the benefit of implementing a PMO in different ways, depending on the organisation's landscape and its project management environment.

It should be noted that in order to reap the full benefits that a PMO has to offer, the organisation needs to overcome the challenges that invariably arise in implementing a PMO. These challenges are vast and encompass issues such as a misalignment between the PMO and organisational strategic objectives, a lack of project and programme management expertise within the PMO, and non-standardised processes and procedures (Salamah & Alnaji, 2014; Aubry & Hobbs, 2010; Singh *et al.*, 2009; Hobbs, 2007). The fundamental challenges presented when implementing a PMO are exacerbated by an organisation's culture, where there exists a lack of buy-in and resistance to change on behalf of organisational stakeholders. Most researchers (Reddy & Priyadarshini, 2016; Salamah & Alnaji, 2014; Aubry & Hobbs, 2010) agree that a change in organisational culture will expedite the process of implementing a PMO.

From an African and South African perspective, Goldman (2013), as quoted by Marnewick *et al.* (2018), posits that AMP is founded in the African concept of Ubuntu. This concept encompasses various principles, including solidarity, compassion, and respect (See Section 2.11.3). Based on the available literature, the researcher notes that AMP is infused with the Western philosophy of project management, which plays a vital role in the implementation and management of projects within PMOs in Africa and South Africa. This infusion is demonstrated in Section 2.11.4.

4.6.2 Interviews

Based on the results of the interviews conducted as part of this research study, more than half the participants provided positive feedback and support for the sub-research questions. Some participants in the interview process remained neutral in their answers to certain questions and a minority felt that the PMO provided little to no value to the organisation analysed in this case study.

4.6.3 Observations

The anecdotal records presented in Appendix C are based on the actions and behaviours of participants during the course of performing their duties. The observations made by the researcher correlated with the findings of the interviews as presented in Section 4.6.2.

4.7 Conclusion

This chapter provided an analysis of the data gathered during the research study, and examined the findings in relation to the primary and sub-research questions posed by the researcher.

Based on the findings in Sections 4.4, 4.6.1, and 4.6.2, it is now possible to answer the main research question. The findings indicate that there is a strong justification for the value that can be derived through a PMO.

The next chapter provides the conclusion, gives a synthesis of the findings, and makes recommendations based on such findings.

Chapter 5: Synthesis of Findings, Discussion, Conclusion, Limitations and Recommendations

5.1 Introduction

The previous chapters in this study report all led up to this final chapter, which aims to reflect on and provide conclusions to the problem that was specific to this study. The problem that was addressed involves guidelines to assist medium to large organisations in deriving value from the implementation of a PMO, and particularly within the organisation of choice in the case study.

The introduction (Chapter 1) set the scene, sketched the background, and established the context and purpose for the study. The chapter further examined the researcher's perspective of this study and presented the primary and secondary questions as well as the research philosophy. Limitations of the study were also introduced.

The literature review (Chapter 2) presented the literature that was used to inform the researcher's standpoint and address the primary and secondary research questions posed in this study. The research aimed to determine how organisations could derive value through the creation of a PMO. Once the answer to this question was known, guidelines could be provided for organisations to gain value from the implementation of a PMO as another contribution of this study.

Chapter 3 provided the research methodology to outline how the research study was conducted. The researcher adapted the research onion process (Saunders & Lewis, 2016) to shape the theory and plan for the research study.

The data analysis in Chapter 4 presented a summary of the data collected in the study. The data was subsequently interpreted, and an analysis of the data was presented.

This final chapter now includes the findings and conclusions derived from the research study. In addition, the chapter will address the three sub-research questions that were used to answer the primary research question in this study.

5.2 Research Overview

Based on the background and problem statement outlined in Section 5.1, it would be prudent to re-emphasise the purpose and objective of this study, and to give an outline of the research questions that were used to determine whether they have indeed been answered.

The purpose of the study in hand involves an exploration of the value of a PMO in an organisation, and guidelines to assist medium to large organisations in the implementation thereof, where a PMO is often conspicuously absent. The following study objectives were identified to answer this question (see Section 1.9):

- Determine the primary challenges facing a PMO office.
- Identify the stages of maturity in the implementation of a PMO, as well as the role and functions of a PMO as it evolves towards greater maturity and in line with the organisation's maturity with regard to project management.
- Identify the specific medium to large organisation to be used for a case study to address the purpose of this research.
- Conduct the case study research in the medium to large organisation to ascertain what value can be derived through the creation of a PMO within this type of organisation.
- Understand the challenges, limitations and problems that organisations experience in implementing a PMO.

The primary research question was: How can value be derived by an organisation based on the implementation of a PMO?

To fully explore this question, the following sub-research questions were identified:

- What are the primary challenges that organisations face in implementing a PMO office?
- What, value (if any), will the implementation of the PMO office add to organisations?
- Should a PMO be strategically aligned with the organisational objectives?

During the execution of this research study, the researcher analysed the data that had been collected as well as the available literature, in an attempt to answer the questions mentioned above. The section below presents evidence that the research questions were answered and shows where in the study each question was addressed. It also briefly describes the derived findings.

5.3 Research Questions Answered

The investigation into how organisations could derive value through the creation of a PMO (primary research question) was successfully conducted. The sub-research questions that were identified were used to help address the primary question.

5.3.1 Sub-research question 1 answered

Information about the first sub-research question is presented in Table 5.1. The table lists the different data sources and the discussions that led to a clear comprehension in support of sub-research question 1: What are the primary challenges that organisations face in implementing a PMO office?

Table 5.1: Sub-research question 1 answered

Topic	Description
SRQ-1	What are the primary challenges that organisations face in implementing a PMO?
Addressed in	Sections 2.9; 4.4.2.1; 4.4.2.2; 4.4.2.3 and Table 2.5
Main findings	It was evident from the data sources [literature; interviews (Appendix A) and observations (Appendix C)] that organisations experience numerous challenges in implementing a PMO.

5.3.2 Sub-research question 2 answered

Information about the second sub-research question is presented in Table 5.2. The table lists the different data sources and the discussions that led to a clear comprehension of sub-research question 2: What value (if any) will the implementation of the PMO office add to organisations?

Table 5.2: Sub-research question 2 answered

Topic	Description
SRQ-2	What value (if any) will the implementation of the PMO office add to organisations?
Addressed in	Sections 2.10; 4.4.3.1; 4.4.3.2; 4.4.3.3
Main findings	It is evident from the data sources [literature; interviews (Appendix A) and observations (Appendix C)] that these sources have supported SRQ-2 in establishing the fact that the implementation of a PMO will add to value to an organisation.

5.3.3 Sub-research question 3 answered

Information about the examination of the third sub-research questions is presented in Table 5.3, illustrating that the different data sources led to a clear comprehension in support of the sub-research question: Should a PMO be strategically aligned with the organisational objectives?

Table 5.3: Sub-research question 3 answered

Topic	Description
SRQ-3	How should a PMO be strategically aligned with the organisational objectives?
Addressed in	Sections 2.10.1; 4.4.4.1; 4.4.4.2; 4.4.4.3
Main findings	It is evident from the data sources [literature; interviews (Appendix A) and observations (Appendix C)] that these sources have supported SRQ-3 in demonstrating that successful PMOs are those that are strategically aligned with the organisational objectives.

5.3.4 Primary research question answered

Conclusions drawn from the data sources for the purpose of answering the first three sub-research questions were utilised as the foundation on which to support the need for a PMO that can be implemented as a means of adding value in medium to large organisations.

Table 5.4: Primary research question answered

Topic	Description
Primary research question	How can value be derived by an organisation based on the implementation of a PMO?
Addressed in	Chapters 2 and 4
Main findings	The literature demonstrated in Chapter 2 and the additional data sources presented in Chapter 4 for answering the sub-research questions together form the foundation for answering the primary research question.

The following section provides information on the process followed in conducting the research.

5.4 Summary of the Research Design

The research onion (Saunders & Lewis, 2016) illustrated in Figure 3.5 was the foundation for the research process followed in this study. The process was illustrated in Figure 3.5 and extensively explained in Chapter 3.

Based on the research onion, the researcher applied an interpretivist philosophy. This led to a qualitative design, where an inductive approach to theory development was applied in the case study that was conducted in a medium to large organisation (see Section 3.2). A purposeful sampling technique was utilised to select participants as discussed in Section 3.2.5.

Interviews and observations were the chosen data collection instruments to be used in the case study. The processes and findings obtained by means of these data collection instruments were discussed in Section 4.4. Different sources were used for data collection to create a strong justification for the findings related to the secondary research questions, which in turned informed the researcher's findings and answered the primary research question.

5.5 Reflection on Key Findings

Extensive literature reviews, interviews, and processes of observation culminated in the researcher's conclusion regarding the main research question in this study. It was determined that when a PMO is implemented, it has the ability to offer value to medium and large organisations. This conclusion was presented in Chapter 4.

Key findings were as follows:

- In order to effectively practise the discipline of project management in a South African context, it is imperative that this discipline be infused into AMP (Chapter 2).
- Strategic alignment of organisational objectives is key in determining the level of success or failure of a PMO within an organisation (Chapter 2).
- A PMO is representative of the organisation's intellectual property; thus the PMO should be managed appropriately to reap its full value (Chapter 2).

5.6 Contribution to Knowledge

The findings that emerged from the study contribute to the current discourse in the project management domain and to the establishment of PMOs in medium to large organisations. The novelty of the research study lies in its contribution of knowledge regarding the implementation of a PMO in medium to large organisations. In this respect, organisations will be able to establish relevant guidelines that inform the implementation of a PMO in a manner that derives value and offers benefits to the organisation. Evidence about the value that can be derived from a PMO was found in the literature, but no substantial evidence was available to prove that a PMO is detrimental to the success of project management endeavours in an organisation.

The main theoretical contribution of this research study was related to theory put forward by Creswell and Clark (2017), while the research onion of Saunders and Lewis (2016) defined the process and practical contribution.

The findings of this study are making an important contribution to the academic body of knowledge for the following reasons:

- They offer guidelines on how to implement a PMO within medium to large organisations.
- They offer insight into the role of the PMO in medium to large organisations, and the value that can be derived therein.
- They offer a perspective on how PMOs are perceived by stakeholders and how interaction between stakeholders, the PMO and the organisation occurs.

The knowledge gained from this study created an understanding of the value a PMO offers in respect of medium to large organisations.

5.7 Limitations of the Study

An important limitation of the study, as indicated in its scope and delineation (Section 1.10), is the fact that it was based on a single case study within one medium to large organisation based in one province (Gauteng) in South Africa. This limited its scope and range of results. However, time and practical constraints dictated that the researcher base this case study on a single organisation.

Another limitation arose in terms of a lack of literature relating to PMOs from a South African perspective. Minimal research has been conducted and is available with regard to the value proffered in the implementation of a PMO in a South African context.

5.8 Personal Reflections on the Study

It has been a privilege to explore and investigate how organisations can derive value through the creation of a PMO. Some of the lessons learnt from this experience involved countering the negative preconceptions of many individuals regarding the PMO as a support entity, in spite of these individuals being presented with evidence to the contrary.

The organisation that was used as the basis for this research study is located in South Africa and its mandate is to create social impact for all South Africans. It is the researcher's privilege to be a part of a PMO that manages and executes projects and programs while drawing on the principles of AMP with Western philosophy. During the course of interviews that formed part of this research study, the researcher also realised that many individuals recognise the positive impact that Ubuntu has on the organisation and team members within the PMO, especially since the PMO is grounded in concepts such as unity, humanness, and respect – principles that underscore the organisation's mandate.

The researcher realised that undertaking a research study of this magnitude required time and dedication to adequately collect the data required to develop an informed and knowledgeable response to the research questions. It was imperative for the researcher to remain present in the environment – in this instance, the organisation that formed the basis for the case study – so as to witness and observe the functioning of the PMO in the context of the organisation's daily operations.

It was also important to take into account that collecting data from people in an interview process is a challenging exercise. Identifying mutually suitable times to conduct interviews is especially challenging. One needs to exercise patience and understanding, and must adapt to the circumstances and needs of all the interviewees.

An important lesson learnt from this experience was to always remain focused on the task at hand, to be dedicated and persevere at all times in what is often a tedious research journey.

A key benefit of this research study involved the acquisition of a range of skills by the researcher. These included knowledge and use of the ENDNOTE and QDA Miner Lite applications, as well as skills relating to the manner in which interviews and observations should be conducted for research purposes.

5.9 The Way Forward

This section reflects on areas to be considered for future academic and practical research. The research topics listed below should be investigated in the future to broaden the collective understanding of this specific knowledge domain:

- The effectiveness and efficiency of a PMO as it progresses in maturity.
- Alternative or hybrid project management methodologies that can be utilised within an organisation in the execution of projects and programmes.
- Analysis of the value proffered by a PMO as a revenue-generating entity rather than solely serving as a support function.

With regard to the latter, the researcher noted that a PMO is viewed by some organisations and individuals as a cost entity within the organisation. However, the researcher had the opportunity to set up a PMO twice in two different organisations within a period of 12 years. In both instances, the PMO was set up as revenue-generating entity and not as a support (cost) entity. This was achieved by ensuring that every individual within the PMO was billable (i.e. they billed their time) to the project – for projects and programmes managed internally and externally to the organisation.

The success of the implementations described above is evidence that a PMO can be developed to become a self-sustainable entity that contributes positively to the bottom-line of the organisation. The value-add demonstrated in these instances were not only from a monetary perspective but also from a governance, process and procedures perspective.

Thus, it is the researcher's belief that thorough and dedicated future investigations into the use of PMOs as revenue-generating entities will stand organisations in good stead.

5.10 Conclusion

The intention of this research study was to investigate how organisations can derive value through the creation of a PMO. In this study, qualitative data was collected and analysed as a means of addressing this question. The study demonstrated through the findings that emerged from literary investigations, interviews and observations, that great value can be derived through a PMO.

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Appendix A

This appendix includes the questions presented to participants during the interview process of this research study.

Interview Questions

1. Do you see a need for establishing a PMO within your organisation/division? Please describe the main reason for this need?
2. Is a PMO currently implemented in your organisation? If Yes, based on your knowledge and experience, what value and benefits does it contribute?
3. In your opinion, what are the most important functions or roles that the PMO undertakes?
4. In what area do you think the PMO plays a major role in improving project performance? Please provide an example.
5. Is the PMO strategically aligned with the organisation/divisional objectives? If Yes, please state the value that is derived from this alignment?
6. What do you think are the major challenges organisations experience when implementing a PMO?
7. How can organisations overcome these challenges to ensure a smooth implementation of the PMO?
8. Ubuntu – "I am, because you are". African Management Philosophy (solidarity, compassion, respect, dignity, humanness, caring, sharing) is founded in Ubuntu, which is described as "a pervasive spirit of caring and community, harmony and hospitality, respect and responsiveness, that individuals and groups display for one another." Based on the above, how does the organisation's PMO draw on the concepts of Ubuntu to create value?
9. Have you engaged with projects that reflect the concept of Ubuntu over the past two years? If Yes, please list these projects, along with a brief description. For example, Health Patient Registration System implemented in approximately 3200 facilities.
10. Are there any additional comments relating to the role of the PMO and how it delivers value to an organisation that you think may be pertinent to this research?

Appendix B

This appendix contains a copy of the ethical clearance certificate obtained from Da Vinci Institute for this research study.

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Ethical Declaration

I, the undersigned, hereby declare that the Masters proposal of the student named below has received ethical clearance from The Da Vinci Institute Ethics Committee. The student and supervisor will be expected to continue to uphold the Da Vinci Institute's Research Ethics Policy as indicated during application.

Title of Proposal: An Exploration to Determine Whether a Project Management Office (PMO) CAN Add Value to an Organisation

Student Name: Muhammed

Student number: [redacted]

Academic Supervisor: Dr M Herselman

Field Mentor: n/a

Chairperson: Ethics Committee

Heather Goode
Dean: Teaching and Learning

Signature: [redacted]

Date: 23 January 2019

Appendix C

This appendix contains an anecdotal record of the key observations made between 25 January 2019 and 1 February 2019 at the organisation that served as the research subject.

Anecdotal Records for SRQ-1

What are the primary challenges that organisations face in implementing a PMO?

Assessment date: 25 January 2019

Observation period: 10:00am -12.00am

Comments: Participants 6 and 8 conveyed their frustration with the apparent lack of understanding involving the role of the PMO in the organisation. This incident was observed to be related to an e-mail circular that highlighted the challenges experienced within the PMO, including a lack of clarity on the function of the PMO and resistance to change by people affected by the implementation of the PMO.

Anecdotal Records for SRQ-2

What value (if any) will the implementation of the PMO add to organisations?

Assessment date: 28 January 2019

Observation period: 14:00 – 16:00

Comments: The researcher observed that participants in this case study expressed the opinion that Phase 1 of the implemented PMO was starting to reap rewards. Some of the values noted were the standardisation of processes and tools, and through the standardisation of process, an increase in the efficiencies realised in the execution of projects and programmes.

Anecdotal Records for SRQ-3

How should a PMO be strategically aligned with the organisation's objectives?

Assessment date: 30 January 2019

Observation period: 10:00am – 12:00am

Comments: The researcher noted that participant 10 was actively involved in a project currently being implemented by the PMO, where the aim of the project was to improve the public health system nationally. It was noted that the project was reaping early successes due to its alignment with the overall objectives of the organisation. One of the key strategic objectives of the organisation selected in this case study was to create impact on communities across South Africa; this is reflected in the mandate of the organisation. The researcher validated this observation through personal visits to selected clinics nationally and observing the reduction in patient waiting times at facilities.