A LEADERSHIP FRAMEWORK TO RE-CONFIGURE THE PROJECT MANAGEMENT OFFICE IN ESKOM TO EMBRACE PROJECT MANAGEMENT FOR THE FOURTH INDUSTRIAL REVOLUTION

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DECLARATION OF AUTHENTICITY

I declare that the research project, **A Leadership Framework to Re-configure the Project Management Office in ESKOM to Embrace Project Management for the Fourth Industrial Revolution** is my own work, and all sources of information utilised within this research project have been acknowledged through complete reference.

This dissertation has not been submitted prior to this submission to any other research project and or degree to any other university or institution for examination.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

LIST OF ABBREVIATIONS

Abbreviation	Explanation
C and A	Compliance and Advisory
BPM	Business Process Modelling
BPS	Business Processes and Standards
CoE	Centre of Excellence
CSF	Critical Success Factor
DCE	Design Cost Estimation
DPMO	Distribution Project Management Office
DRM	Document and Records Management
Dx	Eskom Distribution Division
EPMO	Eskom Project Management (Programme Management Office)/ Eskom PMO
Gx	Eskom Generation Division
IDLA	Interim Development Landing Area
IS	Information Systems
KM	Knowledge Management
KPA	Key Performance Area
KPI	Key Performance Indicator
LTI	Lost Time Incidents
LTIR	Lost Time Incident Rate
NUG	National User Group
OU	Operating Unit
FSOU	Free State Operating Unit
PCM	Process Control Manual
PDRA	Project Definition Readiness Assessment
PEF	Project Execution Framework
PEEP	Project Execution Excellence in Projects
PKHI	Project Key Health Indicators
PLCM	Project Lifecycle Model
PM	Project Manager
PMCoE	Project Management Centre of Excellence
PMO	Project Management Office
PO	Project Office

Abbreviation	Explanation
SHE(Q)	Safety, Health, Environment (and Quality)
SLA	Service Level Agreement
SME	Subject Matter Expert
Tx	Eskom Transmission Division

ABSTRACT

This study explored the linkages between the Eskom Distribution project management community (DX POs) and the Eskom PMO (EPMO) as the custodian and implementer of project management processes, procedures, guidelines, and best practices. The researcher explored and interpreted the lived experiences of the practitioners in the rollout of the standardised project management methodology by the EPMO and the implementation, or the adoption, of the methodology by the Eskom Distribution project management community.

The study employed an organisational ethnographic approach by collecting qualitative data through participant observation and electronically structured interviews per the agreement with two groups of Senior Managers from the EPMO and the Distribution Asset Creation Departments in Eskom. This was complemented with quantitative data collection using a survey questionnaire to collect data from as many participants as possible in the Distribution Project Offices across the nine provinces in South Africa.

Secondary data were collected from the Gauteng PMO Forum, which surveyed Project Offices in South Africa, called the PMO Insights Report. The PMO Forum is an interest group that falls under the umbrella of Project Management South Africa (PMSA). The PMO Forum provides an opportunity for PMO Executives and Leaders to network with peers across industries and share knowledge and experience.

The researcher further sourced additional data from an internal survey that the EPMO completed. The primary findings of this research are the poorly adopted standardised project management methodology by the Distribution Business and the tensions in the working relationship between the EPMO and the Distribution Business.

Further findings revealed the misunderstanding from the DX POs that the focus for implementing the standardised project management methodology was on the Group Capital Projects. It was also discovered that the EPMO had not started any initiatives to prepare Eskom for project management in the Fourth Industrial Revolution. Practical implications relate to research which indicates where PMOs are effective; more projects are delivered on time, within budget and scope. This research concludes that the future success of the Eskom PMO lies in fostering effective working relationships (better stakeholder satisfaction) from within the EPMO and its clients.

Moreover, the modern PMO will be crucial to prepare organisations with appropriate project management practices that will match the project management requirements of the Fourth Industrial Revolution (Gartner, 2021:1).

This study contributes to the scant research on the link between an EPMO and multiple POs in the same organisation from a practitioner's perspective. Secondly, the study contributes to re-configuring the traditional PMO into a modern PMO, one which is fit for project management in the Fourth Industrial Revolution. A further contribution is to elevate the mandate of the Enterprise Project Management Office in a State-Owned Entity to that of a truly Strategic Project Management Office.

Keywords: Project management, Project Management Office, the Fourth Industrial Revolution, Agile management office.

CHAPTER 1:   INTRODUCTION TO THE STUDY

1.1   Introduction

Contemporary evidence suggests an increase in the establishment of project management offices (PMOs) across industries has occurred (Girauldo and Monaldi, 2015; Wellingtone, 2020). For instance,The State of Project Management 2020 Annual Report (Wellingtone, 2020) shows an increase from 71 percent in 2016 to 89 percent in 2020 in the number of organisations that have established a PMO. Organisations with an effective PMO have shown a significant improvement in project performance (PMI, 2017).

Some organisations indicate they have established more than one PMO. The Wellingtone study further indicates that 57 percent of the respondents see their PMOs increasing in size, and 72 percent of respondents see the scope of the service rendered by their PMOs increasing (Wellingtone, 2020). PMO could mean Project Office, Project Management Office, and or Portfolio Management Office, depending on the level of operation and mandate given to the PMO (PMBOK Guide, 2021:306).

According to the Association for Project Management (APM, 2016), the PMO is 'a group or department within a business, agency or enterprise that defines and maintains standards for project management within the organisation. The PMO strives to standardise and introduce economies of repetition in the execution of projects.' On the contrary, 'A Guide to the Project Management Body of Knowledge' (PMBOK Guide, 2021:306) states that 'the Project Management Office (PMO) represents a management structure that standardises project-related governance processes and facilitates the sharing of resources, tools, methodologies, and techniques and recognising that the character and function of a PMO vary between organisations, even within the same organisation.'

Eskom has consulted several national and international project management and construction industry methodologies, including Construction Industry Development Board's (CIDB) Infrastructure Delivery Management System (IDMS) toolkit – RSA; Construction Industry Institute (CII) lifecycle model and Project Definition Readiness Index (PDRI) toolkit – USA; Independent Project Analysis (IPA) lifecycle model – USA, amongst others in the process of developing Eskom's Project management methodology (Deliver Projects Methodology). In the process of consultation, Eskom has adapted the Project Management

Body of Knowledge (PMBOK) guideline to develop the Eskom Project Life Cycle Model (PLCM), and as such, the Eskom deliver projects methodology are aligned to the PMBOK's knowledge areas (Eskom Project Management Guide Book, 2012:13). The current study adopted the PMO definition from the PMBOK (2021:306).

Larger organisations, according to PMI's Pulse of the Profession 2017 report, with more than one PMO have established an enterprise-wide Project Management Office. The EPMO is described as a centralised organisational entity that operates at a strategic level with executives. It should ensure strategic alignment between business objectives and the projects and programs that are delivered by the PMOs (PMI, 2018).

Although many studies have been conducted on PMOs, these studies have been conducted in organisations with single PMOs. Furthermore, research shows that establishing multiple PMOs, which are often geographically dispersed, poses a challenge regarding controlling resources and authority (Müller, 2009, as cited in Tsaturyan and Müller, 2015). The current study seeks to build on this study by exploring and describing the linkages between the EPMO and other PMOs within a State-Owned entity operating in the Fourth Industrial Revolution, which is challenging the traditional PMO business model and to develop a Leadership Framework to re-configure the EPMO (PMI Thought Leadership Series report, 2018).

Industry 4.0 is characterised by digitisation, robotics, artificial intelligence, 3D printing, nanotechnology, biotechnology, the Internet of Things, the Industrial Internet of Things, and autonomous vehicles. Furthermore, other than the previous industrial revolutions, Industry 4.0 makes both human-machine communication and machine-machine communication a reality (Simion, Popa and Albu, 2018).

The Fourth Industrial Revolution (4IR or Industry 4.0) was initially used by Klaus Schwab, founder and executive of the World Economic Forum, and his central assertion is that changes in 4IR are more than efficiency improvements but rather the demonstration of shifts in industrial capitalism (as cited by Philback and Davis, 2018). Schwab (2016) argues that the main principle of systemic change in the 4IR is that technology and innovation will revolutionise everything. The Fourth Industrial Revolution will both enable and challenge project managers to do much more. Smart automation and ubiquitous, connected systems in the age of Industry 4.0 are forcing the PMO to take the lead in developing and equipping

project managers with the skills needed to embrace project management in the Industry 4.0 economy (Deloitte, 2017).

One of the perspectives of Schwab (2016) is, therefore, that technological innovation will be characterised by massive scale and scope, great returns to scale, and zero or approaching zero marginal costs. These technological innovations will be painful and disruptive. Examples relating to the scale and speed of innovation are I-phones, smartphones, Uber and Taxify, Alibaba and Amazon, and autonomous cars. Schwab (2016) further stated that the returns to scale would be overwhelming, given that digitisation means automation so that firms are not faced with diminishing returns to scale. At an aggregate level, the comparison is made with Detroit at its peak versus Silicon Valley at its peak.

Concerning marginal costs that approach zero, Schwab (2016) asserts that storage, transportation, and replication costs are virtually zero as most digital firms produce 'information goods' and not 'physical goods'. Thus, disruptive technology firms require little capital with returns to scale that further encourage scale and impact change across an entire system. Given the context of the abovementioned systemic changes and the impact of 4IR on the organisation, what is required from organisational leaders to lead organisations in the Fourth Industrial Revolution?

The disruptive forces of IR4 call for a new leadership paradigm. A leadership paradigm that puts people at the centre of projects and programmes by investing in the knowledge, skills and mindsets required to navigate the complexities that come with IR4 (World Economic Forum, 2019).

The ability of an organisation to operate with speed and agility is important to ensure its relevance and sustainability as it responds to challenges in the 4IR. The world has entered the Fourth Industrial Revolution (4IR, Industry 4.0), an era also referred to as VUCA (Volatile, Uncertainty, Complexity and Ambiguous). Briefly, the components of VUCA are defined as:

Volatility – Volatility refers to the speed and the constant changes experienced by industry and the world at large, associated with fluctuations in demand, turbulence and a short time to market (Kraaijenbrink, 2018).

Uncertainty - Uncertainty does not allow for any prediction, even statistically. Historical forecasts and experience are losing their relevance and are rarely applicable as a basis for predicting the shape of things to come (Kraaijenbrink, 2018).

Complexity – Complexity involves a multiplicity of interconnected issues and factors. In addition, complexity is not only technical, like the design of a nuclear reactor or a satellite, it is also organisational, with demands from multiple stakeholders with different cultures, needs and goals, some of which may be intricately connected. The more factors, the greater their variety, and the more they are interconnected, the more complex the environment becomes (Papadonikolaki, Locateli and Krystallis, 2020).

Eskom stakeholders range from The Department of Public Enterprises, National Treasury, NERSA, Department of Minerals and Energy, Department of Labour, Department of Environmental Affairs, The Department of Water Affairs and Forestry, The World Bank and the Construction Industry Board, to name but a few. Eskom is influenced by regulations of Supplier Development and Localisation (SD&L) regarding the supply of material and labour. All of these stakeholders have different demands.

Ambiguity – Ambiguity refers to fuzziness and vagueness in ideas and terminology. A lack of clarity to interpret a situation with incomplete, contradictory information, or inaccurate to draw conclusions from (Kraaijenbrink, 2018).

The COVID-19 pandemic has highlighted the volatility, uncertainty, complexity, and ambiguity of the current business environment, which calls for leaders who can react and make decisions in such environments (Aramburu, 2020). This VUCA world is asking for leaders to change the way they think, to transform and change by abolishing bureaucratic leadership styles while adopting a leadership style centered around engagement and collaboration of people in solving problems together (Semolič and Steyn, 2018).

Furthermore, Industry 4.0 calls for traditional project management methods to change and adapt to deal with Industry 4.0 projects (Bierwolf, Romero, Pelk and Stettina, 2017). The Industry also calls for a management framework, which in turn calls for a move from standardisation to transparency in work practices, from centralised and fixed business models to be decentralised and dynamic, and to a business ideology that understands the management of complexity (Jarche 2013; 2015, as cited in Da Vinci, 2020). The PMO is not excluded from this change (PMI, 2018). In fact, PMOs will have to step into their strategic

role and lead their organisations in the change initiatives required by Industry 4.0 (Allers, 2022).

Although the PMO has been implemented in many organisations to improve project performance, executive leaders and PMO directors have significantly disparate views about their organisation's performance when it comes to formulating strategy, prioritising and funding projects, executing strategic projects, and recognising lessons learned (PMI, 2016; 2018). Moreover, project management is still not recognised as a strategic competency for driving change by many organisations, and therefore organisations report, on average, a 50 per cent or more project failure rate (PMI, 2018).

1.2   Problem statement

With all the advanced project management software, tools and technology available to project managers today, projects are still failing alarmingly. For instance, PMI's 2020 Pulse of the Profession report revealed that 11,4 per cent of investment was wasted because of poor project performance. The well-reported project failures in South Africa, which ran over budget and behind schedule as well as the quality issues experienced on some of them, include:

I.   The Gauteng Freeway Improvement Programme cost R17.4-billion rather than the R11.4-billion initially estimated.

II.   The Gautrain budget increased from an original estimate of R6.8-billion to R25.2-billion.

III.   The capital cost of Transnet's New Multi-Product Pipeline grew from an estimated R12.7-billion to R30.4-billion.

IV.   Eskom's Medupi and Kusile projects surged from initial estimates of R70-billion and R80-billion respectively, to R208-billion-plus for Medupi and about R240-billion for Kusile (Watermeyer and Phillips, 2020).

The world is now operating in the Industry 4.0 economy, in which Project Management 4.0 is an integral part (Steyn and Semolič, 2018). Steyn and Zovitsky (2018) assert that competitiveness in the Industry 4.0 economy is a business model that embeds strong project

management methodologies and techniques, supported by strong leadership initiatives to increase project management as a core competency required by the Industry 4.0 economy.

Many organisations, including Eskom, have implemented an Enterprise Program Management Office to improve their project management performance. However, the phenomena observed by the researcher is the EPMO's lack of authority exacerbated by a lack of collaboration and engagement between the Senior Managers in the Eskom Program Management Office and the Senior Managers in the Eskom Distribution Asset Creation Offices, leading to the poor adoption of the Eskom Deliver Project Methodology by the Distribution Offices.

If this lack of authority and poor level of collaboration between Senior Managers that is hampering the adoption of the Deliver Project methodology within the distribution business remains unchanged, project performance will remain stagnant.

This research investigated the linkages between the EPMO and the Distribution Project Offices that are influencing the poor adoption of the Eskom Deliver Project Methodology by the Distribution Business, with the aim to develop a Leadership Framework to re-configure the Eskom Project Management office to prepare Eskom Distribution for project management in the Fourth Industrial Revolution.

1.3   Background to the study

Large-scale strategic initiatives or policies are delivered through large-scale programs and projects by both the Government and private sector organisations. These programs and projects are mostly delivered through very large or mega construction projects as initiatives towards achieving sustainable development objectives in many countries, but specifically in developing countries (Crawford and Helm, 2009; Lawani and Moore, 2016; Othman, 2013; Ofori, 2013).

Projects, or mega projects, are systems of interdependent and interacting domains of activity (PMBOK, 2021:64). These systems interact at a micro level with employees employed as project teams on the projects; at the meso level, employees interact with each other and with contractors, at the Exo level management takes decisions that influence the employees. Projects are also interacting at the macro level with national and international external suppliers and with communities around the projects in terms of skills development and job

creation prescribed by Government policies and with external suppliers and the immediate environment around the projects in terms of job creation and Government policies.

However, these mega projects often overrun their costs, schedule, and quality parameters (Locatelli, 2017, as cited in Papadonikolaki, Locatelli and Krystallis, 2020) as the application of project management in most public sector organisations or State-Owned Entities (SOEs) (the main implementers of mega construction projects) is still at an immature stage although the general awareness of the concepts is widespread within various industries (Lawani and Moore, 2016; Zuofa and Ochieng, 2012). In addition, according to Papadonikolaki *et al.* (2020), mega-project settings are not ready for Industry 4.0 as these communities still use competencies, toolsets, and mindsets created 100 years ago.

Many organisations worldwide and in different industries have implemented an organisational entity called the Project Management Office (PMO) to improve project performance. Organisations have implemented several types of PMOs, and they vary according to the degree of control and influence the PMO has over the projects in organisations (PMI, 2017). The type of PMOs can be categorised as follows:

i.   Supportive: Supportive PMOs provide a consultative role to projects by supplying templates, best practices, training, access to information, and lessons learned from other projects. This type of PMO serves as a project repository. The degree of control provided by the PMO is low.

ii. Controlling: Controlling PMOs provide support and require compliance through various means. The degree of control provided by the PMO is moderate. Compliance may involve the adoption of project management frameworks or methodologies; using specific templates, forms, and tools; and conformance to governance frameworks.

iii. Directive: Directive PMOs take control of the projects by directly managing the projects. Project managers are assigned by and report to the PMO. The degree of control the PMO provides is high (PMI, 2017).

Research further indicates that organisations from different industries create PMOs with different mandates at different levels in their organisations and according to their needs; thus, no PMO operates identically. A practical example is the EPMO at Transnet and the EPMO at Eskom (both SOEs), having different mandates. The Transnet EPMO has full authority over most of the capital projects from development to execution, whereas the

EPMO in Eskom has the mandate for developing the Eskom Deliver Projects methodology and no authority to execute projects directly.

1.3.1 *The Enterprise/Organisation-wide/Strategic/ Project Management Office - EPMO:*

The EPMO is a centralised strategic department that supports executives and key decision-makers to align all project, program, and portfolio activities with company-wide strategic objectives. Hence, the EPMO helps bridge the silos in organisations by ensuring that executed projects are tied to the organisation's strategic objectives. Furthermore, the EPMO report to senior executives or directors and have the authority to control the enterprise's portfolios, programs and projects (PMO 365, 2021-2022; Knudsen, 2021).

1.3.2 *The Project Portfolio Management Office - PPMO*

Portfolios are a collection of projects, programs, and operations. A Project Portfolio Management Office's main responsibility is to analyse the organisation's objectives, noticing the current number of projects in the funnel, the possibility of taking new ones and prioritising the order in which the projects should be completed. PPMOs also examine resource availability and the obstacles hampering project performance (Cote, 2021).

Based on the need and size of the organisation, a selection of any four PMO frameworks or even a combination of all four can be implemented in a single organisation (ISG, 2016; Pakdaman, Abbasi and Chakrabothy, 2019; PMO365, 2022). See Figure 1.1 below.
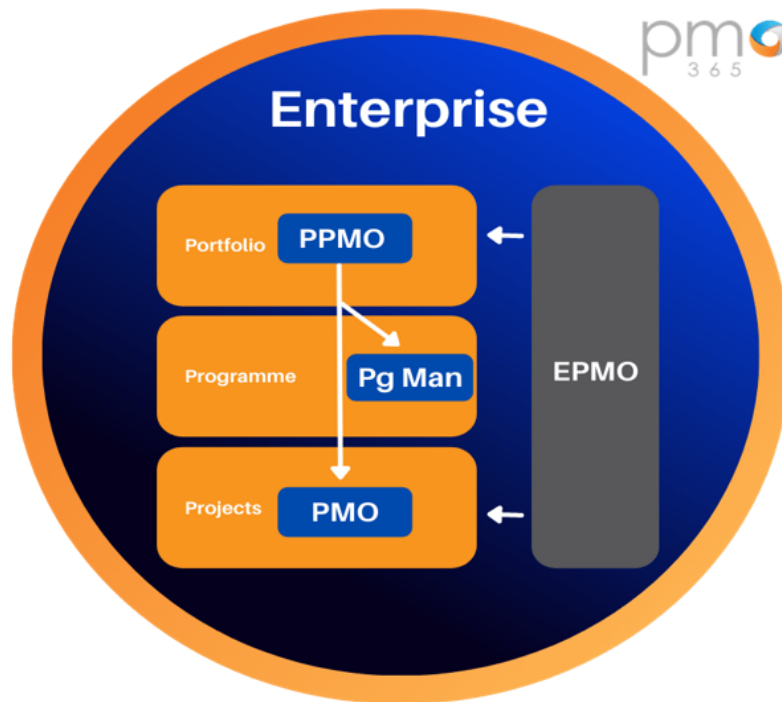
Figure 1:1   Organisational structures of PMOs

Source: PMO 365

1.3.3   The Program Management Office - PgMO

A program refers to related projects, subsidiary programs, and program activities that are managed in a coordinated manner to obtain benefits not available from managing them individually (PMBOK Guide, 2021). The Program Management Office takes a strategic management approach to execute and control multiple related projects to drive benefits to the entire program by sharing project resources, costs and activities (Project Manager.COM, 2022).

The Project Management Office – PMO: The departmental PMO is based on a division, department, or other organisational units, and in many cases, it may focus on individual projects and programs that will serve the division or departmental priorities. The PMO normally focuses on a large program or project and closes once this program or project is complete (ISG, 2016). However, a Project Management Office (PMO), according to Conte (2017), is a department in an organisation that tells project managers how to manage projects by setting best practices.

An organisation may decide to implement the total structure of EPMO, PPMO, PgMO, and PMO, or they may only implement an EPMO. Eskom has implemented an Enterprise Program Management Office (EPMO) and a Project Manage Office (PMO) to implement the Project Delivery Methodology to some of the existing POs (Project Offices) within other divisions (Eskom Project Management Guide Book, 2012). The POs in the different divisions are Project Portfolio Offices since these offices manage projects, programs and portfolios. For instance, the Distribution POs run Electrification Programs, Network Strengthening Programs and Direct Customer Programs as part of their Portfolios.

The implementation of the PMO in its traditional format has been met with many challenges to the extent that the average lifespan of the traditional PMO has been documented to be two years before it is reconfigured or completely dis-established (Dai and Wells, 2004; Hobbs and Aubrey, 2007; Hobbs, Aubrey and Thuillier, 2008; Valle, Silvia and Soares, 2008; PMI, 2010, Stanleigh, 2006). External events, such as a change in the global economy, a change in the industry, or a change in the political, national, or local environment, play a key role in triggering the change or re-configuring and performance of the PMO (Aubry, 2015). In contrast, Barbalho, De Toledo and Da Silva (2019) find that internal organisational and political tensions, rather than project management performance, are forcing the transformation of the PMO.

The unprecedented velocity at which disruptive technologies are reshaping markets is rendering the traditional PMO models obsolete (PMI, 2018b). Abbouchi (2019) reiterated this, stating that the traditional PMO is outdated and ineffective in responding to the dynamic and evolving delivery requirements of the current volatile business environment.

PWC's Global Survey on Transformation and Project Management (2022) emphasises the importance of a mature and aligned Project Management Office, as well as an organisational culture that values project management as some of the critical success factors assisting organisations to gain a competitive advantage (PwC, 2022). The 2017 Pulse of the Profession study showed that in organisations where an Enterprise Project Management Office (Strategic EPMO) is aligned with organisational strategy, those organisations report 38 per cent more projects meeting original goals and business intent and 33 per cent fewer projects deemed failures. In addition, 71% of organisations indicated they are embracing Agile project management methods as a technique to manage projects (PMI, 2017). This is a move away from the traditional 'waterfall' method advocated by the PMO.

Agile methodology is described by Santos (2020) as a type of incremental model of software development based on principles that focus more on people, results, collaboration, and flexible responses to change. Instead of planning for the whole project, it breaks down development work in small increments completed in iterations or short time frames. Each iteration includes all software development life cycle phases (SDLC) such that a working product is delivered at the end. After several iterations, a new or updated product is released (see Figure 1-2).
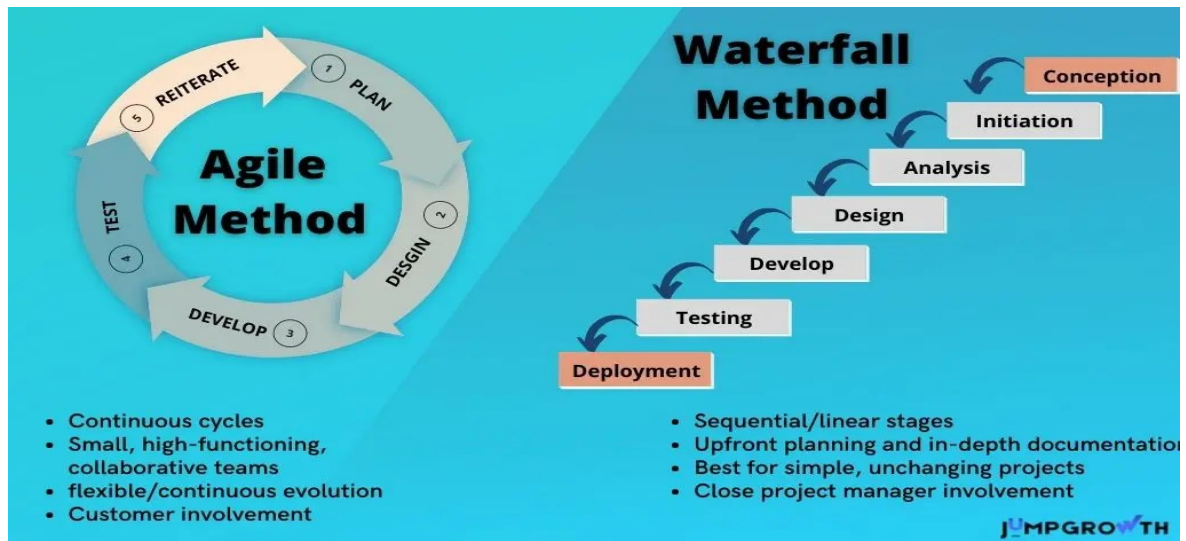
Figure 1:2   **The difference between waterfall and Agile project management**

Source: Jumpgrowth.com

In contrast, a traditional waterfall methodology is a sequential approach that divides the SDLC into distinct phases: requirements gathering, analysis and design, coding and unit testing, system and user acceptance testing, and deployment. The next phase can only proceed if the previous phase has been completed. A deliverable is expected between phases, or a document is signed off. All phases are passed through and completed only once, so all requirements are gathered as much as possible at the start to provide the information in creating the plans, schedules, budget, and resources. It is plan-driven, so any changes after the project starts would offset the original plan and require a restart.

An essential asset for organisations in Industry 4.0 is the realisation that change happens through projects. Also, projects are no longer adjacent to the operation but are primary to how work gets done (PMI, 2020); therefore, implementing a PMO or re-configuring an existing PMO is an important organisational change and a necessary initiative to prepare

organisations for project management in the Fourth Industrial Revolution. Furthermore, digital disruption is a transformation caused by emerging digital technologies that impact organisations, their structures, and their business models. The PMO is not exempted from this disruption (Deloitte, 2019).

There is a school of thought that indicates PMO failures are not process or technology issues but are related to "people issues" in organisations (Planview, 2020, ISG, 2016). Some of the common issues that can be attributed to PMO failure are:

I. Executive stakeholders that are not fully committed to the PMO. Executives in organisations realise there is a problem with project delivery. So, they authorised the establishment of a PMO without a clear mandate, not properly resourced and with little support, and when the PMO does not live up to expectations, it gets dis-established.

II. PMO leaders do not know how to adapt. Without understanding the unique drivers and points of the different sections in organisations, PMO leaders adopt a blueprint approach to what worked in other companies. Hence, many main stakeholders' expectations exceed what the PMO can offer.

III. The PMO becomes a Project Manager's worst enemy. Although governance is important, many PMOs have become part auditor and part methodology police, forcing the adoption of ill-fitting methodologies or gathering unnecessary information.

IV. Lack of strategic alignment. Many PMOs do not have portfolio functions, do not participate in project selection, or have project delivery resources. With constant budget cuts, organisations tend to expect more from PMOs, which also suffer the same resource constraints. These PMOs find themselves in advisory roles, setting standards and generating management reports opening them up to more and more questions about their value add.

V. Lack of PMO Transformation. While digital transformation is not new, the pandemic has accelerated the pace of digital transformation. This requires quicker, insightful leadership from PMOs to deliver strategic outcomes through projects and programs using Agile and adaptive approaches (KPMG, AIPM and IPMA, 2019). Traditional PMOs have been slow to change, forcing organisations to either close them down or start new ones called Transformation Offices.

The Eskom Program Management Office and PMO have suffered similar challenges. For instance, the budget cuts during the 2014/15 financial year in Eskom have forced Eskom not

to renew many of the contract resources employment contracts. This has caused major resource constraints within the EPMO and PMO, leading to many commitments to the POs being under-delivered. Furthermore, Eskom has also started to offer voluntary separation packages to qualifying staff members. Most of the qualifying staff members had years of experience in project management employed in the PMO and EPMO as well as in other Divisions.

1.4   The context of the study

Eskom operates 30 (including 1 nuclear) operational power stations with a nominal generating capacity of 45 117 MW, supplying electricity to more than 6 716 201 direct customers through a network of approximately 391 784 km of cables and power lines (Eskom 2020). Therefore, Eskom generates approximately 95% of the electricity used in South Africa. The electricity generated is transmitted and distributed to industrial, mining, commercial, agricultural, and residential customers and redistributors (DPE, n.d.).

In 2012, Eskom embarked on a new strategy and organisational structure to support the new strategy. The new structure was based on establishing closer links between the business and the executives. Eskom is vertically integrated through its generation (GX), transmission (TX), distribution (DX) and customer service (CX) divisions(line functions). These divisions are supported by human resources, finance and group capital, technology and commercial, enterprise development and sustainability.

The line functions Generation, Transmission, Distribution, and Customer Service were to focus on operations and create value. The Service functions: Human Resources, Technology and Commercial, Finance and Group Capital were to safeguard Eskom's assets, provide expertise on day-to-day standardised services and leverage synergies in the organisation. The Strategic functions: Enterprise Development, Sustainability was to bring about step changes in performance and provide broader strategic support to the group Figure 1-3 (Eskom, 2012).
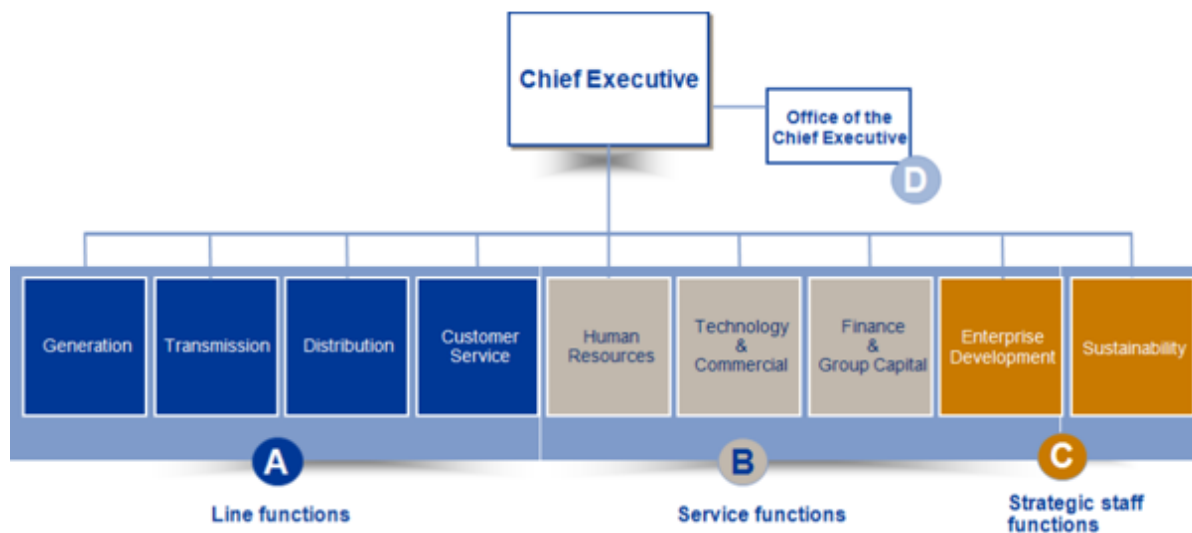
Figure 1:3   Eskom organisational structure 2012

Source Eskom: 2012

However, Eskom SOC (Pty) Ltd (Eskom) is a 100 per cent state-owned electricity utility, and as part of the Roadmap For Eskom in a Reformed Electricity Supply Industry (2019), the Department of Public Enterprises (DPE) announced that Eskom would be embarking on an unbundling process, which will see Eskom restructured into three subsidiary businesses – Generation, Transmission, and Distribution (Figure 1-3). The Department of Public Enterprises (2019) stated that the restructuring of Eskom into separate subsidiaries under Eskom Holdings will allow management focus, improve efficiency, create greater transparency around performance, provide greater protection against corruption and rent-seeking, and give capital providers more visibility of the components of the sector, resulting in more investment comfort.

It is further anticipated that this new business model will provide reliable, affordable, economically competitive, and environmentally sustainable electricity that will drive inclusive economic growth in the context of the Fourth Industrial and Green Revolutions (DPE, 2019).

Figure 1:4   The new Eskom business model

Source: Eskom (2020)

Group Capital, as one of the support functions, and the Distribution Business are relevant to this study and are further discussed. Group Capital (GC) executes projects identified and prioritised by Generation and Transmission on their behalf. GC also executes projects that ensure environmental compliance, transmission strengthening, customer connections, and refurbishment of existing assets, according to Eskom's project life cycle model (PLCM).

Group Capital was formed in 2012 with a mandate to be the centre of excellence for the development and execution of capital projects. Group Capital was also given the Eskom-wide view of the development and execution of capital projects, facilitating the entrenchment of best practices in all business areas (Eskom Project Management Guidebook, 2012:182).

When Eskom's capital expansion journey started in 2006/7, the focus was rapidly getting projects up and running while controlling costs during funding challenges. As the capital funding gap was closed and the mega projects delivery stabilised, Eskom diverted its attention to standardise and institutionalise its project delivery capabilities by adopting an Eskom Programme Management Office (EPMO) strategy. This strategy ensured stability, visibility, growth, continuity, integration, and good governance. The EPMO is a department

within Group Capital, overseeing the process from project identification to project review and lessons learned. See Figure 1-4.
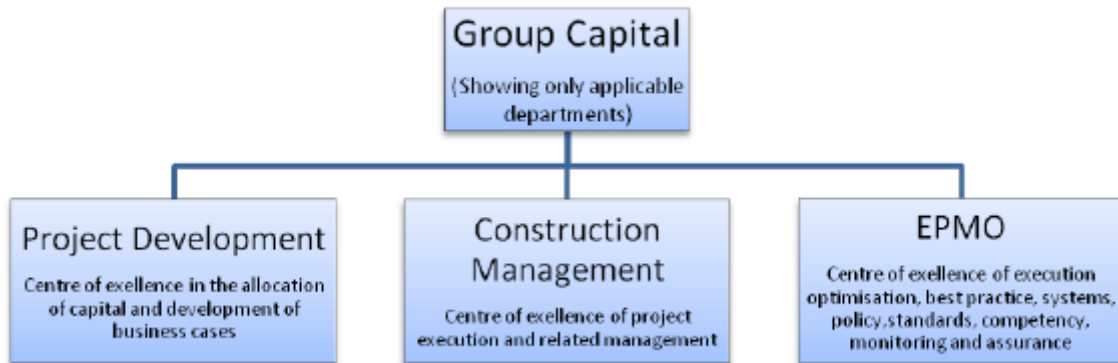
Figure 1:5   EPMO as a part of the Group Capital

Source: Eskom Project Management Guidebook (2012)

The EPMO, as part of Group Capital, has the mandate to ensure the identification, development, implementation, assurance and continuous improvement of project management strategies, systems, structures and data models for Eskom's Project Management Fraternity. It also ensures the standardised execution of projects centrally and across Operating Units while assuring compliance with the Eskom projects methodology based on the pillars of governance (PLCM), process control manuals (PCMs), people (ensures a sufficient and competent staff contingent), and tools (project management software).   The study has observed little success in the uptake of the Deliver Project Methodologies within the Eskom Distribution Business.

1.5   Project governance in Eskom

The Eskom governance framework within which projects are delivered must align with the relevant South African legislation, National Treasury, Construction Industry Development Board and other standards. It is thus a policy requirement in Eskom that all projects of a capital nature undertaken by groups, divisions and subsidiaries will pass through decision control gates for investment and implementation decisions. The Reference Eskom Project Life Cycle Governance framework has been established to govern the management approval procedure for the project and the investment decision process (Eskom Deliver

Projects Policy, 2016). The Reference Eskom PLCM comprises six phases and eight stages. Each phase has a phase gate which applies to the pre-defined Eskom governance, and divisional management structures authorised to allocate additional resources, approve the additional financial investment, and take on additional risk for projects of a capital nature. Some gates are a technical and investment approval or only a technical or investment approval. For instance, only the Concept Release Approval (CRA); Definition Release Approval (DRA); Execution Release Approval (ERA); Finalisation Release Approval (FRA); and Benefits Realisation Approval (BRA) gates are deemed to be investment approval gates.
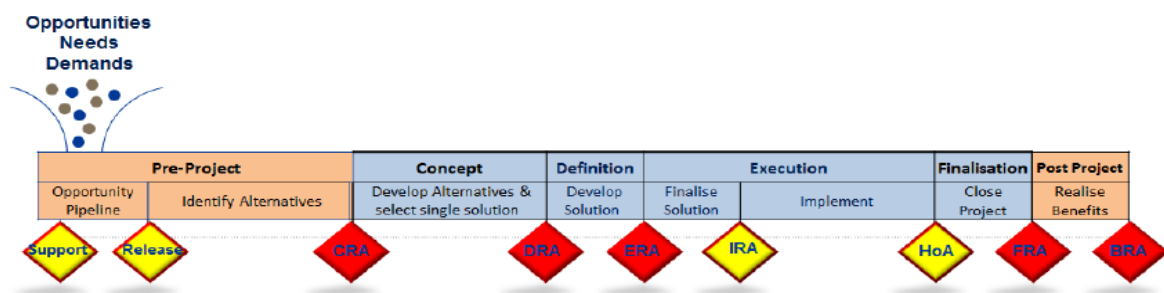
Figure 1:6   Illustration of Eskom PLCM phases and stage gates

Source: Eskom Project Management Guidebook (2012)

One of the primary business goals of the EPMO was the attainment of overall project management excellence. To achieve this, the EPMO was tasked to implement a tactical PMO to drive the rollout and the implementation of the Eskom Deliver Projects methodology, aligned to the knowledge areas of the Project Management Body of Knowledge (PMBOK), and customised by the EPMO to the Project Offices (POs) sitting on the Standard/repeatable and the Mega platforms to assure project execution excellence. The relationship between the EPMO, PMO and project offices sitting in the standard/repeatable platform and the Mega platform is shown in Figure 1-6 below.
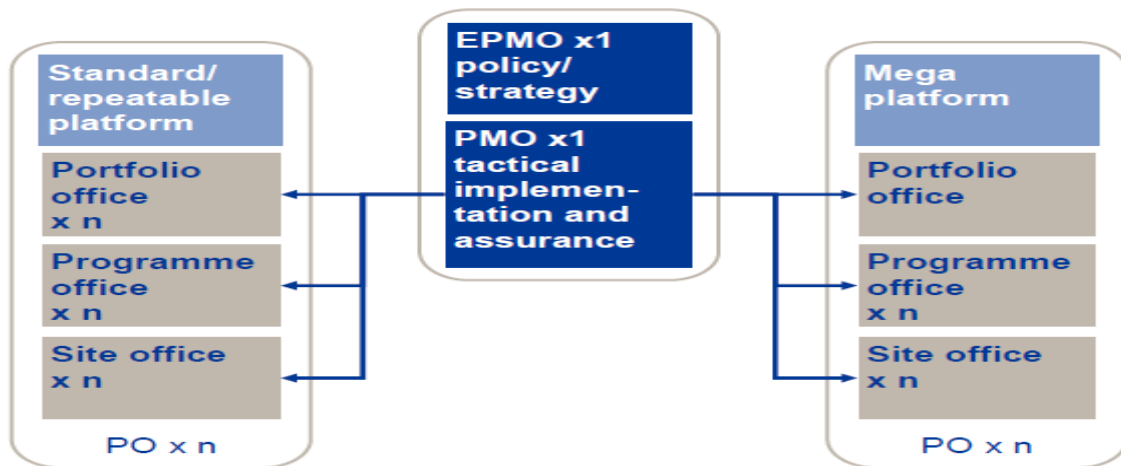
Figure 1:7   The relationship between EPMO, PMO and POs

Source: Eskom Project Management Guidebook (20012)

1.5.1   EPMO – Eskom Program Management Office

The EPMO is strategically focused and built around subject matter experts who have high levels of expertise in their respective areas. As a result, they are the custodians of the Process Control Manuals (PCMs) relevant to their subject area. The EPMO, as the Centre of Excellence, work closely with the Project Management Office (PMO) since the PMO contains the implementation expertise for the rollout and implementation of the project delivery methodology developed by the EPMO. The EPMO has a strategic role in objective setting and long-term planning (EPMO Business Plan, 2012). The short-term (1-5 years) focus areas for the EPMO were:

I.   Establishment of the PMO to assist the POs in the Operating Units.
II.   Establish best practices in the organisation through Policies, Standards, Processes, Procedures, Guidelines and Systems for all Eskom Projects.
III.   Provide strategic direction for project management and related disciplines (methodology, training, career path, development, capacity management).
IV.   Ensure accurate project reporting and insurance.
V.   Ensure that all projects are executed within sound programme management principles and methodologies.
VI.   Ensure standardisation and execution optimisation.

VII.   Strategically plan for and develop resources to ensure adequate Project Management Resources regarding capabilities and capacity.

VIII. Influence and provide oversight regarding a Talent Management Strategy focusing on attracting, developing and retaining talent in the Project Management fraternity.

IX.   Facilitate the development and implementation of project management systems and tools.

1.5.2   Project Management Office – PMO

The EPMO's implementation leg comprises the PMO, which links the EPMO and the Project Offices (POs) sitting on the Standard/Repeatable and the Mega platforms. The PMO does so by setting up POs in Operating Units where there are no POs to execute the operating units' capital delivery programmes and ensuring these offices abide by Eskom's best practices in doing so. The PMO has a tactical role with a medium-term planning horizon (PMO Operational Plan, 2013). The Services offered by the PMO include:

I.   Implement a standardised project management methodology across the business.

II.   Capitalise on economies of scale by implementing sustainable project management solutions enterprise-wide.

III.   Maintain objectivity towards projects and project status (i.e. the PMO should be able to deliver unbiased opinions).

IV.   Ensure continuous improvement within project management (looking for new and better ways to do and manage projects).

V.   Facilitation and integration across departments and divisions to ensure the focus on the bigger picture and avoiding duplication of identified requirements providing a consolidated approach.

VI.   The reduction in costs, especially regarding reducing overhead costs (e.g. software licenses).

The Standard and Repeatable platform refers to Project Offices in Eskom's Generation, Transmission, and Distribution businesses that are managing projects requiring technology, resources and people with the knowledge of the technologies and methods which are available within Eskom and South Africa (Eskom PM Guide Book, 2012).

The Mega platform refers to Project Offices (POs) managing projects unique to Eskom and exceeding the resource capacity of the Eskom business and/or South Africa. These POs mostly sit in New Build (Medupi, Kusile, Ingula) Space (Eskom PM Guide Book, 2012).

1.5.3 Project Office (PO)

The POs are hosted within the different Eskom divisions, and they have an operational role utilising the Proposed Deliver Projects methodologies to deliver on projects, programs and portfolios, identified from their Engineering Plans in Generation, Transmission Development Plans in Transmission and the Network Development Plans in Distribution. The Project Office consists of 3 main areas, namely:

Portfolio Management is to provide strategic direction and leadership in line with Company Strategy to a portfolio of programme management teams for managing and delivering capital and refurbishment projects from the planning stage to commissioning and handover of the project.

Programme Management is accountable for ensuring that the Project Life Cycle Model (PLCM) and other support systems are effectively implemented within a programme, ensuring that the Projects in the Programme are completed on time, within cost and quality, and employing relevant resources optimally in the entity.

Project Management is to manage and direct the activities of all resources allocated to projects in a cohesive, efficient manner and to administer and execute projects within cost, quality and time. Project Management is the interface between the client (owner) and the service providers to deliver on the project (Eskom PM Guide Book, 2012). The POs have an operational role with a short-term planning horizon. A Portfolio Manager, Programme Manager and Project Manager manage each Project Office. The day-to-day activities of the POs include:

I.   Contract/s compilation and manages the execution of the project.
II.   Undertakes contract administration and resolution of disputes.
III. Resources the project in conjunction with the PMO.
IV.   Develops execution schedule in conjunction with the client and contractors.
V.   Manages project time, cost, quality, and performance.
VI.   Reports on performance to the client and the PMO.

VII.   Manages project change management.

VIII.   Performs stakeholder management and communication.

IX.   Does project Earned Value Analysis.

X.   Contracts skills, resources and services as required.

XI.   Draws up tender specifications.

XII.   Provides site services.

XIII.   Procures local site services.

XIV.   Application of Project Management disciplines.

XV.   Project integration management.

XVI.   Coordinates and facilitates regular project progress and review meetings with the client and other stakeholders.

XVII.   Does commissioning and handover planning.

XVIII.   Controls the project budget.

XIX.   Accountable for project success.

During the 2014/15 financial year, the PMO and the Eskom Programme Management Office were combined to form only one Eskom Project Management Office. Together with the Presidential Infrastructure Coordinating Commission, the two sections formed the Strategic Projects Department within Group Capital. The purpose of the Eskom Project Management Office (EPMO) was now to drive a centrally led, Eskom deliver project methodology (standardised project management methodology) for Project Offices and Operating Units across all the divisions to assure project execution excellence through a competent workforce and reliable systems (EPMO Operational Plan, 2015).

The diverse nature, various project types, and sizes across Eskom directly influence the PO structures. The Eskom project management fraternity thus comprises a diverse group of project management staff at different levels of project management experience and education levels (Eskom Project Management Guide Book, 2012:158). Although working in different POs, this staff complement is not all project managers. For instance, a PO in Eskom Distribution (DX) is headed up by a Portfolio Manager, supported by a Contracts Manager with contracts management staff, Project Support Manager with project support staff, and Program Managers with Projects Coordinators reporting to them.

The complement of the project management staff is spread over the different groups in Eskom, of which the most prominent are Eskom Distribution (DX), Eskom Transmission (TX), Eskom Generation (GX), and Eskom Group Capital (GC).

Eskom Group Capital houses the new build POs and the EPMO, whereas the Distribution and Transmission Business house the POs across the nine provinces in South Africa. These are project execution POs with different Key Performance Indicators than the EPMO. The EPMO has no authority over these PMOs as they report to their respective Divisional Executives. The EPMO and the different POs worked on signed Services Level agreements. The link between the EPMO and Distribution POs is crucial to preparing and embedding project management methodologies to equip POs for project management in Industry 4.0, and therefore the study focuses on interrogating the nature of the link that exists and its operational efficiency.

The Distribution business comprises nine semi-autonomous business units, operating according to the South African provincial boundaries, called operating units. Each Eskom Distribution Operating Unit supplies electricity to more than 90 per cent of the 257 municipalities in South Africa. They also directly supply electricity to big customers, like mines, Sasol, and factories.

The organisational structure of an enterprise plays a significant role in the success of the EPMO. EPMOs often find themselves in hierarchical organisational structures, where employees report to one manager and follow this manager's direction. While the EPMO is sitting in another division supporting the entire organisation in a kind of matrix operational structure, meaning employees are reporting to two managers or have a binary reporting relationship (Marquis, 2018). This complex reporting relationship has compromised the EPMO's control to effectively perform on their mandate (the researcher, 2022). The Distribution business has recently been restructured. The restructuring saw operating units being combined to form a cluster; each cluster has its own management structure led by a general manager. The operating units are further broken down into Operations and Maintenance, Asset Creation, Business Enablement, and Customer Services.

1.6   Aim of the study

The aim of this qualitative study was to develop a Leadership Framework for the transformation of the EPMO for the implementation of project management methodologies onwards, given the context of Industry 4.0.

1.7   Research objectives

The following are the objectives of the research:

i.   Firstly, to assess the extent that the Eskom Deliver projects methodology (process control manuals) was adopted and integrated into the work processes by the Distribution Project Management Offices.

ii. Secondly, to evaluate the effectiveness and efficiency of the Eskom Project Management Office in implementing its mandate.

iii. Thirdly, given the policy frameworks, assess the Eskom Project Management Office's level of participation and inclusiveness in strategy formulation, evaluation, and implementation.

iv. Fourthly, to analyse whether the Eskom Project Management Office implements project management software systems in the Distribution Project Management Office and the software's adoption level.

v.   Fifthly, to evaluate the nature and the level of training provided by the Eskom Project Management Office to the project managers in the Distribution Project Management Office.

vi. Lastly, to assess the readiness of the Eskom Project Management Office to lead Eskom in project management in Industry 4.0.

1.8   Research questions

i.   What is the level of adoption and integration of the standardised project management methodology (i.e., the process control manuals) by the Distribution Project Management Offices initially developed and implemented by the Eskom Project Management Office?

ii. Is the Eskom Project Management Office implemented at a level that can influence the entire business to implement a standardised project management methodology?

iii. Is the Eskom Project Management Office participating in strategy formation, evaluation, and implementation?

iv. Did the Eskom Project Management Office implement the project management software systems within the Distribution Project Management Offices?

v.   Did the Eskom Project Management Office manage to train and develop the Project Managers within the Distribution Project Management Offices?

vi. Did the Eskom Project Management Office start with any initiative to prepare Eskom for project management in Industry 4.0?

1.9　Research methodology

According to the University of Newcastle's Library Guides (2022), research methods are the strategies, processes or techniques utilised to collect data or evidence for analysis to uncover new information or better understand a topic.

Research can be categorised into qualitative, quantitative, or mixed methods according to the nature of the data, analysis and interpretation methods. It is also categorised into pure research and applied research based on the research project's goal. The main aim of pure research is to advance knowledge and to identify or explain the relationship between variables. Applied research aims to solve a specific and practical problem. Therefore, applied research tends to be descriptive in nature (Hasa, 2017). This study followed the applied research approach.

1.9.1　Research philosophy

The research philosophy of the research study is rooted in the research paradigms of 'pragmatism' and 'interpretivism'. Interpretivism has evolved, given the shortcomings of positivism, to meet the specific needs of social scientists. The central tenet of interpretivism is the belief that social reality is not objective but subjective, as it is shaped by one's own perceptions (Collis and Hussey, 2014).

Van Maanen (1983:9) argues that interpretivists adopt a range of methods that 'seek to describe, translate and otherwise come to terms with the meaning, not the frequency of certain more or less naturally occurring phenomena in the social world'. Kaushick and Walsh (2019) argue that 'pragmatism as a research paradigm focuses on solving practical problems in the real world', as our social experiences influence our perceptions of the world. Kaushik and Walsh (2019) further state that 'a major underpinning of pragmatist epistemology is that knowledge is always based upon experience'(p.4).

One of the principles of pragmatism is linking experience and knowledge, which suggests pragmatic research investigates what people say and observes what they do and how they

act (Cordeiro and Kelly, 2019). The researcher chose pragmatism for its potential to unlock organisational action and change process.

The positivist research paradigm uses the scientific approach and focuses on explanation and prediction. It uses a theory verification process in the research process, no interaction between the researcher and study participants to minimise bias, and uses empirical data with larger samples to make generalisations (Park *et al.*, 2021).

Easterby-Smith *et al.* (2015) state that the philosophy of pragmatism argues that knowledge and understanding should be derived from direct experience. Pragmatism originates from the writings of American philosophers William James (1907) and John Dewey (1916). The central tenet is that any meaning structures must come from the lived experience of individuals. Pragmatism greatly impacted the theories of learning within an organisation, for example, the Kolb learning cycle (Kolb, 1984). Dewey also stressed the importance of balancing the concrete and abstract against reflection and observation (Easterby-Smith *et al.,* 2015:61).

1.9.2   Ontological sssumption

The ontological assumptions (i.e., the nature of reality) of interpretivism are that social reality is subjective and socially constructed, and multiple realities exist (Collis and Hussey, 2014). The researcher endeavoured to capture these multiple realities of the project actors in their everyday work settings.

1.9.3   Epistemological assumption

The epistemological assumptions (i.e., what constitutes valid knowledge) of interpretivism are that knowledge comes from the subjective evidence of participants and that the researcher interacts with phenomena in the study (Collis and Hussy, 2014). The researcher was immersed with the research participants to capture the everyday practices in the workplace.

1.9.4   Axiological assumption

Researchers and research participants come from diverse backgrounds and have diverse value systems. The researcher strives to be ethical and transparent in private and business

life. Further, the researcher believes that every person has a reality that makes sense to him or her and that reality needs to be respected. For instance, only 31.4 per cent of South Africans have been fully vaccinated against the COVID-19 virus to date, as many people are reluctant to be vaccinated because they have different views and beliefs about vaccinations (NICD, 2022).

1.9.5   Research design

The methodological choice of this study was a mixed method research design, and it utilised the strategy of the ethnographic method. Collis and Hussy (2014:65) state that 'ethnography is when the researcher uses socially acquired and shared knowledge to understand the observed patterns of human activity'. Furthermore, ethnography involves engaging in extensive fieldwork and collecting data from diverse data sources, such as observation, interviews, artefacts, and symbols (Fetterman, 2010, as cited in Creswell, 2013). A survey was administered to employees in the Distribution PMOs to collect data from a bigger group of research participants.

Longitudinal participant observation involves collecting qualitative data over time and can be structured, semi-structured, unstructured, and/or formal or informal. The researcher is part of the activity or the phenomenon in the field, and through participation, the researcher observes the action or the phenomenon and records the observations. Recording the observation is the data-gathering process (Quinlan, 2011).

The survey method collected primary data from the employee population, and the electronic interview questionnaire method was used to collect primary data from the senior management population.

1.9.6   Research sampling

Sampling is the process of selecting the right individuals, objects, or events as representatives for the entire population. The population refers to the entire group of people, events, or things of interest the researcher wishes to investigate. A sample is a subset of the population and comprises some members selected from the population (Sekaran and Bougie, 2013: 240-241).

Two popular types of sampling are probability and non-probability. In a probability sample, the research participants have an equal chance of being selected. A non-probability sample is a sample in which not all population members are equally likely to be selected. The selection of participants is confined to specific types of people who can provide the relevant information required, either because they are the only ones who have the information or they conform to some criteria set by the researcher. This type of sampling design is called purposive sampling (Sekaran and Bougie, 2013).

This study employed a purposive sampling method as it allowed the researcher to select participants according to specific key features, specifically prominent role players in the EPMO and participants in Distribution POs who were involved in the day-to-day running of projects.

1.9.7   Data collection techniques

The researcher used multiple methods to collect data from different groups. Informal discussions were held with participants in the EPMO to inform them about the study. Participant observation within the EPMO was the main method of data collection. A survey questionnaire was administered to a larger group of participants across the nine Distribution Operating units. Interview questions were sent to the Senior Managers in the EPMO and the Senior Managers regarding Asset Creation in Distribution as requested by the two groups. Secondary data from company documents were also collected.

1.9.8   Data analysis

According to Kumar (2014:14), a qualitative study aims to explore diversity rather than quantify it. It emphasises describing feelings, perceptions, and experiences rather than their measurement and communicates findings descriptively and in a narrative rather than an analytical manner. A researcher may use any of three ways to write about his or her findings (Kumar, 2014: 317-318):

i.   Developing a narrative to describe a situation, episode, event, or instance.

ii.   Identifying the main themes that emerged from field notes or transcription of the in-depth interviews and writing about them, quoting extensively verbatim, and

iii. Also, quantifying by indicating their frequency of occurrence and the main themes to provide their prevalence.

The findings in this study were communicated descriptively and narratively.

1.10   Ethical considerations

The study was subjected to all ethical and moral requirements. All participants were treated with dignity and respect by informing them about the study's purpose and the data collection method. Permission was requested from the Senior Managers to contact the relevant participants. Before the participants were engaged, their consent was also obtained through telephonic discussions, as preferred by many. Therefore, participation in the study was voluntary, and participants were kept anonymous.

1.11   Contribution of the study

PMI's Pulse of the Profession (2020) survey reveals a 67 per cent outright project failure rate in organisations that undervalue project management as a strategic competency to drive change. A reconfigured enterprise project management office (EPMO) should assist organisations in improving project management's value and performance. There has not been much research focusing on developing a leadership framework for transforming the traditional PMO to prepare organisations for project management in Industry 4.0 in the South African context. This research aims to fill that vacuum.

This research will benefit the PMO leaders in State-Owned Entities and other stakeholders in the project management community. It will specifically benefit Government in implementing PMOs as the evidence shows a limited implementation of PMOs in Government departments in South Africa (Selepe, 2019). PMO management and staff will be challenged to introspect on their current command-and-control approaches; hence an opportunity is created to move to a more collaborative approach as required by Industry 4.0. The research will also contribute to the limited research (Tsaturyan and Müller, 2015) conducted on the linkages between the EPMO and multiple POs from a practitioner's perspective.

The major contribution of this study is the development of a Leadership framework which can be used as a guide to assist State-Owned Entities in transforming their traditional project

management offices into Flexible project management offices to respond to the disruption of project management in Industry 4.0.

1.12 Research limitations

This study focused primarily on the linkage between the Eskom Project Management Office and the Distribution Project Offices and the readiness of the EPMO to lead and prepare Eskom for project management in Industry 4.0. On the one hand, using a qualitative methodology may result in the collection of rich data from participants, and on the other hand, pose challenges to the researcher regarding him being subjectively involved as a participant of Eskom Group Capital. Another limitation is that the study was conducted in Eskom only, and the findings might apply to Eskom only. On the other hand, the Eskom Distribution Business, which comprises nine semi-autonomous business units across the nine provinces in South Africa, might assist with increasing the generalisability.

1.13 Definitions and key terms

1.13.1 The Fourth Industrial Revolution

The Fourth Industrial Revolution (also called 4IR or Industry 4.0) is contemporary and characterised by disruptive technologies and trends, such as the Internet of Things (IoT), robotics, virtual reality, and artificial intelligence (AI), which changes the way people live and work. The immersion and integration of these technologies into manufacturing practices and organisations are known as Industry 4.0 (Wigmore, 2020).

1.13.2 Organisational Project Maturity Model

The Organisational Project Management Maturity Model (OPM3™) was published in 2003 by the Project Management Institute (PMI) to assist in the education of project management practitioners and non-specialists on the influential effects of applying project management principles at the organisational level (PMI, 2003). Consisting of three directories, the OPM3™ model provides nearly 600 best practices related to the project management field, including portfolio management (Miller, 2004).

1.13.3   Project Management Office (PMO)

The Guide to the Project Management Body of Knowledge (PMBOK Guide, 2013) describes the PMO as a management structure that standardises project-related governance processes and facilitates sharing of resources, methodologies, tools, and techniques.

1.13.4   A project

A project is a temporary endeavour to create a unique product, service, or result (PMBOK Guide, 2013).

1.13.5   Project management

Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements (PMBOK Guide, 2013).

1.13.6   Programme

A program is a group of related projects, sub-programs, and program activities managed in a coordinated way to obtain benefits not available from managing them individually (PMBOK Guide, 2013).

1.13.7   Programme management

Program management is the application of knowledge, skills, tools, and techniques to a program to meet the program requirements and to obtain benefits and control not available by managing projects individually (PMBOK Guide, 2013).

1.13.8   Project-Based Organisation (PBO)

A Project-Based Organisation (PBO) can take a variety of organisational forms that involve the creation of temporary systems for the performance of projects. PBOs conduct most of their activities as projects and provide project over functional approaches (PMBOK Guide, 2013).

1.13.9 Project governance

Project governance is the alignment of project objectives with the larger organisation's strategy by the project sponsor and project team. A project's governance is defined by and is required to fit within the larger context of the program or organisation sponsoring it but is separate from organisational governance (PMBOK Guide, 2013).

1.13.10 Project life cycle

The project life cycle is the series of phases that a project passes through from initiation to closure (PMBOK Guide, 2013).

1.14 Outline of the chapters

Chapter 1: Introduction. In this chapter, the conceptual framework of the research is represented. This includes the background to the study, the problem statement, the study's context, purpose, research questions, research orientation/method, rationale and significance, study scope and limits, definition and key concepts, an outline of chapters and a conclusion.

Chapter 2: Conceptual Framework and literature review. This chapter seeks to clarify the key concepts and their relationships and review the relevant literature on implementing PMOs and 4IR.

Chapter 3: Research design. This chapter constitutes the methodological framework of the research. The methodology for operationalising the research is explained in this chapter. This includes research design, philosophy and approach, the rationale for qualitative research design, sample design, data collection, data analysis, ethical considerations, contribution, and study challenges.

Chapter 4: Research findings. This chapter represents the analytical framework of the research, i.e. the presentation of the findings from the collected data using bar charts and pie charts. Also, the findings are reflected on and categorised accordingly.

Chapter 5: Discussion of the findings. In this chapter, the findings from the collected data are discussed in the context of the problem statement and the research objective and questions and integrated into the theoretical framework.

Chapter 6: Conclusions and Recommendations. This chapter presents an overview of the study with detailed conclusions and recommendations, as well as the contribution to knowledge and suggestions for future research.

1.15   Conclusion

The onset of the Fourth Industrial Revolution is posing a threat, as well as an opportunity, to organisations today.   Leadership must be more flexible and agile, and systems and processes will become obsolete as new disruptive innovation processes cascade through the organisation.   Therefore, risks increase concurrently in this environment for the EPMO office and DX POs in Eskom as opportunities arise.   The nature and functioning of these offices are becoming increasingly important within the organisational structure of Eskom.

Within this context, the research questions were formulated. The research methodology was outlined by focusing on the research philosophy of pragmatism and interpretivism, and the mixed method qualitative research design with a strategy of survey and ethnography, in particular longitudinal participant observation, was discussed.   Key terms, methodology limitations, and the research project's overall limitations were briefly discussed.

CHAPTER 2: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 Introduction

The importance of an effective Project Management Office (PMO) in organisations should not be underestimated, as most organisational change and strategic initiatives are delivered through projects and programs. For instance, PMI's Pulse of the Profession, Global Project Management Surveys (2017; 2018) reveals that organisations with an 80 per cent or more successful project delivery rate have implemented a PMO, and 72 per cent of those organisations have an EPMO with a high alignment with their organisational strategy. Furthermore, major strategic projects, such as the 2022 World Cup in Qatar and the $500 billion smart city NEOM in Saudi Arabia, are driven through a PMO (Azhar, 2021, as cited in McLean, Fincham, Bottomley and Pownall, 2021). A study by Malatji and Marnewick (2016) revealed that State-Owned Entities in South Africa operate their PMOs at the departmental level.

Many scholars have highlighted the relevance of the PMO over the past 20 years, and it is now implemented in many industries and across many organisations. However, many PMOs are still struggling to justify their existence and the value they add because the services delivered by many of them differ from what their executives expect them to deliver. This is compounded by a lack of proper change management (Karkukly and Laliberte, 2019). In addition, the emerging workplace reality caused by the Fourth Industrial Revolution and spurred on by the COVID-19 pandemic is rendering the traditional PMO business model obsolete (PMI Thought Leadership Series, 2018).

Traditional PMO business models are based on reductionist thinking, conceptualised in the industrial economy with a business ideology that calls for standardisation and routine jobs controlled through hierarchies and bureaucracies (Jarche, 2013; 2015, as cited in Da Vinci, 2020). Bureaucracy, according to Sturmberg (2020:1),

> … is a closed system designed to maintain uniformity and control within discrete areas of activity; hierarchical processes and procedural correctness are paramount to suppress autonomous decision-making.

In contrast, the VUCA (volatility, uncertainty, complexity and ambiguity) world we live in, confirmed by the COVID-19 pandemic, calls for the adoption of a business ideology in which bureaucratic practices and structures are abolished, for the formation of new relationships, for organisations to understand and manage complexity, and the necessity to continuously 'probe-sense-respond' and engage workers by enabling autonomy, mastery, and a sense of purpose (Steyn and Semolič, 2019; Jarche, 2013, 2015, as cited in Da Vinci, 2020).

This chapter provides an overview of the history of the Project Management Office (PMO), the need for PMOs to evolve, the Fourth Industrial Revolution, the PMO in Industry 4.0, the EPMO, project management in Eskom, leadership in Industry 4.0, and the need for change management.

2.2   The history of the PMO

Although the history of the Project Management Office (PMO) has not been well elaborated on or described in the literature, there is a consensus that some type of PMO can be traced back to the early days of human endeavour to create civil states, including spiritual temples, societal housing, territorial structure, and agriculture projects. Furthermore, the term PMO dates back to the 1930s and was officially published in 1939 in the Bulletin Policy and Procedure written by the U.S. Housing Authority (Darling and Whitty, 2016). The PMO in those days was manual but effective, as it provided executives with an overall view of the number of concurrent projects in terms of progress on scope, cost, and schedule (Taylor, 2021).

The structures underlying the traditional PMO, according to Giraudo and Monaldi (2015), can be traced back to the U.S. military's development of the complex missile system in the 1950s, most notably, the Special Projects Office established by the U.S. Navy for the development of the Polaris System project. The development of the Polaris project was given the highest national priority in 1957 to close the missile gap between the Soviet Union and the USA. Furthermore, the Special Project Office was mandated to operate under total command-and-control management conditions and delivered the Polaris project ahead of schedule under extreme time pressures (Sapolsky, 1972, as cited in Engwall, 2012).

The 1980s and the rise of project management software development gave further momentum to the PMO function, which gained traction across new industries such as construction, information technology (IT) and other industries (Giraudo and Monaldi, 2015).

However, the PMO concept became more prevalent in the 1990s in the IT departments of large corporations in response to scheduling delays and poor-quality projects. PMOs with broad charters that extended beyond the simple implementation of project management began springing up in the early 2000s (ISG, 2016). Project management certification by associations such as the Project Management Institute (PMI) and the International Project Management Association (IPMA) became an industry requirement during the 1990s.

In the past, the disruptive technologies brought about by the Fourth Industrial Revolution revolutionised the 1950s PMO operating model, spurring the next generation of PMOs to adopt new value delivery ways and assert their relevance (PMI Thought Leadership Series, 2018). Research by KPMG and AIPM (2020) in Australia shows that about one in five organisations have abandoned their PMOs within the last two years. Unfortunately, this was also when the PMO, according to Taylor (2021), 'started to diverge and disconnect from its original purpose and started to become more method and mechanically driven and less outcome and value focused'.

2.3   The need for PMOs to evolve

PMOs were set up to solve organisational problems in achieving project success, but a study by Cranfield (2013) reveals that the role of the PMO in organisations is determined by the skills available within the PMO, heightening the view that the PMO is seen as an overhead expense that adds no value to project delivery (Cranfield, 2013). The researcher observed a similar situation in the case of the Eskom PMO, as many of the contracted experienced staff were highly skilled in mega projects, like Medupi and Kusile Power Station projects, but had limited experience in Distribution and Transmission type of projects.   Hence the sophisticated project scheduling and costing tools implemented for the mega projects were too complex to deal with the many smaller projects running simultaneously in the Distribution business environment. These tools were almost forced onto the Distribution business in a directive way.

The type of role PMOs take on in their organisations and towards their stakeholders plays an important role in the success of the PMO. For instance, in a multi-case study, Müller, Glückner and Aubry (2013) identify the roles that PMOs take on concerning their stakeholders in practice. They identify superordinate, subordinate, and co-equal roles in a framework of servicing, controlling, and partnering in organisations. Their study finds that the servicing (subordinate role profile) and the controlling (superordinate role profile) support

organisational effectiveness and the exploitation of knowledge, but the partnering (co-equal role profile) creates the slack necessary for the potential exploration of new knowledge.

In a study of 184 PMO changes, Aubry (2015) finds that external events play a key role in the transformation of the PMO. In contrast, in a Brazilian study, Barbalho, De Toledo, and Da Silva (2019) conclude that PMO transitions occur due to internal and not external factors. They emphasise internal stakeholder dissatisfaction, especially by project managers and their teams and, to a lesser extent, by Senior Managers, as the driver for the reconfiguration of the PMO. Similarly, a South African study by Jelly (2019) finds that executives do not trust the PMO to oversee all strategic initiatives. In fact, they see the PMO as the project police and a command-and-control function that governs projects.

A study by Stang, Callahan, Davies, Handler, Henderson, Mieritz, Olding and Schoen (2021) finds that PMO leaders manage PMOs that are facing increased demand, and yet they are not adapting to the pace necessary to keep up with the needs of an evolving enterprise. The emerging workplace reality caused by the Fourth Industrial Revolution, spurred on by the COVID-19 pandemic, has accelerated new ways of working and delivering value that had been gathering steam for some time. It accelerated the pace and scale of digitalisation exponentially (PMI, 2021). Allers (2021) mentions five key changes the pandemic will bring to an evolving PMO:

i. A shift towards more Agile methodologies: PMOs will have to become more agile by moving away from their traditional policing role rooted in rigid processes, old bureaucracy, and traditional tools to make room for flexible processes, lean management, and agile-centric tools.

ii. Increasing demand for effective communication and collaboration tools: The PMO will have to invest in improved cloud-based technology adoption to enable communication and cross-team collaboration of geographically dispersed teams.

iii. Acceleration of digital transformation through technological advancement: PMOs should play a critical role in implementing appropriate digital technologies.

iv. The necessity of remote leadership skills: Remote working has been said to improve productivity, but employees are challenged with feelings of disconnect, higher rates of burnout, and a lack of morale. PMOs must ensure digital tools that compensate for effective communication and informal relationship-building functionalities and opportunities.

v. PMOs are becoming pivotal for crisis management: PMOs could become a critical asset in the organisation's crisis management strategy by leading teams strategically, aligning stakeholders, prioritising tasks effectively, and ensuring the correct resources are allocated to the most critical projects.

2.4   The implementation framework of the EPMO

The EPMO not only provides valuable oversight and control over an organisation's portfolio of projects, but it will ensure that the organisation does not execute a project that is not aligned with its overall strategic intent (Naidoo, 2021). As indicated elsewhere in this study, PMOs differ in how they have been set up. They also differ in the frameworks used for setting them up. For instance, some organisations will use an EPMO team that is made up of pre-existing employees within the organisations to build the EPMO from the ground up, while other organisations may outsource the setting up of their EPMO to a professional service provider. Some companies may use a hybrid of the internal augmented with external resources to bring a fresh perspective (Adel, 2022). It does not matter which model has been used for setting up the EPMO; some common steps are found in the framework used for setting it up (Adel, 2022; Alexander, 2020). These are:

2.4.1   Culture and talent management

People and culture are among the most critical elements for EPMO's success. And that means hiring and training for the right mix of skills — and establishing team-wide resiliency and empathy.

When it comes to leadership, successful EPMOs are focused on being "empowered from the top." The execution of projects, programs, and portfolios relies heavily on how teams and functional units work together and how resilient they are during times of disruption.

2.4.2   Establish stakeholder buy-in for the EPMO.

The key mission of an EPMO is to align all project, program, and portfolio activities with company-wide strategic objectives.

High-performing organisations only approve projects that have a solid business case that outlines the benefits and how each benefit ties back to goals set out by the leadership team.

As company-wide goals change, EPMOs should re-evaluate projects and programs to ensure they align with the company's direction and not be shy about cutting projects that no longer align with the business.

2.4.3   Set up the framework and planning for the EPMO

At this stage, the foundational goals, vision and mission of the potential EPMO are set and aligned with the organisation's greater strategic goals. Typically, an EPMO charter document is created that outlines the key goals and objectives of the EPMO so they can be communicated clearly to all relevant stakeholders. This document will help build the framework and process for the EPMO establishment process.

2.4.4   Conduct an organisation assessment and gap analysis

It is important to assess the organisation's current capabilities, skills and needs to make sure the EPMO is tackling the right issues and bringing the right strategies to address those issues. Things that need to be assessed include the current project management practices, team readiness for change and organisational environment. Understanding the gap between the organisation's current position and where they want to be with the EPMO will help identify the amount of effort needed and establish the steps to be taken to achieve the EPMO goals.

2.4.5   Hire your EPMO team members

Team members can be hired both internally and externally. Depending on the context and objectives of the EPMO, the EPMO needs to ensure their organisation is equipped to fulfil their EPMO function with the right talent and skills.

2.4.6   Develop EPMO methodologies, processes, and templates

EPMOS need to note that there is no 'one-size-fits-all methodology' to rule them all. Depending on your organisation's structure, needs and objectives, some methodologies are better suited than others. The typical project management methodologies fall between a spectrum of more iterative or traditional methodologies.

Once the methodology is chosen, a clear structure and process for how EPMO activities and projects will be carried out should be documented and communicated in an easy-to-understand manner. This can include flowcharts, step-by-step documents, clear communication frameworks, and much more. A standardised template is then made to be used by all teams and projects within the EPMO and the wider organisation.

2.4.7 Training of the EPMO team

EPMOs must handle a wider range of complex tasks than a typical PMO. As a strategic function, EPMO teams typically analyse activities on a larger scale and may need to use certain features, such as resource and cost management, on a higher level. Teams may need additional training to ensure they can use their preferred PMO practices and processes with their PMO software to bring out their full capabilities. The EPMO cannot send half-baked capabilities into the business.

2.4.8 Deploy the EPMO software and tools

Picking the right project portfolio management tools and software is critical for an effective EPMO. As EPMOs have a wider range of tasks, it is important to establish a clear criterion for specific features the EPMO team needs and not get lost under the mountain of tools and features different services promote. There is no point in having all the latest complex tools if they do not achieve what the EPMO aims to accomplish.

2.4.9 Implement organisational change management

Establishing an EPMO means big change, and change brings uncertainty, which is not always welcome. Once all the steps, processes and tools are in place to build the EPMO, it is also important to have a clear change management strategy that helps reduce resistance and ease the change process. Some ways this is done is by establishing continuous communication and, where possible, road shows with teams during the change process to make sure their opinions are heard and valued, constantly reinforcing the collective and individual benefits of the EPMO, and providing all necessary support services, training, and mentorship. Building investment into the EPMOs activities depends on how well its value is communicated to all stakeholders.

Implementing an EPMO or PMO is not an instant solution to improve project management challenges in an organisation. The EPMO will have to progressively mature and continually improve their offerings to its host organisation (CPB Research, 2007, as cited in Khalema, Waveren and Chan, 2015).

2.5 PMO maturity

The worldwide COVID-19 Pandemic has left many organisations in limbo regarding their projects, while some organisations were able to 'pivot and thrive'. These organisations had high project management maturity and very good departmental/regional/divisional project management offices (PMI, 2021:6).

Project management maturity refers to the progressive development of an enterprise-wide project management approach, methodology, strategy, and decision-making process (PM Solutions, 2012).

Meanwhile, studies indicate a difference in conclusion if project management maturity is increased by implementing a PMO or vice versa. For instance, Khalema *et al.* (2015), in a study completed amongst Infrastructure Departments in South Africa, found that a PMO's strategic maturity had the highest impact on all nine knowledge areas of Organisational Project Management, while a study by Ko and Kim (2019) in Korea, found PMO maturity was positively influenced by an organisations project portfolio management maturity (PPMM) and the degree of strategic alignment with business goals. PPMM maturity is increased by a PMO's leadership culture that creates an organisational project management environment driven by innovation, agility in project delivery approaches, and critical thinking, reinforced with the right project management standards, tools and educational opportunities (PMI, 2019). The recent worldwide bespoke PMO Maturity Index Report released by PMI and PWC (2022) revealed that PMOs worldwide still have a long way to go on their maturity journey. The PMI and PWC Maturity Index measured levels of activity against 23 specific elements of Maturity across the following five dimensions:

2.5.1 Governance

i. Consistently measuring and regularly reviewing performance.
ii. Effectively managing governance, risk, and compliance issues.

iii.   Ensuring project visibility (e.g. regular status reports, shared dashboards, stakeholder communications).

iv.   Undertaking all roles and responsibilities with support from leadership.

v.   Contributing to the development of strategy.

2.5.2   Integration and alignment

i.   Effectively managing project integration (e.g. coordinating tasks, resources, and stakeholders).

ii.   Integrating PMO processes across business functions (e.g. procurement, human resources, etc.)

iii.   Fully aligning initiatives and KPIs to the wider organisation's critical strategic and change goals.

iv.   Regularly engaging with senior leaders and communicating the milestones and impacts of projects.

2.5.3   Processes

i.   Standardising and documenting PMO structures, policies, procedures, processes, etc.

ii.   Adapting project management tools, methodologies, and practices to different projects and teams.

iii.   Using tools, methodologies, and practices in alignment with industry standards and best practices.

iv.   Driving a benefits management and outcome-driven culture (e.g., developing a benefits realisation framework).

v.   Providing formal assurance on the quality of processes, methodologies, approaches, and structures.

2.5.4   Technology and data

i.   Using the latest project-level tools.

ii.   Using the latest portfolio/program-level tools.

iii.   Using data extensively to make evidence-based decisions.

2.5.5   *People*

    i.   Developing strong personal skills like leadership, collaboration, and relationship building in project managers.

    ii.   Developing flexibility and adaptability in project managers.

    iii.   Developing strong business acumen skills in project managers.

    iv.   Investing in learning and development for project managers.

    v.   Strengthening internal learning through creating communities of practice and knowledge management.

    vi.   Adequately assessing, recognising and rewarding the performance of team members.

The bespoke PMO maturity index report revealed that global PMO maturity scored 61.4 out of a maximum score of 100, indicating that most of the PMOs have not reached a point where they consistently deliver across all five dimensions (PMI and PWC, 2022). This study did not test the maturity of the EPMO and PMOs, as the focus was on the transformation or reconfiguration of the EPMO rather than the maturity assessment.

2.6   The Fourth Industrial Revolution

The first industrial revolution, inspired by the scientific revolution, began in England in the 18th century and used water and steam power to mechanise production. Steam power allowed the transition from a farming and feudal society to new manufacturing processes. Coal was the main energy source, and steam trains were the main mode of transportation. The dominant industries for employment were textile and steel mills. The mechanisation of production was met with resistance due to the loss of job opportunities as manufacturing before the steam engine was done by hand by trained craftsmen (Marwala, 2020; Xu, David and Kim, 2018).

According to Longley (2021), building on the inventions of the first and second industrial revolutions can be described as a period of ground-breaking advancements in manufacturing, technology, and industrial production methods. From the 1800s to the 1900s, the second industrial revolution saw advancements in manufacturing, such as the steel and electricity industries in the United States. For instance, the production of steel by Sir Henry Bessemer in 1856 and the Bessemer process saw the expansion and building of new railway lines connecting many towns. The development of the first efficient commercial

electrical power generator, based on the ideas of electromagnetism formulated by Michael Faraday and James Clerk Maxell, made the transmission of electricity to factories possible, which increased mass production (Longley, 2021; Marwala, 2020). Industrialisation and economic activity during this period in South Africa were marked by the extraction of minerals using cheap energy and labour (Marwala, 2020: 7).

The third industrial revolution started in the 1950s, following the invention of semiconductor devices, such as transistors, in the 1940s (Marwala, 2020:8). Zola (n.d.) describes a semiconductor as a substance that has specific electrical properties that enable it to serve as a foundation for computers and other electronic devices. It is typically a solid chemical element or compound that conducts electricity only under certain conditions.

The third industrial revolution, referred to as 'the Digital Revolution,' is marked by nano, bio, and IT technologies, 3D printing, artificial intelligence, and robotics - the main drivers of the third industrial revolution. Furthermore, while only Western Europe and the United States were developed during the first and second industrial revolutions, the third industrial revolution spread development to almost every corner of the world (Mohajan, 2021). Unfortunately, many countries, such as South Africa, were left behind during the previous three industrial revolutions (Marwala, 2020; Nathalal, 2021).

The Fourth Industrial Revolution (4IR, Industry 4.0), highlighted for the first time by the Ministry of Research and the Ministry of Economic Affairs in Germany, represents a complete shift in the way we live, work, and relate to one another (Simion *et al.*, 2018; Sahay, 2020). The Fourth Industrial Revolution leads through Cyber-Physical Systems (CPS) for self-organisation and self-control (Deloitte, 2015, as cited in Perera and Das, 2019). Industry 4.0 extends far beyond the megatrends and their impact; it also moves beyond manufacturing and production to focus on the entire business ecosystem of partners, suppliers, customers, the workforce, and operational considerations, argues Deloitte (2017).

At the macro level, the Fourth Industrial Revolution is allowing the development of new technological platforms and increasing the convergence of the physical, digital, and biological, enabling citizens to engage governments, voice their opinions, and coordinate their efforts to challenge the supervision of public authorities. The current South African political landscape of service delivery protests is evidence of this (Schwab, 2016). Moreover, the technological advances of the Fourth Industrial Revolution impact the nature of national and international security (Schwab, 2016).

The meso level of the business ecosystem is impacted by fading organisational borders due to the interconnectedness and concurrent collaborative business, inter-organisational, and interpersonal productivity as elements of the new business model. Furthermore, the rapid development of global markets and the continuous development of new technologies allow companies access to worldwide supply chains (Semolič and Steyn, 2017; ARUP, 2017; Steyn and Semolič, 2019). Furthermore, Industry 4.0 has shifted the traditional linear, sequential supply chain into a multi-faceted ecosystem linking product development, manufacturing, and distribution networks into one fully transparent and digital network (Deloitte, 2017; Fawcett, 2020). See Figure 2.1 below.
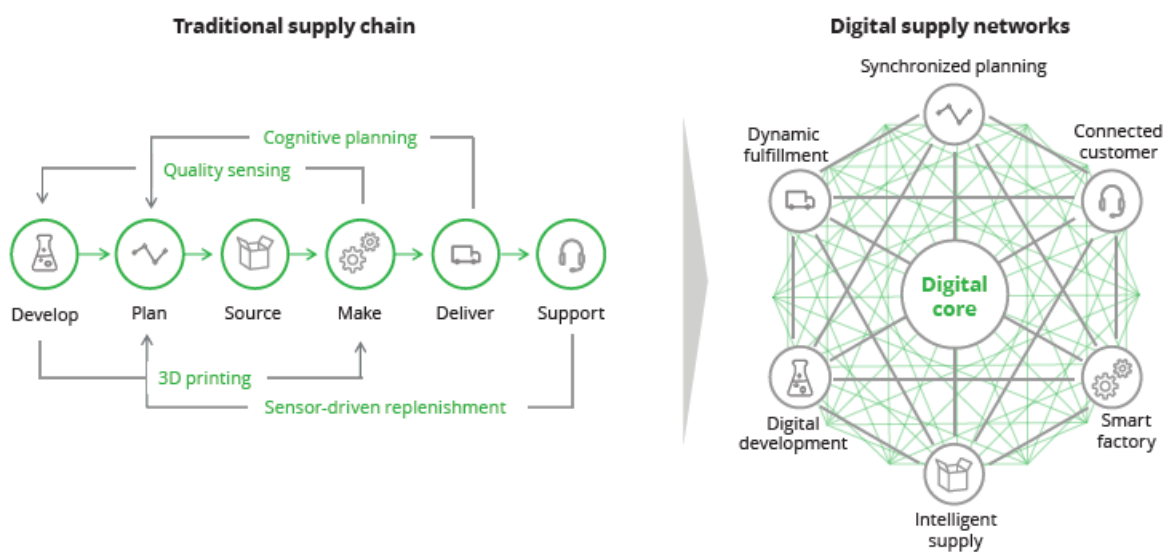
Figure 2:1:   Shift from traditional supply chain to a digital supply network

Source: Deloitte (2019)

At the micro level, the disruptive technologies of Industry 4.0 seek to improve productivity and minimise the costs and risks that may arise while producing goods and services. These disruptive technologies demand more sophisticated skills, which might lead to job losses as some jobs may become extinct. On the other hand, new jobs are created to acquire the skills these new technologies require (Sumer, 2018). The micro level is also impacted by the new technologies, global connectivity, and shifting demographics of Industry 4.0, making skills available wherever they are located (ARUP, 2017).

The Gig Economy is a web-enabled marketplace that connects businesses and other organisations to freelancers, independent consultants, and service providers (ARUP, 2017).

Uber and Airbnb are some of the more well-known online platforms that allow millions of individuals with expertise and specific skill sets to access the global market on the exo level (ARUP, 2017).

Schwab (2018:157) argues that the IoT,

> *… consists of a range of smart and connected sensors that gather and communicate data to other devices or individuals across the internet for a wide variety of uses. IoT will enhance human and machine interaction, and the machine-to-machine data economy will grow larger than that of the human-to-human. Tens of billions of devices will be added to the IoT over the next decade, and, through industrial applications, their interaction could add as much as $14 trillion to the global economy by 2030.*

2.7   The PMO in Industry 4.0

Organisations are getting more frustrated with the traditional PMO's enforcement of so-called best practices instead of allowing for practical project execution methods (Gartner, 2020). Furthermore, there is a clear disconnect between what organisations expect from their PMOs and what they deliver. In addition, the traditional PMO lags behind project management methodology evolution from innovation to PMO delivery models and techniques (Abbouchi, 2019). For instance, a 2020 Gartner survey reveals that PMOs continue to support traditional program and portfolio management capabilities in organisations with increased business digital maturity. This indicates that PMO leaders do not support the changing needs of their stakeholders (Gartner, 2020).

The modern PMO, increasingly called an Agile Management Office (AMO), is adopting modern project management approaches and is more open to technological advancements, such as using cloud-based tools to keep stakeholders engaged and involved in the process via their mobile devices (Deloitte, 2019). For the traditional PMO to evolve towards business agility, they must depart from the traditional authoritarian approach of concentrating on the tactical procedures and execution of individual projects and start thinking strategically regarding portfolios (Deloitte, 2019; Deloitte, 2020; CA Technologies, 2017). However, PMOs need to ensure their own internal readiness before they can change to transform for business in the digital world. Karkukly and Laliberte (2019) assert that people, processes, and technology are the key areas that need to be transformed:

2.7.1 People

2.7.1.1 Culture change

One of the most critical components of a successful transformation is gaining support from all key stakeholders. People need to understand why the change is important, how it can benefit the organisation, and how it can specifically benefit them. The PMO will have to drive culture change through a robust change management process and executive education.

2.7.1.2 Improve talent management

To operate in the digital world, the PMO must focus on creating opportunities to evolve or augment current skills with new ones.

2.7.1.3 Obtain executive support

The PMO must focus on executing strategy and aligning executive support for the new mission. The focus should be on translating strategy into business outcomes delivered through projects.

2.7.2 Process

2.7.2.1 Improve process agility

The PMO must ensure faster workflow and approval processes for initiatives and be unafraid to experiment with new working methods. The ability of the PMO to process and apply 'fit for use' and not 'one-size-fits-all' will speed up the PMO's journey into digitalisation.

2.7.2.2 Embrace an Agile mindset

Being an Agile EPMO or organisation indicates a mindset to approach projects by creating a minimum viable product followed by iterative improvements to build in more features required by customers may be appropriate for some types of projects and may not be appropriate for others.

2.7.2.3 Re-align program portfolio management and business case

PMOs can improve the agility of the intake of business case justification and provide for iterative business case processes that align with an iterative funding model to impact their organisation's key alignment areas positively.

2.7.3   Technology

2.7.3.1 Current PMO technology

Many of the existing PMO tools are under-utilised, not fully explored, or not even appropriate, as they need to be customised since they create frustration for executives that must wait days for reports. PMOs should be the digital intelligence information hub for their organisations by utilising the power of current technology to process data and produce meaningful reports for collaboration with executives and timely decision-making.

2.7.3.2 Embrace digital

With today's 'plug-and-play' technologies and mobile applications, EPMOs have no excuse not to turn the data into powerful information for their organisation and become the artificial intelligence in answering all the tactical and strategic questions equally. While many organisations have realised the importance of digital transformation, many South African companies have taken a 'wait and see' approach to see how things will pan out after the pandemic with Industry 4.0 training initiatives (Parker, 2021).

Similarly, Allers (2022) stated that organisations have also realised that digital transformation takes much more than implementing digital tools, as it involves changing foundational cultures, structures, and methodologies. Hence a transformed PMO should encourage a philosophical change (CA Technologies, 2017) through its stakeholders in the organisation by promoting Agile ideologies, characteristics, and processes across the organisation.

2.7.3.3 Stakeholder management

> *Project Stakeholder Management includes the processes required to identify the people, groups, or organisations that could impact or be impacted by the project, to analyse stakeholder expectations and their impact on the project, and to develop*

appropriate management strategies for effectively engaging stakeholders in project decisions and execution (PMBOK, 2017).

One of the critical success factors of any organisational initiative is stakeholder satisfaction. However, research indicates stakeholder dissatisfaction with PMO delivery in many organisations (Barbalho *et al.,* 2019; Cranfield, 2013). In organisations where executives are unsatisfied with what the PMO delivers, they develop alternative structures to their PMOs or even disestablish the PMO (Abbouchi, 2019).

The researcher experienced such a case when Eskom established an alternative structure in the form of a new Transformation Office for the current restructuring of Eskom into three separate entities (also called legal separation).

There has been a shift from the term 'stakeholder management' since 'management' implies the coordination and control of stakeholders, which is inappropriate in the new reality that calls for stakeholder participation and responsiveness (Scott, n.d.). Furthermore, all stakeholders are important for the success of the delivery of initiatives. Some stakeholders are directly involved in the outcomes of the initiative.

These stakeholders are called 'role-based stakeholders' as they have a direct relationship with the initiative's success, and those affected stakeholders are called 'agenda-based stakeholders' (Scott, n.d.). The success of the PMO delivery depends on the correct identification and the appropriate engagement of all stakeholders (PMBOK, 2017).

2.8   Project Management in Eskom

According to Gosling (2019), Kusile and Medupi, the world's third and fourth largest power plants, were originally planned to be commissioned in 2012 and 2014, respectively. These two power plants would have added an extra 9 600 MW of power to the Eskom electricity power grid and could have minimised or avoided the current blackouts South Africa is experiencing. However, with the recent visit by the Standing Committee on Public Accounts (Scopa), it was confirmed that Eskom aims to complete the two power stations by 2024. According to Illidge (2022), these delays can be attributed to corruption, negligence, and flawed designs, resulting in both projects exceeding their budgets by a combined R300 billion.

Moreover, Assaf and Al-Hejji (2006, as cited in Kgosi, Marnewick and Pretorius, 2018) contend that many South African projects have been identified to have slipped well over their planned schedules, and this is a common problem in the construction industry. Furthermore, although there have been mitigation tools, such as project management guides and techniques (e.g. PMBOK and Pert), in place, the failure rate of projects in South Africa remains high (Bierman, 2015, as cited in Kgosi *et al.*, 2018). According to Shivambu and Thwala (2014, as cited in Kogsi *et al.*, 2018), the high failure rate is due to a lack of project management skills, experience, and competency.

Based on the nine knowledge areas of project management (PMBOK), referred to as the nine project management activities, Kgosi *et al.* (2018) investigate the cause of delays in the South African construction industry, mainly Eskom's capital expansion projects. They find that the foremost causes of delays in the South African construction industry are time overruns, poor communication and coordination, ineffective planning and scheduling, slow decision-making, low productivity, and equipment inefficiency. In addition, these projects are multi-faceted entities that exist in dynamic circumstances and interact with larger systems which are delivering benefits for the greater society in South Africa and Africa (PMBOK, 2021:64). The fact that these projects run late means that they are impacting the business ecology on the micro, meso, exo, and macro levels. The employees working on these projects, and for Eskom, at the micro level, are impacted by negative reports and jokes from family members about Eskom and load-shedding on social media.

On the meso level, employee loyalties are under pressure as they might not feel comfortable openly declaring that they are working for Eskom within their social gatherings in these days of load-shedding and the corruption reported by the media. The Exo level is impacted by the electricity tariff increases, which is encouraging current Eskom customers to look for alternative sources of electricity supply, thus impacting electricity sales which in turn impacts the salary increments for staff.

The macro level is impacted by the delays on the Medupi and Kusile projects which are delaying the expansion of the economy through the withholding of much-needed direct foreign investment and job creation, as well as training and development. The delays suffered by the Medupi and Kusile projects are basic problems that should have been resolved by an effective Eskom Enterprise Project Management Office.

2.9 Organisational tensions in the Implementation of the PMO

Many organisational units at different levels are raising projects or establishing PMOs to run their own projects. For instance, the Human Resources Department will run a project to replace the current or outdated Human Resources Software System as a project through the HR PMO. This PMO coexists with other PMOs and shares similar project governance tasks within the organisation. This often causes significant tension in the power balance between those entities (Aubry *et al*., 2006, as cited in Tsaturyan and Müller, 2015).

Szentes (2016) argued that the changes experienced by society and the rapid pace at which technological developments are advancing demand innovative practices from companies. However, innovation, together with organisational politics, is one of the sources creating tensions within organisations. Innovation comprises divergent and convergent phases, including research and development and its associated activities (Garud *et al*., as cited in Shazi, Gillepsie and Steen, 2014). In addition, developing new ideas and service offerings is often an unstructured and 'fuzzy' process which requires creativity and out-of-the-box thinking. These innovation activities inherently entail higher levels of uncertainty, thus increasing the level of tension in organisations (Boukis, 2015).

Technological uncertainty, market uncertainty, regulatory uncertainty, managerial uncertainty, as well as social/political uncertainty as part of the innovation management process have been highlighted by Wang *et al.* (2008, as cited in Boukis, 2015). Managing uncertainty to improve the chance of success during the innovation process remains a key issue (Boukis, 2015). Managerial uncertainty and social/political uncertainty will be elaborated on for this study:

2.9.1 Organisational social and political uncertainty

The innovation process occurs amidst social interactions among stakeholders with different backgrounds, viewpoints, and often conflicting priorities. As the diversity of interests among members of an organisation is revealed, high levels of uncertainty and complexity are created (Boukis, 2016).

The decision-making process is often influenced by political struggling, battles for resources, and subjective value judgements between different functions or departmental representatives who promote their agendas (De Clercq *et al.*, 2009, as cited in Boukis,

2015). The researcher has experienced political struggles in the rollout of the standardised project management methodology in Eskom, where at least three centres of power were observed.

2.9.2 Managerial uncertainty

Boukis (2015) argued that it is generally accepted that routine tasks imply standardisation and stability, whereas innovations require autonomy, unstructured tasks, and creative thinking. Managerial uncertainty may also arise in the staffing of the project team, the required resources with the correct expertise, the relationship management, and cooperation with other departments in the organisation (Ortt and Smits 2006, as cited in Boukis, 2015). Effective leadership is required when managing the innovation process, as innovation challenges traditional thinking (Gebert *et al.*, 2010, as cited in Boukis, 2015).

Innovation, optimisation, and the competitiveness of organisational resources are not enough to compete in the Industry 4.0 economy. Organisations in Industry 4.0 are compelled to increase inter-organisational value chain innovativeness to incorporate complementary partner technologies, products, digitisation, and supporting service systems. In other words, organisations will have to collaborate with their partners to co-create innovative inter-organisational value and supply chains to be competitive in a globally collaborative business ecosystem, argue Semolič and Steyn (2017).

Existing organisational tensions intensify when changes in organising practices are introduced. These organisational tensions relate to control and flexibility that can emerge between the client and the contractor, within each of these parties, and between the organisation and societal stakeholders. Furthermore, organisational tension exists between exploiting current knowledge to perform efficiently today and exploiting new knowledge to innovate for tomorrow's demands (Szentes, 2016).

Employing a qualitative study, Szentes (2016) investigates seven large construction projects in Sweden, including three rounds of interviews during a four-year period, site visits, and readings of project documentation. The study showed substantial changes in the organising practices of large construction projects over the years. However, the statements and attitudes exhibited by several interviewees indicate that the construction sector's reputation for being conservative has become institutionalised, thus blocking creativity and favouring exploitation over exploration.

Jowah (2014) argues that any formation of a group of people immediately results in a quest to exert power and control, which leads to political tensions within organisations. Power is closely linked to politics, and politics involves the activities of an individual or a group of individuals, which are used to acquire, develop, or control the resources to achieve one's preferred outcomes. In a sense, politics is the management of influence by individuals or groups to obtain outcomes or processes that the organisation has not otherwise sanctioned.

Political behaviours in the organisation are not required as part of the formal organisation, yet they influence the distribution of resources and, consequently, the outcome of any undertaking by the organisation. For instance, the support for digital transformation in South Africa remains low from top political leaders despite policies identifying it as a priority for South Africa's vision of an inclusive digital society by 2030 (Manda and Backhouse, 2017). In many organisations, the Project Management Office (PMO) is seen as an organisational entity challenging the status quo and taking away project managers' authority (Iqbal, 2013).

2.10   The role of the EPMO

There is not much success between strategy planning and strategy execution. Due to the disruption, organisations pursue even more ambitious and transformational strategies (Forbes, 2019; Gartner, 2019). The 2016 PMI Pulse of the Profession report reveals that companies that invest in project management waste 13 times less money because their strategic initiatives are completed on time. However, many organisations have not yet realised this message (PMI, 2016). An effective Enterprise Project Management Office (EPMO) can play a crucial role in delivering an organisation's strategic initiatives, as organisational strategy is delivered by projects and programs (PMI, 2016; PWC, 2022).

Alexander (2018) argued that the difference between the traditional Project Management Office (PMO) and the enterprise project management office (EPMO) is that the EPMO operates at a strategic level in collaboration with the executives to ensure projects, programs, and portfolio activities are prioritised to support the strategic objectives of the organisation. The traditional PMOs were set up to address project or department-specific key deliverables that were not linked to the organisation's objectives (Alexander, 2018).

In a thought leadership paper commissioned by the Project Management Institute (PMI), Forrester Consulting (2013) warns that transitioning the PMO to become strategically aligned is not easy, and each company they interviewed was on a path of continuous improvement.

A 2022 study by PWC mentions five key areas that will align mature EPMOs to become strategic partners.

i. Governance: Supports decision-making by implementing effective governance, risk management, and compliance.
ii. Integration and alignment: Engage with senior leadership, project teams, and the wider organisation to manage project integration and align initiatives with strategic goals.
iii. Methodologies and practices: Develop and adhere to project management methodologies and practices that align with industry standards while adapting to different projects and teams.
iv. Technology and data: Leverage the latest project/program level tools and uses data-driven decision-making.
v. Project Manager power skills: Makes it a priority to develop strong leadership, flexibility, and business acumen in project managers across the organisation.

The report Enabling Strategy Execution Excellence by PM Solutions Research (2016) reveals that PMOs that have been in place for over five years have had expansions in responsibilities and remarkable results improvements. Furthermore, the organisation rarely questions their value and is likelier to engage in impact strategic planning, governance, and portfolio management tasks. In addition, these mature PMOs have an impact not only on projects and programs but on overall organisational success. The PM Solutions (2016) survey was carried out among 226 organisations and across different industries. According to the survey, only 41 per cent of organisations with an EPMO were highly aligned with their organisation's strategy, indicating that executives in these organisations do not recognise the full potential of the EPMO (PMI 2018). This finding is corroborated by a South African study which finds that only 25 per cent of strategic projects in South African companies are managed by their PMOs (Jelly, 2019). Moreover, what is concerning is that the number of organisations with a PMO, particularly an enterprise PMO, has been flat since 2012. The study also reveals a decline in the percentage of projects with actively engaged sponsors, the top drivers of project success, among organisations with a PMO (PMI, 2018).

2.11   Leadership in Industry 4.0

The scale, complexity, and urgency of the Fourth Industrial Revolution require a new leadership paradigm. Many leaders acknowledge their challenges in dealing with rapid

technological changes (Deloitte, 2018). Many scholars have put forward leadership frameworks to deal with the challenges of Industry 4.0. For instance, the World Economic Forum (2019) has called for leadership through a new lens that puts people at the centre, giving six dimensions of leadership in the Fourth Industrial Revolution and six transformational leadership behaviours (see Figure 2-2). This study will elaborate on transformational leadership.

Looking at leadership through a new lens

Six dimensions of leadership in the Fourth Industrial Revolution:

1 Responsibility and accountability
2 Systems leadership
3 Technology leadership
4 Entrepreneurial leadership
5 Adaptive leadership
6 Shaping societies

People at the centre

Transformational leadership behaviours that support people at the centre:

1 Inspire with empathy and vision
2 Innovate with purpose
3 Advocate humanity, trust and transparency
4 Collaborate across the ecosystem
5 Orchestrate for agility and growth
6 Embrace social responsibility

Figure 2:2:   Leadership in the 4IR transformation map

Source: World Economic Forum (2019)

2.11.1   What is transformational leadership?

The current volatile, uncertain, complex, and ambiguous business environment requires leaders that can steady the organisational ship in these turbulent times. Furthermore, leaders who recognise the environmental need and steer their originations towards the future are called transformational leaders (Korejan and Shahbazi, 2016). In addition, transformational leaders inspire teams to embrace change to take accountability, ownership, and autonomy. In addition, it allows employees to be creative and to look to the future to find new solutions to old problems (White, 2018).

In order to understand transformational leadership, one needs to appreciate transformational problems. In this time of rapid technological changes, organisations are compelled to

transform. Transformation relates to attitudes, behaviour, and culture, some of the critical issues organisations face today more than ever (Hein, 2013).

Transformational leadership is described as,

> *… a complex and dynamic process in which leaders influence their followers' values, beliefs and goals. These leaders move organisations toward the future, recognise environmental needs and facilitate appropriate changes. They also create perspectives of potential opportunities for employees and develop commitment to change, culture improvement and the need to design new strategies for efficiently use of energy and sources (Avarsin et al., 2012:23, as cited in Korejan and Shahbazi, 2016).*

Transformational leadership started with James Downton in 1973 and was expanded on by James Burns in 1978. Burns was a presidential biographer and a leadership expert who specialised in improving management principles and procedures. In 1985, the concept of transformational leadership was further expanded by Bernard Bass, who included it in measuring success (Hein, 2013; White, 2018). Transformational leadership skills are needed now more than ever to encourage and motivate project teams to innovate and embrace the positive change demanded by the Industry 4.0 project environment. Components of transformational leadership include:

i. Intellectual stimulation: Transformational leaders encourage creativity and innovation by allowing co-workers to explore new ways of thinking. They see co-workers as knowledge workers, allowing for engagement and collaboration (Da Vinci, 2019).

ii. Individualised consideration: The transformational leader attends to each co-worker's needs and is a mentor, coach, or guide to the co-worker. They listen attentively to the concerns and needs of their co-workers, provide support, and empathise with each co-worker's situation and background (Towler, 2019).

iii. Inspirational motivation: Transformational leaders understand the organisation's vision and clearly articulate it confidently to their co-workers (Hein, 2013; White, 2018).

iv. Idealised Influence: Transformational leaders command respect and trust because, as leaders, they show respect towards their co-workers and value their opinions (Hein, 2013; White, 2018).

2.12 Change management

Although many organisations know that the world has entered the Fourth Industrial Revolution, the Covid 19 pandemic spurred organisations to find new ways of working and improving project performance. Unfortunately, not all organisations managed to forge ahead and meet their original goals and business intent during the pandemic (PMI, 2021). Those organisations that managed to thrive in the Covid 19 pandemic are called 'gymnastic enterprises' by the PMI (2021).

> *Gymnastic enterprises go beyond reacting or embracing change - they empower their people to make change happen. They enable their employees to master different ways of working, to become well-rounded professionals, and to elevate their power skills—from embracing collaborative leadership to forging an innovative mindset (PMI, 2021).*

Prosci (2021) defines change management as applying a structured process and a set of tools for leading the people side of change to achieve a desired outcome. Furthermore, change management focuses on how to help people engage, adopt, and use change in their day-to-day work. According to Prosci (2021), change management as a process enables change practitioners within organisations to leverage and scale change management activities and help impacted individuals and groups move through their transitions.

Change management as a competency for Senior Managers means they have to be able to lead the change through effective sponsorship for change by demonstrating a commitment to the change process. For managers working with front-line employees, competency is effectively coaching direct reports through their change journeys (Prosci, 2021).

A few PMOs realised their potential to be the change agents of the Fourth Industrial Revolution. Furthermore, for a PMO to be sustainable, it can no longer ignore the fact that it will have to lead the change, together with executives, to make agility and creativity part of the organisational DNA (Iqbal, 2013; PMI 2020). The PMO will have to accelerate the pace and scale of digitisation exponentially, with a large impact on talent and the need to upskill and assist their host organisations to rethink the future (PMI, 2021).

Stang *et al.* (2021) argue that a migration plan is required for the PMO to evolve from directive to dynamic. A certain level of awareness must exist among PMO leaders that the

PMO must evolve, and they need to understand that failure to evolve can be detrimental to the future existence of the PMO. The EPMO in Eskom, according to the researcher's experience, runs the risk of being dis-established as it tends to be stagnant and relies heavily on its original premise and purpose. Hence, the leadership must change the identity and purpose, which must be done in conjunction with stakeholders, executives, and the changing nature of the business. See Figure 2.3 below, which shows a strategic road map for changing the PMO.

Current Directive State	Migration Plan	Future State-Dynamic Sate
I. <u>Lacks</u> identity value proposition and II. Has no partnership with key business leaders III. Cannot adapt easily to changing priorities IV. Is missing a repeatable and scalable organisational change methodology V. Uses stagnating and work management technologies	I. Establish partnerships with key business leaders II. Refine the PMO with business leaders III. Create collaborative portfolio management between the PMO and business leaders IV. Enhance competencies matching the PMO's new role and purpose V. Adopt a comprehensive organisational change methodology VI. Create with business leaders, all value-based metrics VII. Measure value creation with business leaders VIII. Adopt technologies supporting adaptive portfolio management and continuous delivery	I. Is a recognised value organisation II. Has strategic partnership with business leaders III. Collaborates with business leaders for strategic portfolio management IV. Extends the sphere of influence beyond the domain in which resides V. Adopts repeatable and scalable organisational change methodology VI. Uses modern technologies required to support effective planning and multiple methods of delivery

Figure 2:3:   Strategic roadmap timeline for PMOs

Source: Stang et al. (2021)

The potential exists for PMO leadership to steer the PMO into a valuable business asset. Firstly, the PMO must move from the current direct state towards the transformation state, making incremental investments and enhancements in the short-term. Finally, the PMO will reach a dynamic state as it emerges as a valuable organisation that can innovate, transform, and execute strategy. The change process to a dynamic state will only succeed if the PMO engages in a strategic partnership and continuous dialogue with key business leaders and stakeholders (Stang *et al.*, 2021).

2.13 Summary

Companies today, more than ever, are managing their business by projects due to the proven benefits effective project management has shown, delivering projects on time, within budget, and at the right quality. However, on the downside, projects are also failing alarmingly. Many organisations established a PMO to improve project delivery success rate. Research by PMI (2016; 2018) reveals that organisations with an EPMO aligned with organisational strategy deliver more projects successfully.

The literature reviewed reveals that the traditional PMO is unsuitable in the Industry 4.0 era. The modern PMO calls for an Agile methodology, whereas the traditional PMO is stuck on the waterfall methodology (Abbouchi, 2019; Deloitte, 2019). Moreover, implementing a PMO is an organisational change that does not receive sufficient care and attention. The biggest disadvantage of the waterfall methodology is the 'big bang' approach, i.e. trying to get everything done simultaneously; hence the probability of projects being late, over budget, and failing to meet expectations rises as the time frame for the project significantly increases (Sherman, 2015).

Research reveals that PMOs vary in size, mandate, and position in the host organisation. Furthermore, the literature reviewed has highlighted certain concepts that impact the success of PMO delivery. The following concepts experienced by the researcher have the most significant impact on PMOs:

2.13.1 The Fourth Industrial Revolution (4IR, Industry 4.0)

The Fourth Industrial Revolution is reshaping markets at an unprecedented pace, rendering the traditional PMO model obsolete. Furthermore, the traditional PMO is stuck on the waterfall project management methodology, which is too slow and inflexible to respond to the rapidly changing business environment.
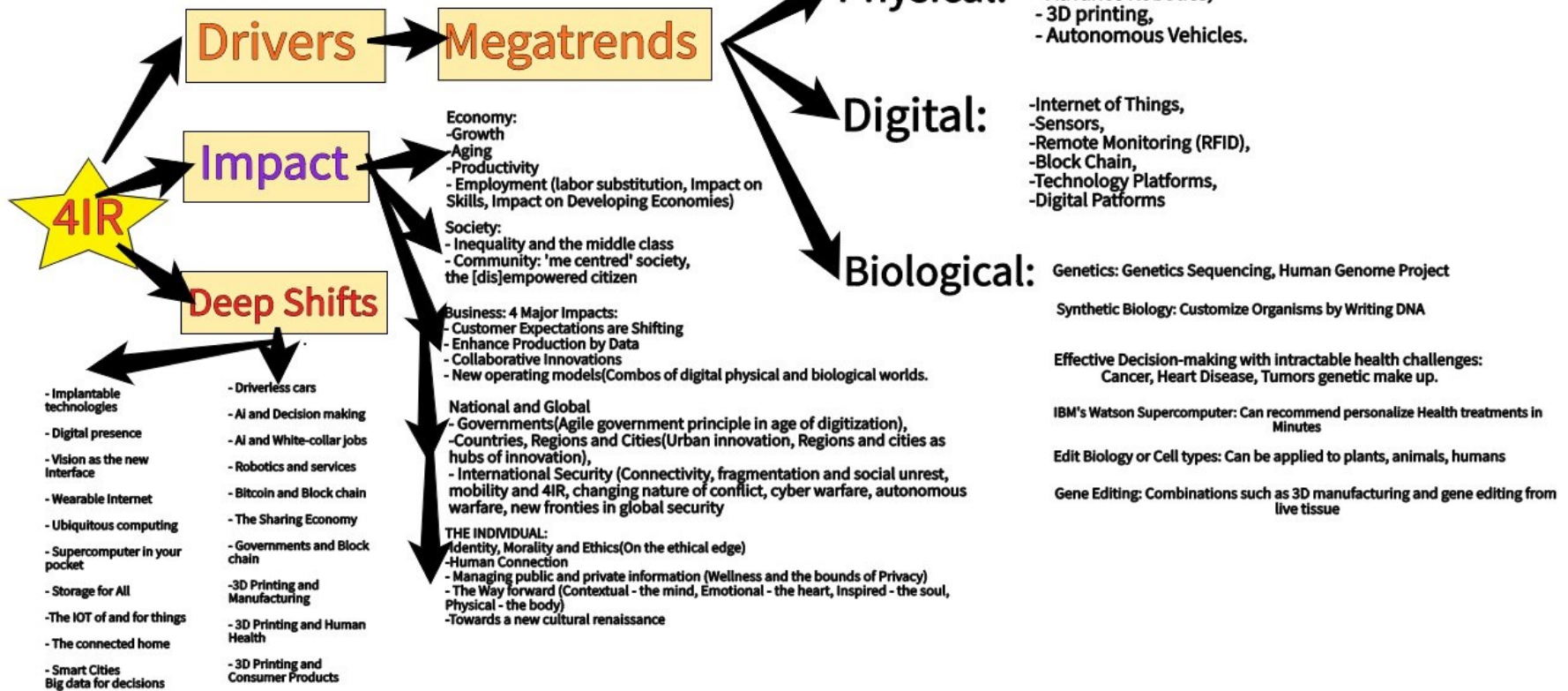
Figure 2:4:   4IR, drivers, megatrends, impact and deep shifts

Source: Adapted from Schwab (2016)

The above framework gives an overview of the drivers involved in the 4IR in physical, digital and biological spheres. These megatrends will impact society, the economy, national and global Government institutions, business communities, and individuals. This will further be consolidated through 23 'deep shifts' that will cause revolutionary change, disruptive innovations, and opportunities.

The framework further illustrates that the mega trends that will drive change and impact the PMO and EPMO will come mostly from the physical and digital categories. The physical categories relate to new materials, 3D printing, artificial intelligence and advanced robotics, and autonomous vehicles. The digital categories relate to the Internet of Things (IoT), sensors, remote monitoring (RFID, i.e. radio frequency identification), blockchains, technology, and digital platforms. These will have a twin peak impact on the PMO/EPMO's nature of work through disruptive innovations and creating opportunities that can propel the PMO and EPMO into a more efficient and effective space, given the Eskom organisational structure.

Attention needs to be paid to the impact on the business community, especially shifting customer expectations, enhancing productivity through data and collaborative innovations, and new emerging business models arising from combinations in the digital and physical categories. The impact of the deep shifts which overlap and integrate with the digital and physical categories will make it imperative for organisations to change.

2.13.2   Change management

Implementing an Enterprise Project Management Office to drive the standardisation of project management is a large organisational change initiative. Furthermore, the disruptive technologies of Industry 4.0 are fuelling many change initiatives in organisations. The PMO should be the driver of these change initiatives, but it fails to fulfil its role as an effective agent for these changes.

2.13.3   The Enterprise Project Management Office

The trend in business today is to establish more than one PMO with different mandates and levels across the organisation. Organisations that have established more than one PMO have also established an Enterprise Project Management Office with the mandate to ensure

strategic alignment. The strategic EPMO's mandate is to expand the scope from delivering individual projects to delivering value to the organisation. However, only 41 per cent of EPMOs are aligned with organisational strategy.

2.13.4   Leadership

The current business environment calls for leadership that can respond to the demands of a networked creative economy, and this requires more independent project managers with initiative, creativity, and passion. However, the traditional PMO relies on better adherence to frameworks and methodologies and pays less attention to building stakeholder relationships.
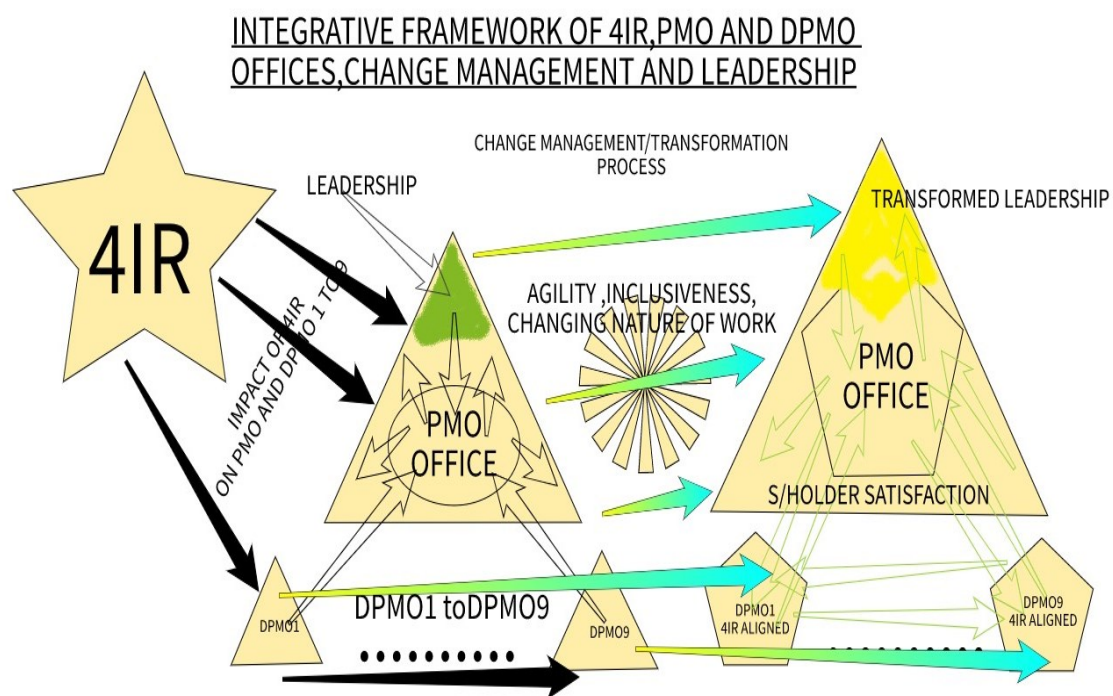
Figure 2:5:   Integrative framework of 4IR, PMO, DPMO, change management and leadership

Source: Researcher's own

Figure 2.5 illustrates, through an integrative framework, how 4IR impacts the PMO, DPMO (Distribution Project Management Office), and leadership. The change management process and adoption of Agile methodologies will establish the new PMO and DPMO in the context of changed organisational architecture. Thus, the transformed leadership is more

integrated with the PMO and is characterised by a top-down and bottom-up approach. The nature of work will be transformed through the changed architecture and Agile methodologies (i.e. Scrum, Kanban approach, Agile Squad, MS Framework, Extreme Programming, Scale Agile Framework), and higher levels of stakeholder satisfaction will arise.

The figure, in essence, depicts the impact of the 4IR on the organisational leadership, the PMO and DPMO, and the entire structure of the organisation; thus illustrating that the entire organisation, and not only the PMO office, is impacted. The second part is the change management and/or transformation process the organisation will undergo. The nature of this process can be iterative/incremental or sudden/radical, as well as disruptive, given the level of innovation. Adopting Agility methodology within the context of lean and enterprise architecture will change the nature of work on all levels within the organisation as leadership becomes more integrative and responsive to the PMO.

Schwab (2016) emphasises that leaders should embrace contextual intelligence, the ability and willingness to embrace emerging trends and connect the dots. In the change process, decision-makers must understand the value of diverse networks, confront high levels of disruption, and possess the capacity to engage all those involved, thus aspiring to be more connected and inclusive. This will culminate in a desired future state of the EPMO that is more integrated with the transformed leadership, the DPMOs, the stakeholders, and the organisation.

2.14   Conclusion

In conclusion, the PMO is challenged to re-configure itself to meet the requirements of its stakeholders. Furthermore, the rapid technological advances of Industry 4.0 are forcing the PMO to change the traditional business model to that of the modern PMO or the Agile Management Office. The PMO thus needs to improve its offerings to assist the organisation in aligning the projects and programs with organisational strategy.

CHAPTER 3:   RESEARCH METHODOLOGY

3.1   Introduction

This chapter describes the study's research methodology and includes discussions around the following areas: research philosophy, approach to knowledge development, methodological choice, research strategy, research sample, methods of data collection, analysis of data, ethical considerations, trustworthiness, and the challenges to the study.

Business and management research does not exist in a vacuum; it is shaped by what is going on in the real world of business and management and by intellectual traditions and philosophical ideas that shape the social sciences (Bryman, Bell, Hirschsohn, Dos Santos, Du Toit, Masenge, Van Aardt and Wagner, 2014). Research philosophy refers to a system of beliefs and assumptions about knowledge development (Saunders, Lewis, and Thornhill, 2019: 130); therefore, whether one is aware of it or not, the researcher (as well as the research participants) always bring their own set of beliefs and philosophical assumptions to the research project.

The beliefs and assumptions of the researchers are sometimes so deeply ingrained that they ultimately influence what problems need to be studied, what research questions to ask, or how to go about gathering data (Creswell and Poth, 2018: 15). In other words, deeply ingrained worldviews/paradigms influence one's choice between positivist, interpretivist, or pragmatic research philosophies; or between quantitative and qualitative methods (Saunders *et al*., 2019).

The study employed an ethnographic research design to explore and understand the linkages between the EPMO and the nine Distribution POs. Bryman *et al.* (2014: 100-117) remind researchers that research design and methods are often confusing. Research methods tend to be associated with different kinds of research design. A research design provides the structure that guides the use of a research method and the subsequent data analysis. Bryman *et al.* (2014: 100-117) further assert that once a research design has been selected, the researcher needs to select which research method or methods will be used to collect data; for example, observations, interviews, documents, questionnaires, or a combination.

The 'research onion' (Figure 3.1) is useful in providing a holistic overview of the research methodology and subsequent interdependent components guiding the research process to arrive at the desired outcomes of a study (Saunders *et al.*, 2019).
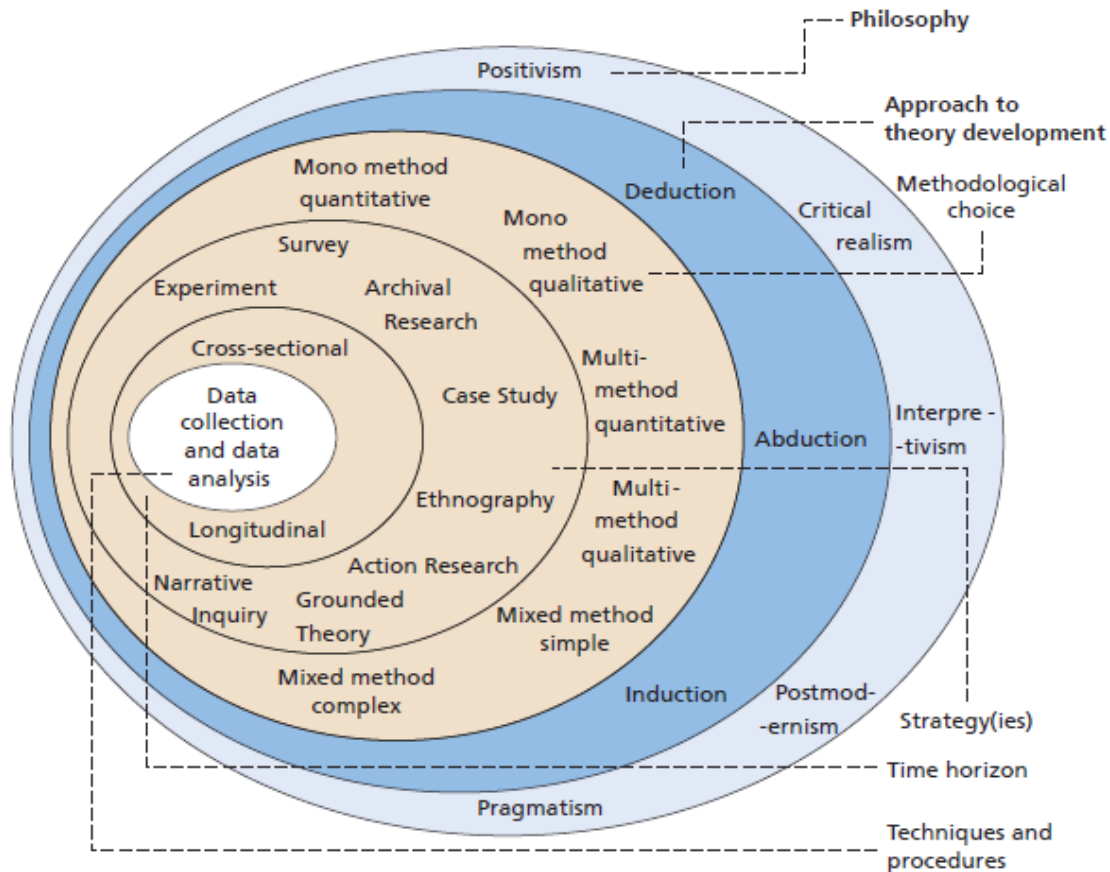
Figure 3:1:   The research onion

Source: Saunders et al. (2019)

3.2   Research philosophy

The first or outer layer of the onion refers to the research philosophy/worldview. Creswell and Poth (2019: 26-27) stated that a researcher holding an interpretive framework based on pragmatism focuses on the research outcomes. Five major philosophies can be forwarded within business and management research; positivism, critical realism, interpretivism, postmodernism, and pragmatism (Saunders *et al.*, 2019: 151).

Pragmatism as a research philosophy was preferred for this study for its value in the research of organisational processes in viewing people's ideas and beliefs as problem-solving tools. Also, to see how people act in new ways when involved as active participants rather than as passive descriptors of the business as it exists (Kelly and Cordeiro, 2020).

3.3   Approach to knowledge development

Pollack (2007) distinguishes between the soft and hard paradigms in project management research. The soft paradigm has been referred to as hermeneutic, qualitative, phenomenological, interpretive, reflective, inductive, or ethnographic (Ticehurst and Veal, 2000, as cited in Pollack, 2007).

Traditional, or classical, project management research is embedded in quantitative research, which is strongly linked to the hard paradigm and is commonly associated with a positivist epistemology, deductive reasoning, and quantitative or reductionist techniques, attributes which are often associated with rigour and objectivity (Pollack, 2007).

Traditional project management research, guided by its mechanistic principles of a disjunctive, sequential, and linear line of reasoning, has kept reproducing the same non-solutions (Boigey, 2011; Gharajedaghi, 2011). In addition, the world of project management has been impacted by digital technology, changing the social and collaborative environment in which PMOs operate. Furthermore, the change in public attitudes to human-centred factors such as equality, diversity, inclusion, mental health, and well-being means that traditional project management research is incompatible with the modern business world (Papadonikolaki *et al.*, 2020).

Pragmatism strives to reconcile objectivism and subjectivism, facts and values, accurate and rigorous knowledge, and different contextualised experiences. Furthermore, for the pragmatist, research starts with a problem and aims to contribute practical solutions that inform future practice (Saunders *et al.*, 2012; 2019). Kelemen and Rumens (2012) stated the following:

> *…the pragmatist researcher may choose to describe and explain the practical world of management, but this will serve to suggest alternative ways of organising that account for the interests of all stakeholders (Kelemen and Rumens, 2012).*

3.4 Methodology choice

According to Bryman *et al.,* quantitative and qualitative research (2014:30-31) are identified as distinctive research approaches that differ with respect to epistemology, ontology, and the connection between theory and research. Quantitative research approaches tend to emphasise quantification in the collection and analysis of data and adopt a deductive approach to the relationship between theory and research in which the emphasis is placed on the testing of theories, incorporating the practices and norms of the model of the natural sciences and positivism and embodies a view of social reality as an external, objective reality (Bryman *et al.*, 2014: 30-31).

The qualitative research approach, on the other hand, follows an open, flexible, and unstructured approach to enquiry and aims to explore diversity rather than to quantify; emphasises the description and narration of feelings, perceptions, and experiences rather than their measurement; communicates findings descriptively and narratively rather than an analytical manner; and places less emphasis on generalisations (Kumar, 2014: 14).

From experience, it is understood that people from different backgrounds, at different levels of practical experience, different qualification levels, and different generations work together in the EPMO and the PMO. It was thus important for the researcher to get as close as possible to the research participants in their real-life working environments to explore and understand their lived experiences on the implementation of the standardised project management methodology developed by the Eskom Project Management Office from within, as well as form outside, the EPMO. Therefore, a mixed method approach was preferred for this study.

3.5 Research strategy

An ethnographic research strategy in qualitative research is where researchers observe and/or interact with a study's participants in their real-life environment. Researchers in business and social science increasingly employ ethnography and sense-making methodologies to help them understand how employees, customers, leaders, and residents make sense of their contexts, businesses, governments, and communities, and researchers increasingly employ ethnography and sense-making methodologies to improve service delivery and to design new products.

Within the expanded view of what constitutes a society, it is asserted that organisations have their own cultures built around mission and vision statements. Furthermore, within organisations, sub-cultures may be found among specific departments (Linderman, 2022).

Ethnography provides a sophisticated tool for paying simultaneous attention to everyday life's complexity and the wider political, cultural, social, spatial, and temporal dimensions shaping social entrepreneurial practice (Mauksch *et al.*, 2017). An organisational ethnographic research strategy was preferred for this study because an ethnographic study allows the researcher to gain a deeper understanding of the problem by engaging knowledge workers in their natural working environments and probing the problem through reflective engagements.

By probing knowledge workers through reflective engagement, the researcher hoped to design a better future state of the EPMO. Furthermore, ethnographic studies can help identify and analyse unexpected issues that other types of studies might miss, which are not based on in-situ observation or interaction. Another benefit is the ability to deliver a detailed and faithful representation of user behaviours and attitudes. However, ethnographic studies take much time as the researcher needs extended group observations through participant observation (Logan, n.d).

Ethnography and participant observation are sometimes used interchangeably in the literature but are just some of a few methods and rarely the only method used by a researcher to generate an understanding of the culture of an organisation (Sekaran and Bougie, 2013). The researcher thus collected information from multiple sources.

The overarching purpose of this qualitative study was to explore the nature of the linkage between the Eskom Enterprise Project Management Office and the nine Eskom Distribution Project Offices, and to develop a leadership framework for the transformation of the EPMO for Project Management onwards, given the context of the Fourth Industrial Revolution (Industry 4.0).

3.6   Research objectives

The objectives of this study were:

i. Firstly, to assess the extent that the Eskom Deliver Projects methodology (process control manuals) was adopted and integrated into the work processes by the Distribution Project Management Offices.

ii. Secondly, to evaluate the effectiveness and efficiency of the Eskom Project Management Office in implementing its mandate.

iii. Thirdly, given the policy frameworks, assess the Eskom Project Management Office's level of participation and inclusiveness in strategy formulation, evaluation, and implementation.

iv. Fourthly, to analyse whether the Eskom Project Management Office implements project management software systems in the Distribution Project Management Office and the software's adoption level.

v. Fifthly, to evaluate the nature and the level of training that the Eskom Project Management Office provided to the project managers in the Distribution Project Management Office.

vi. Lastly, to assess the Eskom Project Management Office's readiness to lead Eskom in project management in Industry 4.0.

The research objectives assisted in finding the real issues surrounding stakeholders and helping the EPMO fully assess its current standpoint regarding their success in implementing the project management methodology in Eskom Distribution.

3.7   Sample design and research participants

This study employed a non-probability sample design, specifically a purposive sample. Two sampling designs are available for purposive sampling: quota sampling and judgement sampling. Quota sampling ensures that certain groups are adequately represented in a study. A judgement sampling design is used where the collection of 'specialised informed inputs' on the topic researched is vital. Using any other sampling design would not offer opportunities to obtain specialised information (Sekaran and Bougie, 2013: 240-271). The Eskom Distribution Project Offices are spread over nine provinces across South Africa, and the EPMO is mostly concentrated in Johannesburg. A purposive sample was identified from the EPMO and Distribution PMOs.

Some 94 participants in this study were selected from the nine Eskom Distribution PMOs across South Africa, as well as 18 participants from the EPMO, based on the knowledge and the working experience of these participants. The following criteria were employed:

i. Participants with at least three years of working experience either in the EPMO or the Distribution project execution environment. These respondents had the experience and the knowledge of the rolling out of the project management methodology.

ii. Participants in the Distribution project offices that were directly and actively involved in the day-to-day management of projects included experienced clerks of work, project coordinators, project managers, program managers, and portfolio execution managers.

iii. Participants from project management support staff who were directly and actively involved in project management, including contract management staff, i.e., quantity surveyors, project service officers, and project service managers.

iv. Senior asset creation managers in the Eskom Distribution operating units.

v. Senior Managers in the Eskom PMO (EPMO).

3.8   Data collection

One of the characteristics of data collection in a qualitative study is that the researcher is a key instrument for data collection. Furthermore, qualitative researchers tend not to rely on questionnaires or instruments developed by another researcher; instead, they prefer to use instruments designed by themselves (Creswell, 2013:44-47).

According to DeVault and McCoy (2002, as cited in Deveau, 2009), data collection techniques used in institutional ethnography vary and may include such aspects as participant observation, a researcher's reflection on her/his own experiences, focus groups, interviews, and surveys.   Using multiple methods is critical in obtaining an in-depth understanding of the phenomenon under study. This strategy adds rigour, breadth, and depth to the study and provides corroborative evidence of the data obtained (Bloomberg and Volpe, 2012; Creswell, 2013).

The study employed a multi-method approach to data collection. The instuments used to collect the data included participant observation, a survey questionnaire, and structured electronic interview questionaires. Secondary data were collected from internal EPMO documents, a survey questionnaire conducted across Eskom Divisions during 2018/2019, and an internal audit report on project management in Eskom (see Appendices).

3.8.1 Observation

Observation is an essential data-gathering technique as it holds the possibility of providing an insider perspective of the group dynamics and behaviours in different settings. It allows for the hearing, seeing, and experience as a participant. Furthermore, as a participant, the researcher learns through personal experience (observation) and reflection (part of the data analysis) how the setting is socially constructed regarding power, communication lines, discourse, and language.

With the permission received form the Senior Managers in the EPMO and the research participants, the researcher entered the research setting and spent 12 months in the research setting, observing and recording events as they occurred in the physical working enviromemt. This gave the researcher the opportunity to experience the events in the same way the other group members experienced it. To stay clear of researcher bias, an observations report detailing the inner workings of the EPMO was compiled and sent to the research participants in the EPMO. A number of these participants had been employed in the EPMO since the early formation of the EPMO, and all of them were at the managerial level. The research observation report was sent to 14 of the participants in the EPMO for verification, of which 12 gave written feedback and further input to the observation report through electronic mail (see Appendix C). Survey questionnaire

An electronic survey questionnaire informed by the Eskom Deliver Projects methodology, the literature on PMO implementation, and the observations done within the EPMO was sent to participants from the Eskom Distribution's project execution departments across the nine Eskom Distribution Operating Units in South Africa. The participants were chosen because they were actively involved in the day-to-day running of the projects in Distribution and have experienced the rollout and the implementation of the standardised project management methodology. Survey Monkey software was employed, and the questionnaire was sent to 85 participants across the nine Distribution Operating Units. The response rate was 69.4%, which means 59 of the participants responded. The survey ran from June to August 2017 (see Appendix D).

3.8.2 Interviews with the Eskom Distribution Senior Managers Asset Creation

Face-to-face interviews with the Senior Managers were not secured due to their busy schedules, as well as the fact that they were based all over South Africa. An agreement was

then reached to send an interview question sheet to them. The Eskom Deliver Projects methodology informed the interview questions, the observations conducted within the EPMO, and the literature on PMO implementation.

Responses were received from six of the eight managers targeted based on their knowledge and experience of implementing the project management methodology from the EPMO (see Appendix E).

3.8.3   Structured electronic interviews with the EPMO Senior Managers

After a few attempts to arrange a face-to-face meeting with some of the Senior Managers in the EPMO, and after some e-mail communication, they also agreed to answer interview questions sent to them through emails. Pre-set interview questions, informed by the observation in the EPMO and the literature on the implementation of the PMO, were sent electronically to the Senior Managers. Responses from three of the four Senior Managers targeted were received (see Appendix F).

3.8.4   Telephonic interviews with managers in the EPMO

In order to assess the readiness of the EPMO to prepare Eskom for project management in Industry 4.0, the researcher had individual telephonic interviews with one middle manager and a Project Manager from the EPMO. As a follow-up and confirmation, an e-mail was sent to four senior staff members and a Project Manager in the EPMO. Four responses were received from the e-mail sent (see Appendix G).

3.8.5   Data collected from secondary sources

Secondary data were sourced from an Eskom-wide internal survey report completed by the EPMO in 2018/19 and an internal audit report on project management completed by the Eskom Assurance and Forensic Department in 2019/20.

Secondary data were also sourced from the Project Management Office Forum (PMO Insights Report, 2019). The PMO Forum is an interest group that falls under the umbrella of Project Management South Africa (PMSA). Sponsored by the Project Portfolio Office (PPO) in Gauteng and co-sponsored by PWC and PPO in the Western Cape, the PMO Forum

allows PMO executives and leaders to network with peers across industries and share knowledge and experience.

The PMO Forum meets quarterly for discussions and knowledge transfer through case studies, best practices, research outcomes, and lessons learned. Presentations are made at the PMO Forum by senior project professionals and other knowledgeable individuals by invitation. The collection of secondary data assisted with sense checking of the qualitative data.

3.9   Data analysis

According to Goetz and Le Compte (1981), choosing an analytic strategy depends upon integrating observational techniques into the overall research design. The traditional ethnographic case studies focus on description and explanation as their goal is to reconstruct and classify reality to integrate data into a set of theoretical constructs. Creswell (2013) recommends three aspects of data analysis for ethnographic research, description, analysis, and interpretation (Wolcott,1994, as cited in Creswell, 2013).

The description refers to the recounting and describing data, inevitably treating the data as fact. Analysis refers to the process of examining relationships, factors, and linkages across the data points. Finally, the interpretation of data builds an understanding or explanation of the data beyond the data points and analysis (Reeves, Peller, Goldman and Kitto, 2013).

However, the final product of the analysis of an ethnographic study is a holistic cultural portrait of the group that incorporates participants' views and the researcher's own views (Creswell, 2007, as cited in Bloomberg and Volpe, 2012). This is best achieved through a process of inductive analyses of qualitative data where the main purpose is to allow research findings to emerge from frequent, dominant, or significant themes inherent in raw data, without the restraints imposed by a more structured theoretical orientation, argues Maree (2007).

Sekaran and Bougie (2013) argue that the first step in analysing qualitative data is reducing the data. Data reduction is the process of selecting, coding and categorising the data. Codes are labels given to units of text which are later grouped into categories. Coding is an iterative process, meaning the data must be revisited several times. The final product of the analysis of an ethnographic study is a holistic cultural portrait of the group that incorporates

participants' views and the researcher's own views (Creswell, 2007, as cited in Bloomberg and Volpe, 2012).

Collected data were arranged and coded using categories based on the research questions and objectives that were informed by the Eskom Deliver Projects methodology and the literature on implementing the PMOs. The findings from the researcher's participant observation report were sent to the participants in the EPMO for confirmation and further input. The Survey Monkey software was utilised for the survey questionnaire. The researcher immersed himself with the research participants in their day-to-day activities in the EPMO.

3.10   Trustworthiness of the data

According to Maree (2007), reliability and validity are, specifically, as far as the research instruments are concerned, crucial aspects of quantitative research. However, in ethnographic research, the researcher is the data-gathering instrument. In addition, when qualitative researchers speak of research 'validity and reliability', they are referring to qualitative research that is credible and trustworthy. The question then arises regarding how trustworthiness and validity in qualitative research can be ensured (Maree, 2007).

Bryman *et al.* (2014), Newell, Norris, White and Moules (2017), as well as Korstjens and Moser (2018), refer to Lincoln and Guba's (1985) four criteria for trustworthiness:

3.10.1   Credibility

The credibility criteria can be addressed by employing several techniques, including activities such as prolonged observation, data collection triangulation, and member checking, as suggested by Lincoln and Guba (1985, as cited in Newell *et al.*, 2017).

The researcher employed the following in this study:

  i. Prolonged observation: The researcher immersed himself in the setting and with the groups under study for 12 months.
  ii. Triangulation: The researcher collected data from four different sources. A survey questionnaire was used to collect information from as many participants as possible in the Distribution business. There were pre-set interview questions for the Senior

Managers in Eskom Distribution, pre-set interview questions for the Senior Managers in the Eskom PMO (EPMO), and participant observation in the EPMO. The types of interview questions sent to the participants were telephonically discussed with the participants before they were emailed to them. Secondary data were also collected from other sources to assist with sense checking.

iii. Member check: Findings from the observation report compiled by the researcher were sent to participants in the EPMO for cross-checking and further input.

3.10.2   Transferability

The degree to which the results of a qualitative study can be generalised or transferred to other contexts or settings is referred to as transferability (Trochin and Donnelley, 2007, as cited in Kumar, 2014). Transferability is difficult to achieve in qualitative studies since the study concerns the context of a specific organisation or setting. However, the researcher endeavoured to describe the setting and the processes he followed for other researchers to use.

3.10.3   Dependability

Dependability in qualitative research is parallel to the concept of reliability in quantitative research (Bryman *et al.*, 2014). Whether the same results will be achieved if the same thing can be observed twice (Trochim and Donnelly, 2007, as cited in Kumar, 2014) is a concern. This is not easy to achieve due to the freedom and flexibility advocated in qualitative research (Kumar, 2014). Lincoln and Guba (1985, as cited in Bryman *et al.*, 2014:45) suggest the idea of an 'audit trail', transparently describing the research process from the start of the research project to the development and reporting of the findings, thus thoroughly keeping records of the research path (Lincoln and Guba, 1985, as cited in Korjens and Moser, 2018).

In order to ensure dependability, the process in this study was described in detail, which should enable future researchers to repeat the study in the same setting and conditions. The researcher also used secondary data from an internal EPMO survey to corroborate some of the findings in his study.

3.10.4   Confirmability

Confirmability in qualitative research concerns getting as close to objective reality as qualitative research can get (Stahl and King, 2020). While complete objectivity is difficult to achieve in social research, such as business research, the researcher should show that he or she has not knowingly allowed personal or theoretical inclinations to influence the research process. In order to reduce the effect of researcher bias, the researcher used member checking in the observation report and collected data from more than one source.

3.11   Ethical considerations

Ethics is the moral compass that directs a person's behaviour. Ethical considerations in conducting research are equally important as selecting an appropriate research methodology and methods (Fleming and Zegwaard, 2018). A social science researcher is responsible for both informing and protecting participants. The research process involves enlisting voluntary cooperation, and it is a basic premise that participants are informed about the study's purpose (Bloomberg and Volpe, 2012).

The researcher obtained consent and permission from Eskom to conduct this research at their premises. The Eskom Further Study Committees authorised this study: Eskom HR Shared Services, EPMO Further Study Committee (see Appendix A).

Before starting the fieldwork, the researcher informed the research participants about their privacy and confidentiality rights. Furthermore, the research participants were informed of the nature and context of the research, and they were made aware that the interviews would be done voluntarily and that they had the right to choose not to participate. To ensure confidentiality, the researcher informed the participants that they were not required to provide their names during interviews and that their responses would remain anonymous. The participants were also informed that if they found any questions uncomfortable, they were free to decline to answer them. The participants were also informed that they could stop the interview anytime.

The consent forms and the records of the completed questionnaires are being kept in a safe place on a portable hard drive locked in a safe. The participants' identities and information were treated with the necessary confidentiality and anonymity.

3.12   Challenges to the study

The study employed a qualitative research approach, which immediately brings into play researcher subjectivity and some of the common critiques assigned to an ethnographic design. However, the researcher used multiple data collection sources and some objective quantitative methods (i.e., a survey questionnaire) to reduce researcher bias.

A second challenge to the study was access to the seniors from the EPMO and Eskom Distribution to conduct face-to-face interviews due to their busy schedules. After telephonic discussions with the two groups of seniors, they opted for pre-set interview questions to be sent to them electronically.   This has taken away the possible recordings of facial expressions and hesitations. However, this can also be seen as a positive since most of the Senior Manager participants might have felt intimidated in their responses in the researcher's presence.

A third challenge of this study is that it is based only on the Eskom situation. However, Eskom Distribution has a significant presence in nine provinces across South Africa. The Distribution Division also has the most employees compared with the Generation and Transmission Divisions.

3.13   Summary

This chapter detailed the study's research methodology.   A qualitative organisational ethnographic methodology was employed to explore and describe the link between the Eskom PMO and the Eskom Distribution's project management community. The research participants were drawn from a sample of resources employed in the Eskom Distribution project management community and the Eskom PMO with at least three years of working experience, as they would have experienced the roll out of the project management methodology.

Data were collected from multiple sources using the participant observation technique, a survey questionnaire, and structured electronic interviews. The data were reviewed based on the literature reviewed, the main aim of the research, and the objectives of the study. The credibility of the data was accounted for through member checking from participants in

the EPMO on the observation report. The intent was that this study would add to the body of knowledge on how to re-configure the PMO in general, but specifically in ESKOM.

CHAPTER 4: RESEARCH FINDINGS

4.1 Introduction

Given the context of the research methodology, the research findings will be presented as they relate to the research objectives and questions. An overview of each group's sampling process, groups, and response rates is presented in a tabular format. The research constructs are derived from the research objectives. Also, the research questions are restated to indicate their linkage with the research objectives and constructs.

The participants in this research study worked in the Eskom Distribution Project Execution Department (Asset Creation) and have worked in the Eskom PMO (EPMO) since 2012. The data were collected from four groups of participants within Eskom. For corroboration purposes, the researcher also sourced secondary data from an internal survey that the EPMO conducted during 2018/2019 and data from a survey conducted by the PMO Forum in 2019.

The researcher observed a group of participants in the EPMO, and this is referred to as the Observed Group. After compiling the observation report, it was sent to the participants employed by the EPMO. Several participants had been employed in the EPMO since its early formation. The observation report was sent to 14 participants. Twelve of these participants gave written feedback and further input to the observation report through electronic mail. This is a response rate of 85.7%. A copy of the transcribed observation report can be found in Appendix C.

A second group of participants were respondents from the Eskom Distribution Project Execution Department in the nine operating units across South Africa. These participants were selected because they were directly and actively involved in the day-to-day management of projects in the Distribution business. A further criterion for selecting these participants was the number of years they had spent in the project management environment, as the purposive sample aimed to access people with experience.

The researcher excluded employees with less than three years of experience as they were contract workers with limited experience and exposure to the organisational dynamics of the

PMO. Hence, the researcher targeted people with at least three years of experience in the project management environment.

Furthermore, most of the participants in this group had experienced the implementation of the project management methodology developed by the EPMO. This group of participants is referred to as the Surveyed Group.

The Surveyed Group

Q6 . Years' experience in the Eskom Project Management Environment
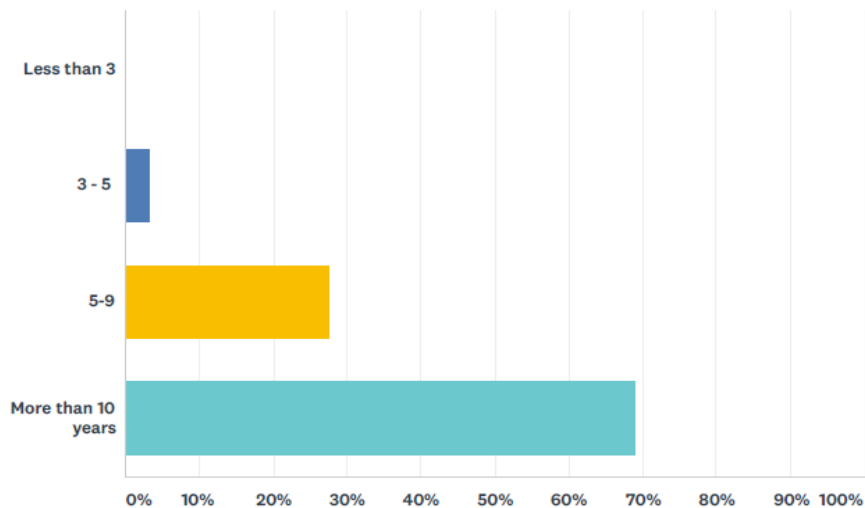
Answered: 58   Skipped: 1

ANSWER CHOICES	RESPONSES	
Less than 3	0.00%	0
3 - 5	3.45%	2
5-9	27.59%	16
More than 10 years	68.97%	40
TOTAL		58

Figure 4:1:   The Surveyed Group – years of experience

The above graph indicates that 69% (slightly more than two-thirds) of the responses came from the 'more than 10 years' category. The 5-9 years category responses were second at 27.59%, and the 3-5 years category responses were the smallest at 3.45%.

Q3 Position in organisation
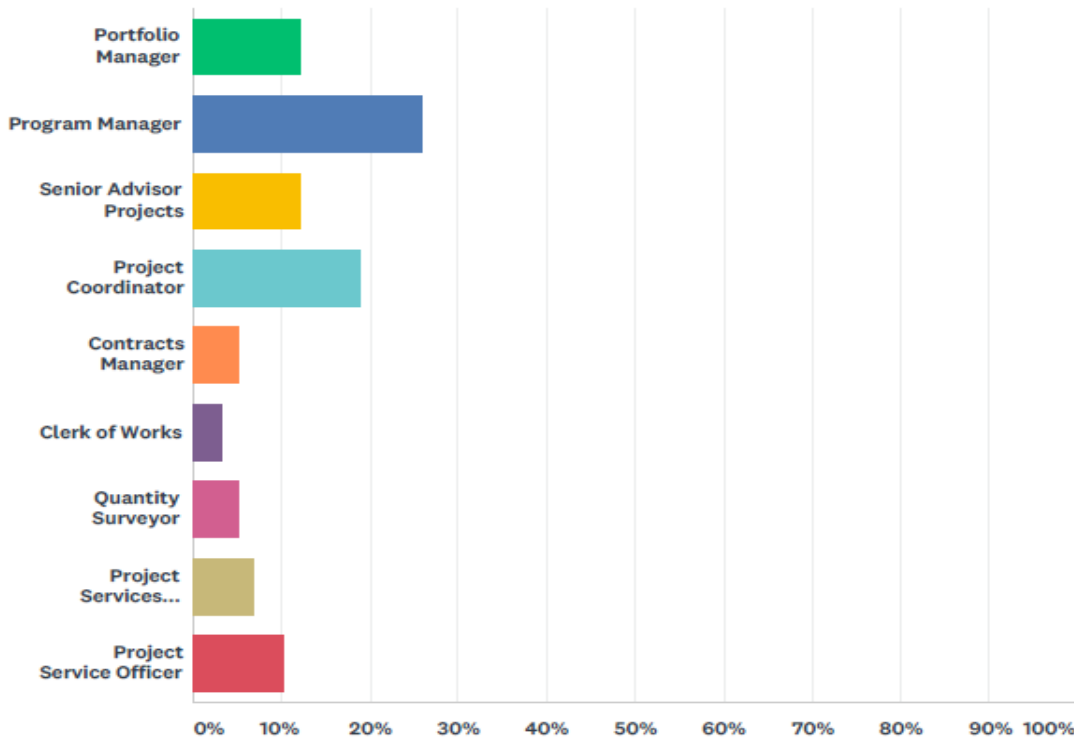
Answered: 58   Skipped: 1

ANSWER CHOICES	RESPONSES	
Portfolio Manager	12.07%	7
Program Manager	25.86%	15
Senior Advisor Projects	12.07%	7
Project Coordinator	18.97%	11
Contracts Manager	5.17%	3
Clerk of Works	3.45%	2
Quantity Surveyor	5.17%	3
Project Services Manager	6.90%	4
Project Service Officer	10.34%	6
TOTAL		58

Figure 4:2:   The Surveyed Group – position in the Organisation

The spread of responses across occupations tended to be well represented, with the highest level of responses from program managers at 25.86% and the lowest responses from clerks of works at 3.45%.

A third participant group was the Senior Managers, Asset Creation, from the Eskom Distribution Group. The Senior Managers of Asset Creation are accountable for project management in the Distribution business. There were nine Senior Managers in Asset Creation, and six participated in the study. This group is referred to as the Senior Managers Asset Creation.

A fourth group of participants were the Senior Managers in the EPMO. There were four managers whom the researcher deemed critical for the study as they were involved in forming the EPMO. However, only three responded to the researcher's requests. This group is referred to as Senior Managers EPMO. Table 4-1 provides detailed information about the four groups.

Table 4-1:   **Overview of the four groups**

Group	Description	Criterion	Total no. of participants	Not responded	Responded	Response rate	Raw data
1	Observed Group		14	2	2	85.70%	See Appendix A and B
2	Surveyed Group from the Eskom Distribution Project Execution Department	Participants should have more than three years of experience in the department	59	1	58	98.30%	See Appendix C for the Survey Questionnaire
3	Senior Managers Asset Creation Group		9	3	6	66.70%	
4	Senior Managers EPMO		4	1	3	75.00%	

Table 4-1 shows the four groups, the relevant criteria, and the response rate. Further, each group is linked to the relevant appendix, where the raw data can be found. The table indicates that the response rates were very high and acceptable for the study.

Qualitative data were collected by participant observation, analysis of company documents, and an electronic survey completed by the Surveyed Group using the Survey Monkey software program. After a few failed attempts to arrange focus group interviews with Senior Managers, both the Senior Manager groups agreed to engage in structured interview

questions being sent to them electronically. The collected data were organised and coded based on pre-set coding and integrated with the research objectives and questions. The raw data, coded data, and survey questionnaire can be found in Appendices C to G.

4.2   The research objectives

The following were the research objectives of the study.   Underneath each research objective is the research constructs that resonate with the objectives.

i.   To what extent was the standardised project management methodology (process control manuals) adopted and integrated into the work processes by the Distribution Project Management Offices?

Working relationships within the EPMO, as well as working relationships with external customers of the EPMO.

ii. An evaluation of the mandate of the Eskom Project Management Office to follow through with the implementation of standardised methodologies throughout the organisational structure of Eskom.

The understanding of the mandate of the EPMO.

iii. An assessment of the Eskom Project Management Office's level of participation and inclusiveness in strategy formulation, evaluation, and implementation gave the policy frameworks.

The need for an Eskom PMO.

iv. To analyse whether the Eskom Project Management Office implemented project management software systems in the Distribution Project Management Office and the level of adoption of the software.

The success of implementing a standardised project management methodology within the Distribution business.

v. To evaluate the nature and level of training the Eskom Project Management Office provides to the Distribution Project Management Office project managers.

Training of project management staff on the Project Management Process Control Manuals.

vi. To assess the Eskom Project Management Office's readiness to lead Eskom for project management in Industry 4.0.

Industry 4.0 readiness of the EPMO.

From the above, it should be evident that the research constructs (also called pre-set categories) are derived from the research objectives and address the relevant research questions stated.

4.3   The research questions

Question 1:   What was the level of adoption and integration of the standardised project management methodology (i.e. the process control manuals) by the Distribution Project Management Offices initially developed and implemented by the Eskom Project Management Office?

Question 2:   Is the Eskom Project Management Office implemented at a level that can influence the entire business to implement a standardised project management methodology?

Question 3:   Is the Eskom Project Management Office participating in strategy formation, evaluation, and implementation?

Question 4:   Did the Eskom Project Management Office implement the project management software systems within the Distribution Project Management Offices?

Question 5:   Did the Eskom Project Management Office train and develop the Project Managers within the Distribution Project Management Offices?

Question 6: Did the Eskom Project Management Office start with any initiative to prepare Eskom for project management in Industry 4.0?

The following sections detail the findings.

4.4 Category 1: Working relationships

4.4.1 Relationships internal to the EPMO

Participant observations conducted by the researcher and sent to participants in the EPMO for verification and further input revealed the following:

Table 4-2: **Participant comments relating to internal relationships at the EPMO**

Participants	Comments
1	Many resources employed in the EPMO and the PMO (initially separated) were contracted resources external to Eskom.
2	There were unhealthy competitive relations between the EPMO resources and the PMO resources.
3	Many grievances were levelled against the management of the EPMO/PMO by staff who felt marginalised.
4	The EPMO staff meeting attendance is very poor. At the last staff meeting, only about 20 employees attended the session. In the one before the last one, only about 30 people showed up. Out of 90 employees, this statistic is not good at all.
5	It was not unusual to hear, 'There is a general mistrust amongst the different groups within the EPMO' and 'The EPMO is not integrated' in different staff meetings.
10	There was a disjoint between the PMO resources allocated to implement the methodology and the project managers. The main issue was that the authority vested in the contracted resources was more than that of permanent resources.

4.4.2 Relationships (customers) external to the EPMO

Q8: To the Senior Managers Asset Creation: Do you think a good working relationship exists between Eskom Distribution and the Eskom Project Management Office?

The following are the responses to the question for the external customers (i.e. Asset Creation managers and project officers).

Table 4-3:   **Comments from external customers of the EPMO**

Participants	Comments
Participant 1	No
Participant 2	The relationship is a long-distance relationship. We feel like we are part of the family, but we are that family you love but do not really get involved in their less important matters. We are doing our own thing, and as long as we get the electrification connections and spend the Capex.
Participant 3	Fairly good.
Participant 4	Yes, but it can be improved.
Participant 5	No. It can be much better.
Participant 6	From the visits and discussions with an EPMO Advisor and his team, there is a working relationship but not a good one. We need to improve on the timeous implementation of the agreed actions/strategies and do away with the 'us and them '.

Table 4-3 above reveals the similarities and differences in opinions.

Yes Coded = 1
No Coded= 2

	Yes	No
AC Manager 1		2
AC Manager 2		2
AC Manager 3	1	
AC Manager 4	1	
AC Manager 5		2
AC Manager 6		2
	33.33%	66.67%
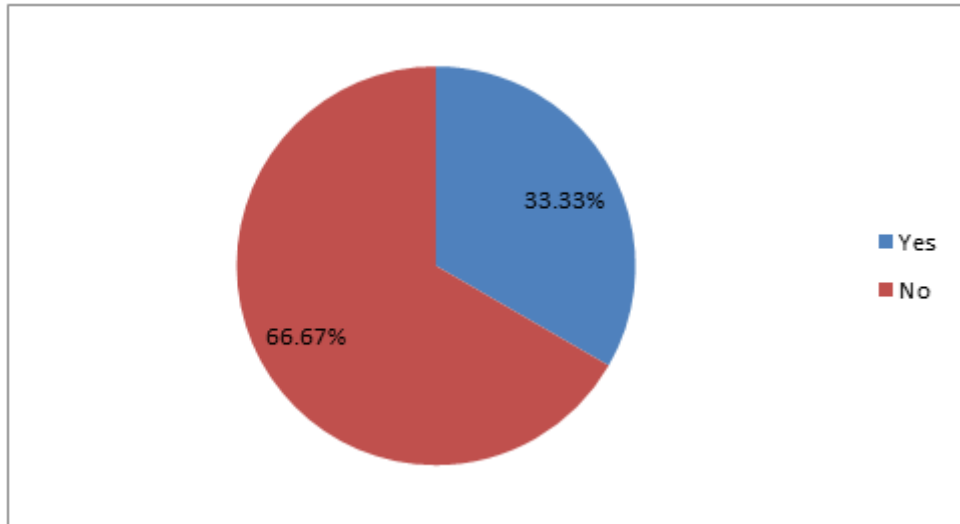
Figure 4:3:   **Senior Managers Asset Creation in Eskom Distribution**

Figure 4-3 above illustrates that one-third of Senior Managers in Asset Creation reveal there is a good working relationship, and two-thirds indicate that there is not a good working relationship.

4.4.3   Data collected from the Senior Managers in the EPMO

Q4:   A recent study by IPMA suggests that PMOs are stuck on compliance with the implemented methodology rather than focusing on customer satisfaction and building relationships. What is your view?

Agree Coded= 1
Disagree Coded = 2

	Agree	Disagree
Sen Man EPMO 1	1	
Sen Man EPMO 2	1	
Sen Man EPMO 3	1	
	100.00%	
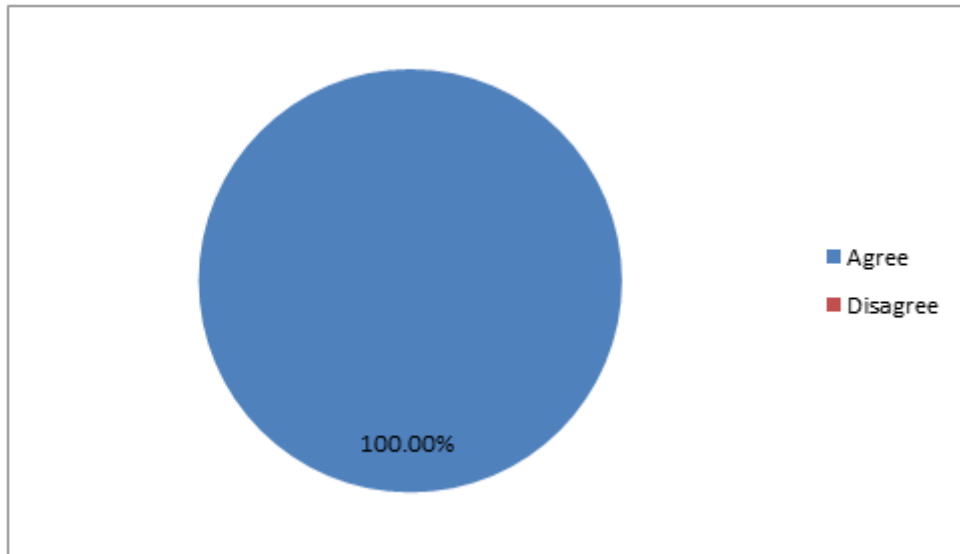
Figure 4:4: **The Senior Managers EPMO**

Figure 4-4 above indicates that there is agreement and consensus amongst all Senior Managers that there is too much focus on compliance rather than on relationship building.

To understand what is going on in the project environment, one needs to understand how to deal with the social aspect, an approach that looks at a project as a process, a process of interactions, and therefore there is limited control (Lousberg, 2015). The question on relationships with the Surveyed Group generated the following responses:
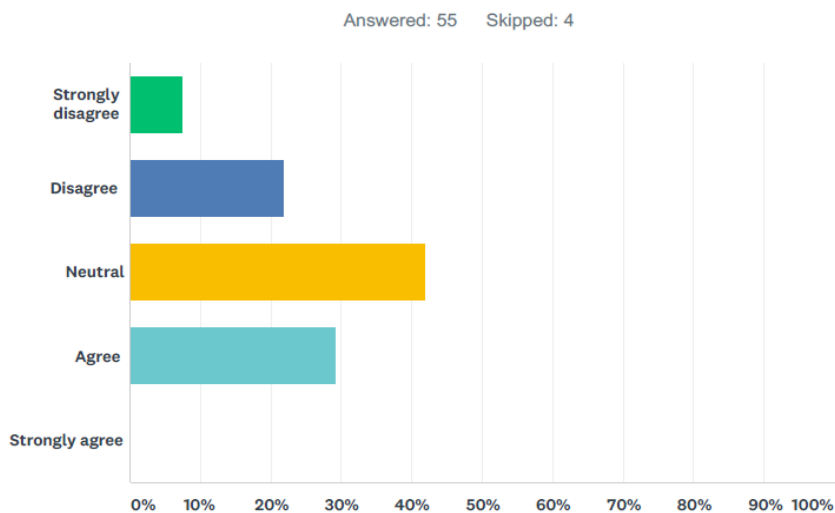
Figure 4:5:   Data collected from the Surveyed Group

Responses from the participants in the nine operating units in Eskom Distribution:

Table 4-4:   The Surveyed Group

ANSWER CHOICES	RESPONSES	
Strongly disagree	7.27%	4
Disagree	21.82%	12
Neutral	41.82%	23
Agree	29.09%	16
Strongly agree	0.00%	0
TOTAL		55

The above responses indicated that 7.27% of participants "strongly disagree" while 21.82% simply "disagree". A corresponding agreement was 29.09%, whereas 41.8% of the respondents were neutral.

Q6:   To the Asset Creation managers: How many times, if any, have you received a courtesy visit/call from Senior Managers in the EPMO?

This question revealed the following results (Figure 4-6):

Never/None Coded =3
A few times Coded =1
Regularly Coded = 2

	Never/None	A few times	Regular
AC Manager 1	3		
AC Manager 2	3		
AC Manager 3		1	
AC Manager 4			2
AC Manager 5	3		
AC Manager 6	3		
	66.67%	16.67%	16.67%
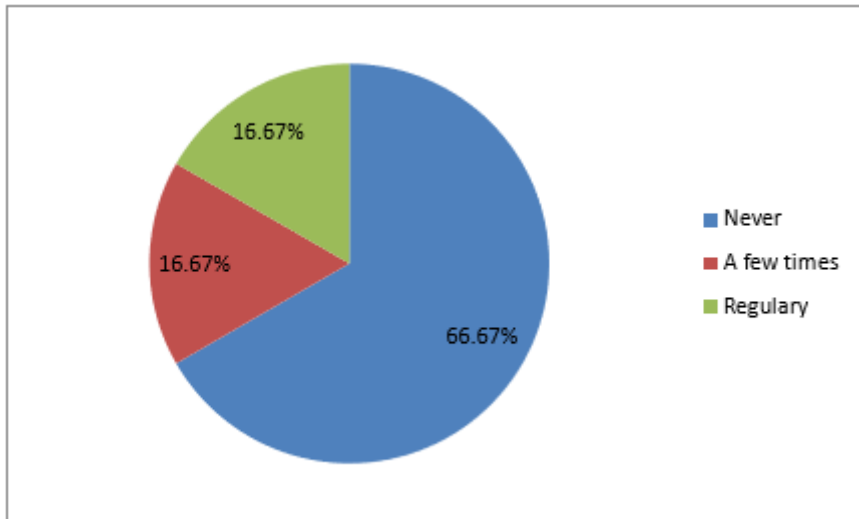
Figure 4:6:   Asset Creation Managers – Q6

Figure 4-6 above indicates that 66.67 per cent of Asset Creation had never received a courtesy call from the Senior Managers in the EPMO, while there is an even split of 16.67 per cent between those that received a call a few times and those who indicated they had received regular calls.

Q8:   To the Senior Managers in the EPMO. Are you aware of any platform/forum where Senior Managers from the EPMO engaged with Senior Managers from other Eskom Groups?

This question revealed the following results (Figure 4-7):

Yes Coded = 1
No Coded = 2

	Yes	No
Sen Man EPMO 1		2
Sen Man EPMO 2	1	
Sen Man EPMO 3	1	
	66.67%	33.33%
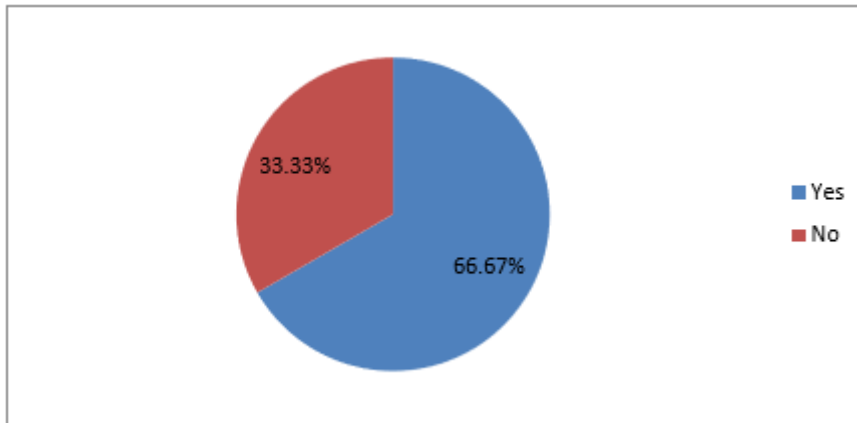
Figure 4:7:   **Asset Creation Managers – Q8**

Figure 4-7 above indicates that 66.67 per cent of the Senior Managers in the EPMO were not aware of any platform or forum where the two groups of managers had an opportunity to engage or collaborate. Some 33.33 per cent indicated that is such an opportunity.

4.5   Category 2: Understanding the role/mandate of the PMO in Eskom

The PMO is not a new phenomenon, but many questions remain about its role, implementation, and value to the organisation (Babaeianpour and Zohrevandi, 2012). The 2017 KPMG Project Management Survey states the following:

> *The PMO has many potential roles to play as a contributor to support project management practices in organisations. Yet, for many organisations, a struggle exists to define the PMO role, to position the PMO for long-term success, and to leverage the PMO to support the organisation in achieving its strategic objectives.*

The question on the role or mandate of the EPMO generated the following responses:

4.5.1   Data collected from the Senior Managers Asset Creation

Q3:   Many participants believe that the EPMO was created to support mega projects like Medupi and Kusile. Do you agree or disagree? Please give a short motivation for your answer.

	Agree	Disagree
AC Manager 1	1	
AC Manager 2		2
AC Manager 3	1	
AC Manager 4	1	
AC Manager 5	1	
AC Manager 6	1	
	83.33%	16.67%

Figure 4-8:   The Senior Managers Asset Creation – Q3

Most of the Senior Managers agreed, 83.33%, that the EPMO was created to support mega projects like Medupi and Kusile. 16.67% disagreed.

The table next indicates the motivation:

Table 4-5:   Comments from Senior Managers Asset Creation

Participant	Motivation
Participant 1.	Yes, because that is what was communicated, that for the most part, the focus would be on those projects.

Participant 2.	No, my understanding is that EPMO is the COE for Project Management in Eskom. The effectiveness in Dx with respect for this support is, however, limited.
Participant 3	In fact, initially, it was, and most of the resources concentrated on the major projects to the detriment of DX. The resources that were transferred from DX to the EPMO did not allocate their time to the operating units and it was difficult to get them to support DX.
Participant 4.	At first, yes, I thought so until the scope was defined. And there was contact with the office.
Participant 5.	Agree. The focus seems to have been mainly on the group capital projects in terms of support.
Participant 6.	Agree. Most of the EPMO processes never looked at the standard and repeatable projects; thus, expectations have been that all projects are the same and volumes do not matter.

4.5.2   Data collected from the Senior Managers of EPMO

Q3:   Many people in the Distribution Group believe that the EPMO was introduced to support the mega projects only. What is your view?

Agree = 1
Disagree = 2

	Agree	Disagree
Sen Man EPMO 1		2
Sen Man EPMO 2	1	
Sen Man EPMO 3	1	
	66.67%	33.33%
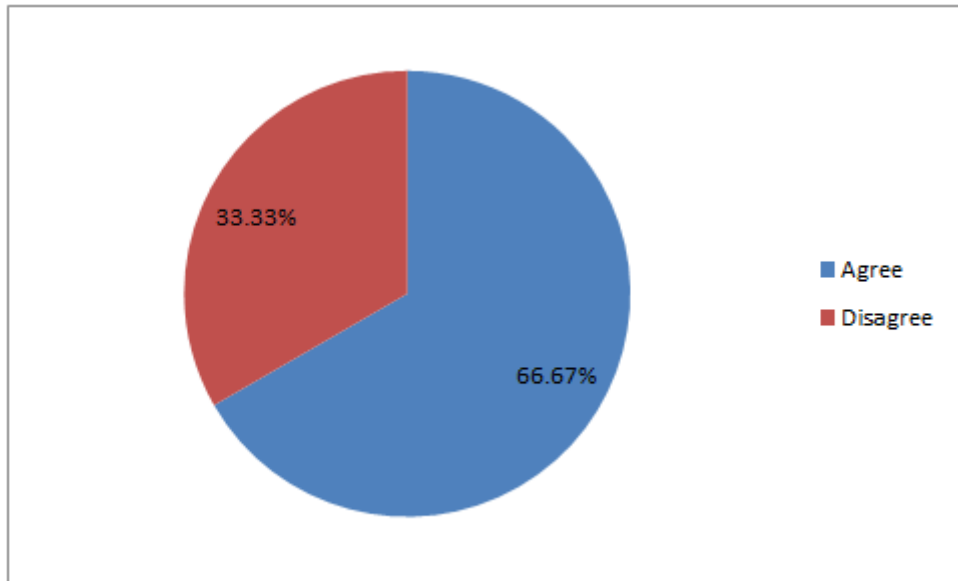
Figure 4-8: **The Senior Managers EPMO – Q3**

The figure illustrates that two-thirds (i.e. 66.67%) of Senior Managers agree that the EPMO must support mega projects only, and one-third disagree.

Table 4-6: **Comments from the Senior Managers in the EPMO**

Participant	Viewpoint
1.	That is incorrect.
2.	This perception is possibly true as the impetus for an EPMO was around the Mega Projects environment. With most things, the reason for initial creation becomes less important over time. The focus moves to value creation by use of the EPMO methods.
3.	The perception can be that way because in Eskom, there is always huge inter-divisional competition. With the EPMO to be placed in the structure of GCD, other divisions might believe the methodology is only applicable to GCD.

4.5.3 Data collected from the Surveyed Group

The data collected from the Surveyed Group suggests a different understanding than those of the Senior Managers Asset Creation and the Senior Managers EPMO.

Q15 The process control manuals (PCMs) is only applicable to the Mega projects like Medupi and Kusile in Eskom

Answered: 57   Skipped: 2
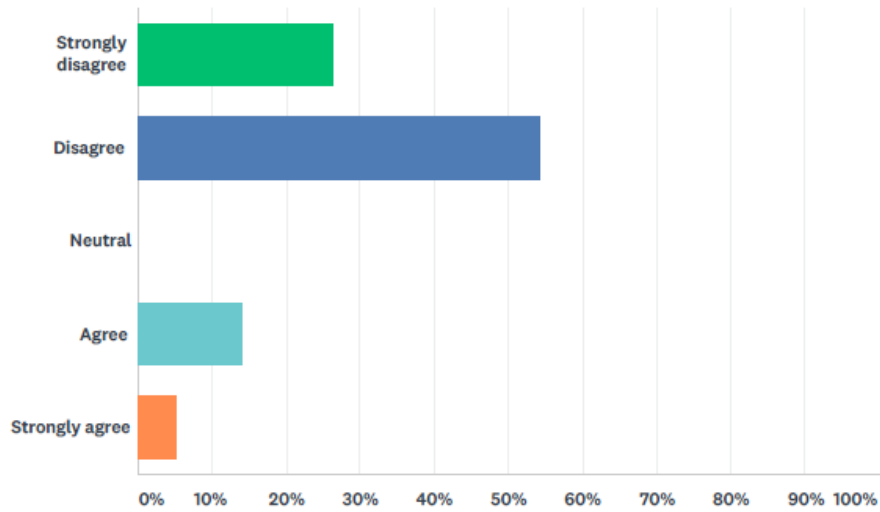
ANSWER CHOICES	RESPONSES	
Strongly disagree	26.32%	15
Disagree	54.39%	31
Neutral	0.00%	0
Agree	14.04%	8
Strongly agree	5.26%	3
TOTAL		57

Figure 4-9:   The Surveyed Group – Q15

The above responses from the Surveyed Group reveal that 80% believe the process control manuals do not belong to Medupi and Kusile only.

4.6   Category 3: The need for an Eskom PMO

Q8.   Research has shown that an increasing number of organisations have implemented a PMO. Do you see a need for an Eskom Project Management Office? Please give a short motivation with your answer.

4.6.1   Data collected from the Senior Managers Asset Creation

	Yes	No
Yes = 1		
No = 2		

|	Yes	No
AC Manager 1		2
AC Manager 2		2
AC Manager 3	1	
AC Manager 4	1	
AC Manager 5	1	
AC Manager 6	1	
	66.67%	33.33%
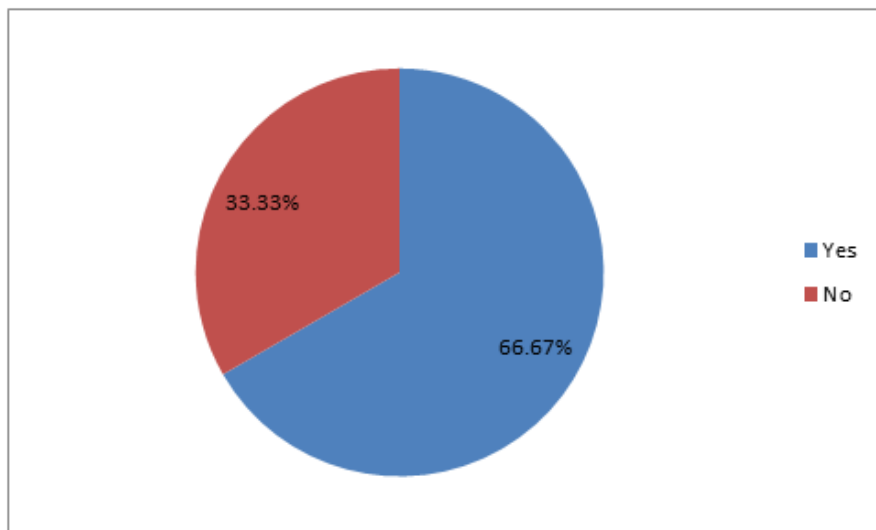
Figure 4:8:   **The Senior Managers Asset Creation – Q8**

Some 66.7% of Senior Managers at Asset Creation agreed on implementing a PMO, indicating a need for establishing a PMO.

4.6.2   Data collected from the Surveyed Group

Q27 In my mind there is no need for an EPMO in the Eskom Project Management community
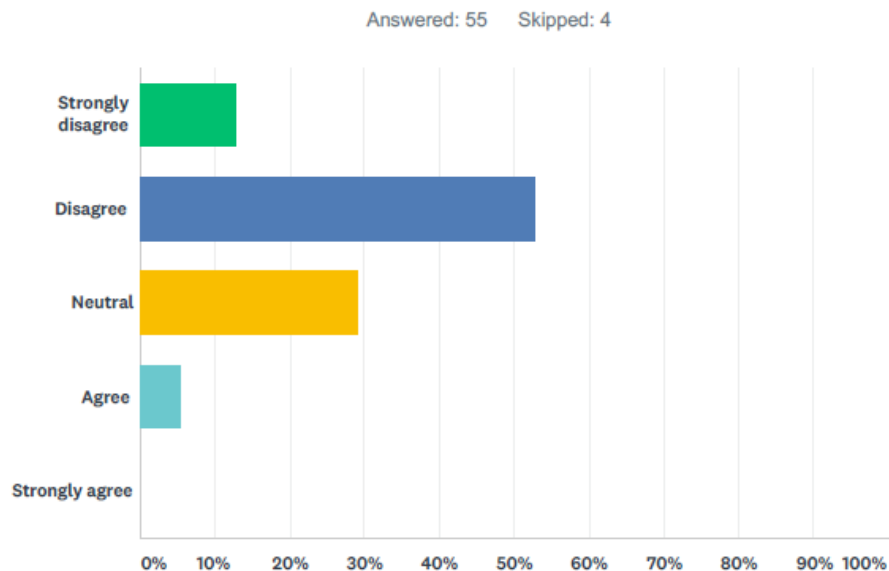
Answered: 55   Skipped: 4

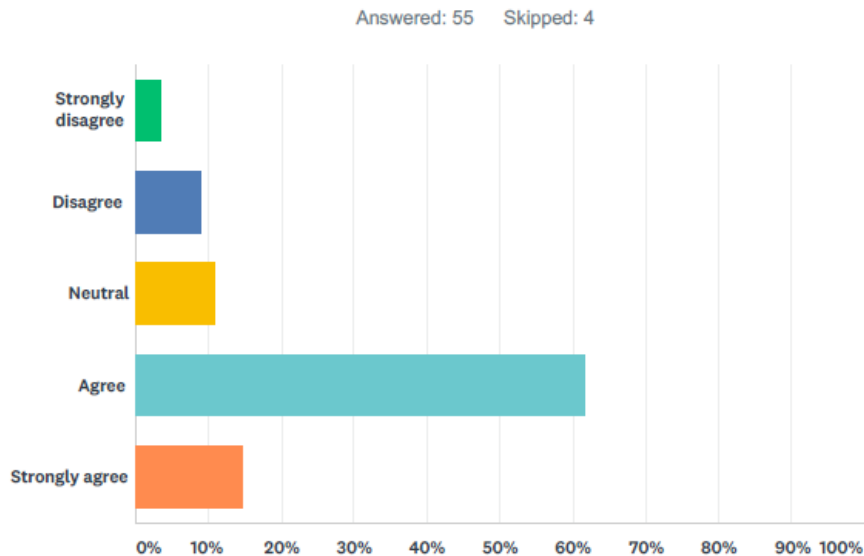| ANSWER CHOICES	RESPONSES	
Strongly disagree	12.73%	7
Disagree	52.73%	29
Neutral	29.09%	16
Agree	5.45%	3
Strongly agree	0.00%	0
TOTAL		55

Figure 4:9:   The Surveyed Group –Q27

Some 65% of the Surveyed Group disagreed with the statement: In my mind, there is no need for an EPMO in the Eskom Project Management community. Furthermore, 29.09% were neutral, against a small opposition of 5.45%.

4.7 Category 4: Standardised project methodology within Distribution

The Senior Managers agreed that they were aware of implementing the Project Management Process Control Manuals in their respective Operating Units but could not confirm that there was compliance with usage. As stated by one of the Asset Creation Managers:

Yes, I am aware, but I cannot with confidence say that the local teams have been trained and/or complies with the PCM.

4.7.1 Data collected from the Senior Managers Asset Creation

Q4: The Project Management Process Control Manuals (PCMs) have been developed to facilitate a standard approach to the management of projects across Eskom. Are you aware of the implementation of any of the Project Management PCMs in your Operating Unit or in Distribution?

Yes = 1
No = 2

	Yes	No
AC Manager 1	1	
AC Manager 2	1	
AC Manager 3	1	
AC Manager 4	1	
AC Manager 5	1	
AC Manager 6	1	
	100.00%	
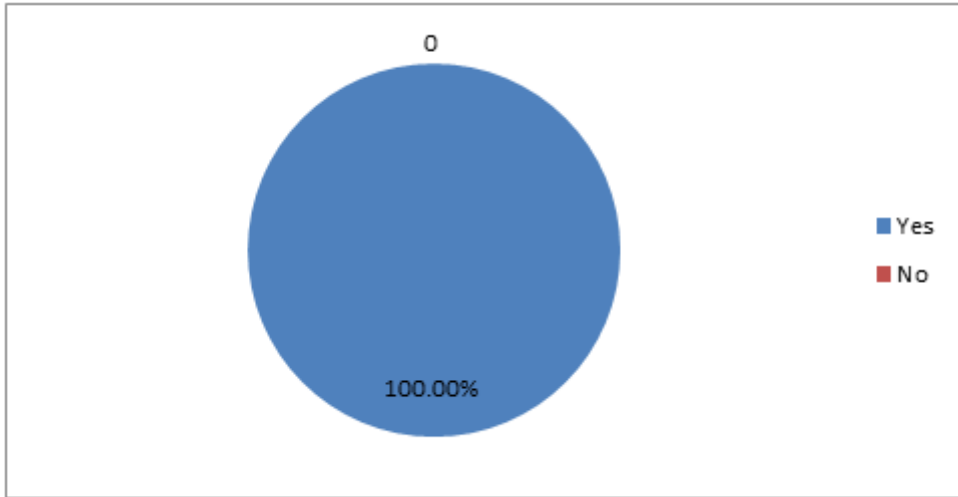
Figure 4-10: **The Senior Managers Asset Creation – Q4**

Figure 4-10 indicates that all Senior Managers Asset Creation agreed.

4.7.2 Data collected from the Surveyed Group

Q17 We have implemented all of the project management PCMs in our Operating Unit
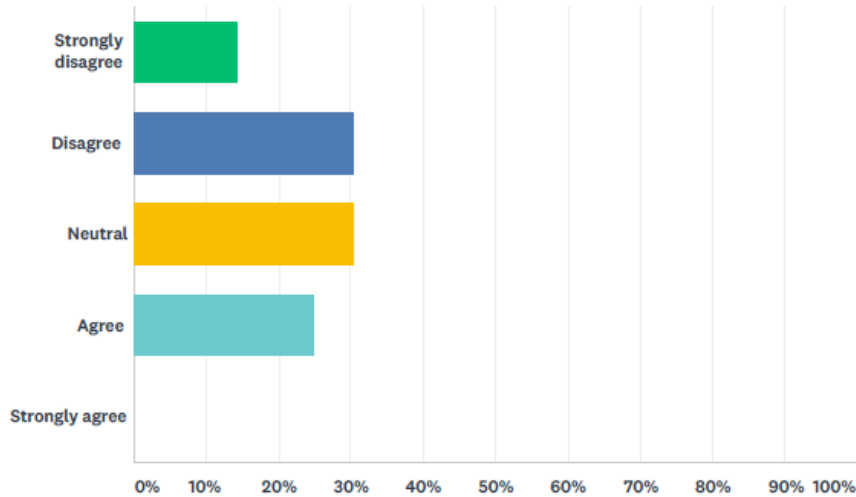
ANSWER CHOICES	RESPONSES	
Strongly disagree	14.29%	8
Disagree	30.36%	17
Neutral	30.36%	17
Agree	25.00%	14
Strongly agree	0.00%	0
TOTAL		56

Figure 4:10:   The Surveyed Group – Q17

About 45% of the Surveyed Group was unaware of implementing the process control manuals and thus disagreed. Some 25% agreed, thus indicating that they were aware of the process control manuals implementation, and 30% responses were neutral - neither aware nor not aware.

4.8   Category 5: Training of PM staff on process control manuals

4.8.1   Data collected from the Surveyed Group

Q16 I have been trained on the Project Management Process Control Manuals

Answered: 55   Skipped: 4

ANSWER CHOICES	RESPONSES	
Strongly disagree	3.64%	2
Disagree	9.09%	5
Neutral	10.91%	6
Agree	61.82%	34
Strongly agree	14.55%	8
TOTAL		55

Figure 4:11:   The Surveyed Group – Q16

Some 76% of respondents agreed that they had been trained on the process control manuals, 12.73% disagreed, meaning they had not been trained, and 10.91% responded as neutral.

4.9   Category 6: Readiness of EPMO for PM in Industry 4.0

Question to the EPMO: Has the Fourth Industrial Revolution, with its disruptive technologies spurred on by the 2020 pandemic, changed how organisations deliver initiatives? The literature indicates that EPMOs are at the forefront, leading their organisations regarding the changes demanded by Industry 4.0 in Project Management. Has the EPMO started with any initiatives to prepare Eskom for project management in Industry 4.0?

Table 4-7:   Responses regarding using the EPMO to prepare for Industry 4.0

Participants	Responses
Participant 1	What is Industry 4.0?
Participant 2	As indicated, I am not aware of any initiative from EPMO in preparing Eskom for project management in 4IR.
Participant 3	My view: Eskom and South Africa as a country cannot even satisfy the requirements of the 2nd Industrial Revolution, key elements being standardisation, electricity supply and water supply. I have no idea how we could magically transform into a smart production, manufacturing and artificially intelligent operating company and country in the next 2-3 years. We cannot even use current systems and applications for traditional project management (Industrial Revolution 3). Digitisation and AI for project management would probably lag behind AI and digitisation for Engineering and Production. IT would always be at the forefront with aspects relating to software applications and digitisation and may be able to adapt earlier

	in a technologically mature organisation; we are far from that in Eskom.
Participant 4	Not aware of any initiatives from the EPMO. Ask the IT department; they might have some initiative.

4.10   Conclusion

The findings indicate that different realities exist concerning working relationships between Senior Managers Asset Creation and the EPMO. Further, there appears to be an agreement on the mandate that the EPMO is just for mega projects between the Senior Managers of Asset Creation and the EPMO. However, the Surveyed Group is not supportive of such an agreement. This means that it is not reserved for Medupi and Kusile alone but is for the entire organisation.

CHAPTER 5:   DISCUSSION OF THE FINDINGS

5.1   Introduction

In Chapter 4, the study's results were presented against the research objectives, the research constructs, and the research questions. These results were collected through participant observation, structured electronic interviews with Senior Managers, and a survey with project management staff in the nine operating units in the Eskom Distribution Group.

Chapter 5 will probe deeper into the questions and the findings by interpreting the findings against the research objectives, questions, and constructs to arrive at the deeper meaning of the research. Linkages will be made with the relevant literature where appropriate to accentuate meaning. This includes the participants' views (emic), reported verbatim and juxtaposed with the researcher's views/interpretation, thus culminating in a more holistic portrait of the ethnographic research study (Creswell, 2007, as cited in Bloomberg and Volpe, 2012).

Furthermore, the interpretation describes the group and themes related to the theoretical concepts being explored in the study (Creswell, 2013). Moreover, ethnographic writing about the group guides the readers into the complexity of the social setting under study, and the researcher must build a bridge between what the reader knows and what they should learn about the social setting (Yanow, Ybema and Van Hulst, 2012).

In Chapter 1, the researcher described the establishment of the Eskom Project Management Office in the Group Capital department under section 1.7, and the Asset Creation Department in Eskom Distribution was described under section 1.10. In this chapter, the researcher analyses the findings.

Implementing a new project management methodology means essentially changing work tasks, people; organisation; and tools (Kerzner, 2013: 1097-1109). Each of these is an interrelated subsystem that influences the organisation's overall performance at large (Researcher, 2022). Furthermore, the interplay among these complex, dynamic, and ambiguous systems makes organisations inherently tenuous (Lewis and Smith, 2014). Moreover, the development and implementation of the Eskom deliver projects methodology were based on the pillars of people, processes, technology, and governance (Eskom Project

Management Guide Book, 2012). These pillars of people, processes, technology, and governance were used as themes of analysis and interpretation as they cross-cut the objectives and the research constructs.

The analysis of the people (human side of projects) pillar covers the working relationships between the EPMO and its customers, the Eskom Distribution Project Offices, and the working relationships internal to the EPMO. This should explain the low uptake of the proposed standardised project management methodology within the Eskom Distribution project management community.

The analysis of the process pillar covers the success of implementing the Process Control Manuals and the adoption thereof. The analysis of the technology pillar covers the implementation of the project management software systems. The analysis of the governance pillar covers the implementation of the Project Life Cycle Model.

5.2   People-human interface

Objective 1: To what extent was the standardised project management methodology (process control manuals) adopted and integrated into the work processes by the Distribution Project Management Offices?

The Eskom Project Management Guidebook (2012:15) asserts that the objective of Eskom's project delivery philosophy is to achieve best practice methodologies supported by Enterprise Project Management Systems (EPMS) and supported by skilled and experienced people. This project delivery philosophy is firmly based on the industrial economy. The core ideas of the industrial economy are characterised by tangible goods, best practices, and standardisation based on a centralised and fixed organisational model (Jarche, 2013, 2015, as cited in Da Vinci Institute, 2019).

The challenge for PMOs to succeed lies in establishing trust and building better relationships with their stakeholders instead of being the project police (Iqbal, 2013). As a source of complexity, the social dimension of project organising adds to the challenges PMOs face in their current command-and-control operating environment. It is, therefore, vital to acknowledge project specificities, their layouts as socio-technical systems, and their unique sets of features defining its human construct (Biogey, 2011). This suggests an approach

encouraging improved and effective relationship building in designing and implementing project management processes and tools.

From the findings in terms of Research Construct 1: Working Relationships, it can be inferred that the working relationships internal to the Eskom Project Management Office and the working relationships with its external customers and the Eskom Distribution project offices in this study are not healthy and sometimes very tense.

To support this observation, the following are verbatim quotes from some of the Senior Managers from Distribution:

> *The relationship is a long-distance relationship. We feel like we are part of the family, but we are that family you love but do not get involved in their less important matters. We are doing our own thing and as long as we get the electrification connections and spend the Capex (Senior Manager Asset Creation).*

> *From the visits and discussions with an EPMO Advisor and his team, yes, there is a working relationship but not a good working relationship. We just need to improve on the timeous implementation of the agreed actions/strategies and do away with the 'us and them' (Senior Manager Asset Creation).*

Q4: To the Senior Managers in the EPMO: A recent study by IPMA suggests PMOs are stuck on compliance with the implemented methodology rather than focusing on customer satisfaction and building relationships. What is your view?

> *My personal experience in the role that I fill in Eskom reflects this position as well. It appears that PMOs do not listen to the customer and rather force their perceptions and ideas on the customers. It is a two-edged sword as it becomes a partnership between the PMO and the customer. By following this concept, the result is a win-win situation. (Senior Manager EPMO).*

> *This is a real possibility depending on how the EPMO functions. The EPMO must have a real presence on the ground in finding solutions so that they can understand and build customer relations. This also allows the enhancement of methodology and people development (Senior Manager EPMO).*

The researcher also observed misalignment between the resources in the Centre of Excellence (COE), a section in the EPMO that was responsible for the development of best practices and methodology, and the Project Management Office resources created within the EPMO to roll out or implement these best practices and methodologies to other Eskom Project Offices for standardisation. A further observation by the researcher was the many external resources (consultant resources) contracted into the project management Centre of Excellence, which had authority over the permanently appointed Eskom resources internal to the EPMO.

The authority of external resources over the internal resources created a misalignment between the EPMO management and resources to the extent that staff instituted grievances against the EPMO management as they felt marginalised and uninformed about decisions that directly influenced them. For instance, the researcher was one of many resources interviewed by the investigator into these grievances. To support this observation, the following are verbatim quotes from resources in the EPMO.

There is a general mistrust amongst the different groups within the EPMO.

The EPMO is not integrated.

There was a disjoint between the PMO resources allocated to implement and the project managers; the main issue was that the authority vested in the contracted resources was more than that of the permanent resources. There was also a misalignment of the KPIs between the project managers (contracted) and the implementation team (permanent EPMO resources) - both teams are working on the same project but not being measured on the same milestones.

An increase in the level of collaboration based on the quality of communication increases the level of trust amongst project stakeholders. This, in turn, is likely to increase the success of initiatives in developing countries (Bond-Barnard and Steyn, 2015). The researcher observed little collaboration between the EPMO and Distribution Asset Creation management. According to the researcher, this can be ascribed to the command-and-control project delivery philosophy of best practice, standardisation, and control from the EPMO on the one side and the push for the achievement of their compacted Key Performance Indicators from the Distribution Asset Creation management on the other side. This inference is supported by the following:

Q6: To the Senior Managers Asset Creation: How many times, if any, have you received a courtesy visit/call from Senior Managers in the EPMO?

The responses were as follows: 67 per cent said they never received a courtesy call or a visit from the EPMO Senior Managers, 16.67 per cent indicated they sometimes receive visits/calls, and another 16.67 per cent indicated they had received regular courtesy calls/visits from the EPMO management.

Q8: To the Senior Managers in the EPMO: Are you aware of any platform/forum where Senior Managers from the EPMO engaged with Senior Managers from other Eskom Groups?

The responses were as follows: 67 per cent of EPMO Senior Managers indicated that they are not aware of any platform of engagement, and 33.33 per cent, or one, of the EPMO Senior Managers, said yes; through the EPMO forums run by the EPMO.

The findings from a secondary source, the PMO Insights Report 2019, a comprehensive analysis of project management offices (PMOs) in South Africa, revealed the following. The PMO is seen as a strategic resource but is not trusted to oversee all strategic initiatives. Only 22 per cent of strategic projects are managed by the PMO. Unfortunately, executives have a hard time seeing the PMO as anything other than the 'project police', and they have only ever experienced the PMO as a 'command-and-control' function that governs projects instead of delivering business outcomes. This corroborates the study's finding that there are no good working relationships between the EPMO and the Distribution Asset Creation Managers.

Another aspect revealed by the literature is that many program and project managers question the real benefits delivered by project management offices and consider them an overhead expense that adds little value to project and programme delivery or even an unnecessary bureaucracy that gets in the way (Cranfield, 2013). This study found that there was an agreement between the two groups of Senior Managers, but there was a different perception from the bigger surveyed group regarding the mandate of the EPMO. This inference is supported by the following quotes from the two groups of Senior Managers.

Q3: To the Senior Managers Asset Creation: Many participants think that the EPMO was created to support mega projects like Medupi and Kusile. Do you agree or disagree? Please give a short motivation for your answer.

Five out of six (83.33 per cent) Senior Managers Asset Creation from Eskom Distribution agreed and were motivated by the following statements:

Yes, because that is what was communicated, for the most part, the focus would be on those projects.

Initially, it was and most of the resources were concentrated on the major projects to the detriment of DX. The resources that were transferred from DX to the EPMO did not allocate their time to the operating units and it was difficult to get them to support DX.

Most of the EPMO processes never looked at the standard and repeatable projects, thus expectations have been that all projects are the same and volumes don't matter.

Q3: To the Senior Managers in the EPMO: Many people in the Distribution Group think that the EPMO was introduced to support mega projects only: What is your view?

Two out of three EPMO Senior Managers (66.67 per cent) agree and stated the following:

This perception is possibly true as the impetus for an EPMO was around the Mega Projects environment. With most things, the reason for initial creation becomes less important over time. The focus moves to value creation by use of the EPMO methods.

The perception can be that way because in Eskom there is always huge inter-divisional competition. With the EPMO to be placed in the structure of GCD other divisions might believe the methodology is only applicable to GCD. Distribution in its nature also demonstrated in the past that they want to do their own thing. Over the past 5 years, by ignoring guidance from the EPMO and not investing in their improvement, Dx lost huge capability within Project Delivery. More change management is required in the Dx space. The three Mega projects in GCD also took too much effort from all the resources in Eskom.

Q15: To the surveyed group: The process control manuals (PCM) only apply to mega projects like Medupi and Kusile in Eskom.

Most of the respondents from the larger community in the Distribution project offices disagreed with this statement (26.32 per cent strongly disagreed and 54.39 disagreed), which brings the total of disagreeing respondents to 80 per cent of the surveyed group.

The main aim of this study was to explore and describe the link between the Eskom Project Management Office regarding the poor adoption of the standardised project management methodology by the Eskom Distribution Project Offices. From the above, it can be inferred that if there is a link, the link between the EPMO and the Distribution Offices is very weak. The researcher infers that this is because the 'command-and-control' philosophy of the deliver projects policy is to support the implementation of best practices but without the proper engagement of the very stakeholders to allow for co-creation of direction in the implementation and adoption of the developed best practices.

This top-down approach did not consider the social dimension, an important source of complexity in project settings due to the diversity of resources in both the EPMO and the Distribution project offices. This diversity, as experienced by the researcher, can be grouped amongst other diverse dimensions in terms of age, gender, religion, project management experience, and culture.

Secondly, the Distribution Operating Units are autonomous units with their own set of Key Performance Indicators (KPIs) that are not aligned with the EPMO's KPIs, which never provided any convincing evidence of project success of any Operating Unit achieving their KPIs where the methodology was implemented as part of the engagement to increase alignment.

5.3   Process

Objective 2: An evaluation of the mandate of the Eskom Project Management Office to follow through with implementing standardised methodologies throughout the organisational structure of Eskom.

In order to deliver projects, programs, and portfolios efficiently and effectively, Eskom standardised its processes, systems, and tools to ensure uniform planning, development,

and execution of all projects. In addition, Eskom appointed a task team to identify all the capabilities required to deliver an industrial mega project (Eskom Project Management Guide Book, 2012:19). The standardisation of processes has resulted in the development of Process Control Manuals (PCMs) around the Deliver Projects Process capabilities, aligned with ISO and PMBOK. However, central planning and hierarchical decision-making are just too slow and effective in complex situations involving many people (Jarche 2016:21).

Feedback from one of the participants from the observed group on the implementation of the process control manuals:

> *Role clarity between the different sections in EPMO also contributed to the slow delivery of the products or services rendered by the EPMO to the business. The current EPMO delivery view model catered for the development and implementation of the project management capabilities under the care of EPMO. The model fell short of addressing the ongoing maintenance after the initial development and implementation of the capabilities. Hence, the project offices where the methodology is rolled out as a project rarely gets completed and the project office never gets to see the total picture of how the capabilities integrate.*

Q4: To the Senior Managers Asset Creation: The Project Management Process Control Manuals (PCMs) have been developed to facilitate a standard approach to the management of projects across Eskom. Are you aware of the implementation of any of the Project Management PCMs in your Operating Unit or Distribution?

All six (100 per cent) of the Senior Managers' Asset creation indicated they were aware of the implementation of the process control manuals, but some qualified this with the following statements:

> *I am aware, but I cannot with confidence say that the local teams have been trained and/or complies with the PCM. The old Dx AC Value Chains are embedded and change management is a challenge. Project delivery takes priority and training is playing the second fiddle.*

> *I am. These PCMs did not take into account DX type of work where there are many projects and did not take the administration of the thousands of projects. The PCMs are directed at major projects rather than standard and repeatable projects.*

Also, the support from EPMO is non-existent in guiding the team on how to comply, as well as support in terms of the volumes of work to be done for standard and repeatable projects.

Q17: To the surveyed group: We have implemented all project management PCMs in our Operating Unit.

Responses received from this group revealed that 14 per cent strongly disagreed with the statement, 30.36 per cent disagreed, 30.36 per cent were neutral, and only 25 per cent agreed with the statement. Thus, a total of 44.36 per cent of the surveyed group disagreed that all the PCMS were implemented.

If the assumption is made that half of the respondents in the neutral group disagreed but were cautious in their responses, then the total disagreement percentage rises close to 60%, which is quite a plausible assumption.

Q16: To the surveyed group: I have been trained in the Project Management Process Control Manuals.

Responses from this group revealed that 76.73 per cent of the group had received training on the Project Management Process Control Manuals.

The surveyed group was the group of project management staff directly involved in the day-to-day running of projects and was the targeted group for the training and implementation of the PCMs. From the results above, it can be inferred that the EPMO had trained the Distribution Project Execution staff. However, the implementation and adoption were very poor. This has been qualified by the Senior Managers.

The researcher observed that most of the trained staff were project execution staff, but the other engineering resources that formed part of the internal value chain were not trained in the project management process control manuals. The researcher also observed that the Distribution resources were more focused on reaching their Electrification Connections and their capital expenditure targets than on implementing the methodology. This low compliance was also highlighted in the 2020 EPMO Position Paper on the project management methodology implementation in the Distribution Business.

5.4 The need for an EPMO and the evolution of the EPMO

Objective 3: An assessment of the Eskom Project Management Office's level of participation and inclusiveness in strategy formulation, evaluation, and implementation, given the policy frameworks.

The responses to the question, Do you see a need for an Eskom PMO? were surprisingly positive and contrary to what the researcher had expected, given the observation of the relationship between the EPMO and its customers. The responses from the Senior Managers Asset Creation were that 67 per cent saw the need for an Eskom Project Management Office. Some responses follow:

Of course, I, however, think there are a lot of concepts that are not applied to the 'non' mega project, like the capital budgeting techniques (Dx mainly focuses on non-financial benefits but is poor in benefits realisation), earned value analysis, etc.

The top benefits for me are strategic alignment, standardisation and gap assessment, mentoring, and coaching. If you ask how many of our teams are being mentored by the EPMO office, the number will be very minimal. I sent an e-mail to the EPMO address a while ago asking for the names of mentors and never got feedback.

If we get the EPMO team to understand the Dx Project Management space.

Re-align PCM implementation for standard and repeatable projects.

5.5 Technology – Project management software systems

Objective 4: To analyse whether the Eskom Project Management Office implemented project management software systems in the Distribution Project Management Office and the level of adoption of the software.

Eskom has invested in various project management systems as part of the Eskom Deliver Projects Methodology. Most of these software systems were rated 'best in class' for mega projects and were technically supported by the suppliers of these software packages under contract to Eskom. Some of the commonly known software systems included SAP Portfolio and Project Management (SAP PPM), Primavera P6 for project scheduling (Primavera),

PRISM G2 for project cost control (PRISM), Oracle OPCM for project contract administration (OPCM), and Oracle P6 for risk management (P6).

Eskom Distribution traditionally had software systems that have been in use for years. This is referred to as the legacy system. These included software systems like Microsoft Projects, commonly known in Distribution as ACNAC, for project scheduling, workflow management, and monitoring; Power Office for costing of Distribution Projects; and SAP PS for Investment Management. The plan from the EPMO was to retire all the legacy systems in Eskom and replace them with the latest project management software systems.

The researcher observed very poor adoption, if any, of the EPMO-proposed software systems by Distribution. This low usage of the systems was also reported in the monthly EPMO Integration meetings, where the subject matter experts (SMEs) had to report on the implementation and adoption of the methodology and systems. The reason was that the proposed EPMO software systems were too complex to be used on the hundreds of standard and simpler types of Distribution projects.

Secondly, the Distribution appoints small micro, medium, and emerging external contractor companies to construct electricity supply lines and electrification networks and build Distribution substation projects. These contractors are not in a position to afford and sustain the licensing fees required for the proposed software. Communication and updating schedules using different software systems on projects was not an option for the Distribution business.

5.6   Governance

Eskom's governance framework, within which projects are delivered, is aligned with the relevant South African Legislation, National Treasury, Construction Industry Development Board (CIDB), and other standards (Eskom, 2020). Eskom has implemented the Eskom Reference Project Life Cycle Model (PLCM) as a governance framework to govern all investments in project work undertaken by all Eskom's groups, divisions, and subsidiaries (Eskom Project Management Guide Book, 2012).

The PLCM facilitates the planned implementation of project work to create specific outputs in the correct sequence throughout the project's lifecycle without incurring excessive cost or risk. It guides the officially appointed investment committees in investment decision-making.

The researcher has observed the PLCM to be embedded throughout Eskom. However, although the PLCM is embedded in the Distribution businesses, it is not implemented to the capacity developed by the EPMO. For instance, the PLCM policy dictates that all projects that need investment approval will go through a gate management process. The gate management process calls for a formally constituted committee comprised of subject matter experts, professionally registered engineers, and other professionally registered specialists.

These resources are not always readily available for the many standard types of projects running in the Distribution Business. The Distribution business has thus opted for a less involved process for gate management.

5.7   Readiness of EPMO for PM in Industry 4.0

Objective 6: To assess the Eskom Project Management Office's readiness to lead Eskom in project management in Industry 4.0.

From a telephonic interview with two resources in the EMPO and a follow-up with an e-mail question to some of the current seniors in the EPMO, it can be inferred that the EPMO is not ready to lead Eskom for project management in Industry 4.0. The following verbatim statements from the EPMO support this inference:

As indicated, I am not aware of any initiative from EPMO in preparing Eskom for project management in 4IR.

My view, Eskom and the South Africa as a country cannot even satisfy the requirements of the 2nd Industrial Revolution, key elements being standardisation, electricity supply and water supply. I have no idea how we could magically transform into a smart production, manufacturing and artificially intelligent operating company and country in the next 2-3 years. We cannot even use current systems and applications for traditional project management (Industrial Revolution 3). Digitisation and AI's for project management, would probably lag AI's and digitisation for Engineering and Production. IT would always be at the forefront with aspects relating to software applications and digitisation and may be able to adapt earlier in a technologically mature organisation, we are far from than in Eskom.

Not aware of any initiatives from the EPMO. Ask the IT department they might have some initiative.

This can be ascribed to the uncertainty around the EPMO's existence as an organisational entity in its current format after the legal separation of Eskom into Generation, Transmission and Distribution as legal entities. The EPMO has also lost their Senior Manager through early retirement, and some of the more experienced resources in the EPMO are also nearing retirement within the next year or two. However, after the recent resignation of the Group Executive, the Group Capital communication person in the Eskom business indicated that the EPMO would be reporting directly to the Eskom COO, which gives the EPMO much-needed executive support.

5.8   Summary of findings

The analysis revealed that the working relationship between the EPMO management and the Distribution Asset Creation management is unhealthy and sometimes even tense. The analysis also indicates that very few opportunities exist for collaboration between the two groups of leaders, and little effort is made from both sides to collaborate. The mandate of the EPMO is also contentious as most of the Senior Managers Asset Creation, and even some Senior Managers in the EPMO were under the impression that the EPMO was mainly created to support the Mega projects in Eskom. However, most of the surveyed group indicated their understanding differed from the Senior Managers' Asset Creation in Distribution.

The success of implementing and adopting the process control manuals (PCMs) for standardising the project management methodology in the Distribution business is also questionable. However, the resources trained on the process control manuals confirmed they had received the necessary training from the EPMO resources. The project management software systems recommended by the EPMO to be implemented in the Distribution business have been described as too complex for the simpler projects initiated in the Distribution business. The project lifecycle model for the governance of capital investment has been well entrenched in the Distribution business; however, not to the detail that the EPMO expects. The EPMO is not ready to prepare Eskom for project management in Industry 4.0.

5.9　Conclusion

In line with the literature (Stanleigh, 2006; Hobbs, Aubry and Thuillier, 2007; PMI, 2018; Jordan, 2019), it can be inferred that if there is a link between the EPMO and Eskom Distribution, it is a very weak link. This can be ascribed to the leadership crisis experienced in South Africa in general and in South Africa's State Owned-Enterprices in particular (Naudè, 2023). Leadership plays a critical role in the effective management of company human resources to lead, enable and empower them to deliver on the vision and mission of any organisation. One of Eskom's Leadership brand pillars is leadership with a heart of a servant. This, amongst other dimensions, speaks to leadership based on teamwork and community and involves others in decision-making. The study did not observe any of this among the two sets of Senior Managers.

In addition, the EPMO was less successful in implementing and adopting the standardised project management methodology within Eskom Distribution.

Given the low levels of adoption and the threat of disruptive technologies from the industry 4.0 space, the challenge of the top management is to build a stronger integrated team between themselves, the EPMO, and DXPMOs, as further fragmentation and isolation can exacerbate service delivery processes and customer satisfaction at large. Hence, the focus is on moving away from old ways of work (i.e., waterfall methodology) and adopting new ways of work (i.e., agile methodology), and embracing the digitisation of processes and mastering new digital competencies, such as the automation of processes, machine learning, and deep learning systems in the context of project management for Industry 4.0.

Given the context mentioned above, the researcher calls for a leadership framework that will support the reconfiguration of the EPMO and DPMO to prepare Eskom for project management in Industry 4.0.m.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter consolidates the study's findings by discussing the implications and possible ways of strengthening the link between the Distribution Project Offices and the EPMO.

The key findings from this study suggest a poor link between the senior managers in the EPMO and the Senior Managers within the Distribution Asset Creation department. As indicated in the chapter 2 under 2.12, The fourth Industrial Revolution requires a new leadership paradaigm. Leaders across the project value chain should drive transformation by engaging, elevating and enabling their workforces (WEF, 2019).

The 2020 global pandemic has brought many projects to a complete standstill or cancellation, while other organisations have successfully completed their initiatives (PMI, 2021). A strategically aligned PMO has played a critical role in assisting these organisations to complete their initiatives. Strategically aligned PMOs also enjoy the support of senior executives (PWC, 2022). The global pandemic has also forced organisations to change their operational models. However, many organisations are challenged with stagnating PMOs that rely too much on their original premise and purpose (Gartner, 2021).

The study will now reflect on the research questions outlined in the study.

6.2 Research questions

6.2.1 *What was the level of adoption and integration of the standardised project management methodology (i.e., the process control manuals) by the Distribution Project Management Offices that was initially developed and implemented by the Eskom Project Management Office?*

The main aim of this study was to explore and describe the link between the Eskom Project Management Office regarding the poor adoption of the standardised project management methodology by the Eskom Distribution Project Offices.

This study found a very weak link between the Eskom Project Management Office and the Eskom Distribution Project offices, with working relationships between the two entities not at the ideal levels of supporting each other. This is specifically noticeable at the level of senior management leadership on both sides.

Furthermore, the EPMO has neglected to recognise the change in the world of work and the challenges with the complexities of dealing with diversity in culture, generational diversity (Boomers, Generation X and Generation Y), gender diversity and patriarchy; the social elements which add to the complexity of managing project settings. The EPMO did little to recognise the Asset Creation Department in Eskom Distribution as an autonomous social system that can self-learn and self-organise. In turn, the Asset Creation Managers did very little to understand and support the EPMO in delivering and implementing the project management methodology. This shows a lack of integration from both sides of leadership to see the bigger picture for Eskom and South Africa at large.

This study concludes that the Eskom Project Management Office was unsuccessful in implementing and adopting the standardised project management methodology developed by the EPMO in the Distribution Project Offices due to the two groups of Senior Managers not allowing for proper engagement. This can be ascribed to the desire to exert control and power over resources.

According to Jowah (2014), power is closely linked to organisational politics, and politics involves the activities of a group of individuals which are used to acquire, develop, or control resources to achieve their preferred outcomes. In this case, the key performance areas were the implementation and adoption of the methodology for the EPMO. At the same time, the Asset Creation managers were concerned about meeting their capital expenditure and the number of connections targets.

6.2.2   Is the Eskom Project Management Office implemented at a level where it can influence the entire Eskom business to implement a standardised project management methodology?

This study has concluded that the EPMO was not positioned to influence the entire Eskom business. The positioning of the EPMO in the Group Capital Division has created the impression that the EPMO was created to focus on the Group Capital projects, also called the Mega Projects, which in turn created the impression that the methodology was created to

support the mega projects and not the standard and repeatable type of projects in the Distribution business.

Most of the earlier versions of the Process Control Manuals and governance documents, such as the PLCM policy, were also signed off by the Group Capital Senior Managers as owners of these documents. Furthermore, both the Group Capital Division and the Distribution Division are autonomous Eskom Divisions mange by Group Executives with their own management structure.

6.2.3 Is the Eskom Project Management Office participating in strategy formation, evaluation, and implementation?

The study could not establish if the EPMO has participated in strategy formation, evaluation, and implementation. However, the EPMO, in its Position paper (2020), indicates its focus will be on reintroducing and re-establishing and, where required, improving the project management methodology. Development and improving methodology are the activities keeping PMOs resources preoccupied and reducing the time that could be spent on strategy evaluation and implementation (Alkhaldi, 2021). Eskom has also established a brand-new unit called the Transformation Office to evaluate and implement the strategy to separate Eskom into three legal entities.

The study thus concludes that either Eskom would like to keep the EPMO to their mandate of developing and implementing project management methodology, or there is not much trust in the EPMOs ability to deliver on Eskom's strategic initiatives.

6.2.4 Did the Eskom Project Management Office implement the project management software systems within the Distribution Project Management Offices?

The non-negotiable approach the EPMO took in standardising processes and project management software systems has left little room for context in the Distribution business. The study found little collaboration at the senior level, creating a coordinated workplace reality. A coordinated workplace reality refers to a task and deadline-driven work environment where action is taken on expert knowledge as promoted by an individual (Da Vinci, 2020).

This coordinated working reality leaves little room to engage stakeholders or creative networks. Some key principles of creative networks are innovative and contextual methods, self-selection of tools, willing cooperation, and power distribution (Jarche, 2016, as cited in Da Vinci, 2020).

The study concludes that there was poor adoption of the project management software systems in the Distribution Project Offices.

6.2.5 Did the Eskom Project Management Office manage to train and develop the Project Managers in within the Distribution Project Management Offices?

The study concludes that the Eskom Project Management Office has trained many project execution staff in the Distribution Project office. While the EPMO was still maturing as a newly established entity, it could not offer what the Distribution business needed. One of the Asset Creation Managers mentioned that they were looking for support from the EPMO for mentoring and coaching for their less experienced project managers. This request was never honoured by the EPMO.

6.2.6 Did the Eskom Project Management Office start with any initiative to prepare Eskom for project management in Industry 4.0?

Before the 2020 global pandemic, many organisations were preparing for digital transformation as the industry 4.0 economy required. However, the pandemic has forced many organisations to accelerate their digital transformation journeys. For instance, the pandemic has forced organisations to adapt to employees working from home or remotely, dispersed project teams, increasing customer demand for online service. Many PMOs have taken the lead in ensuring their organisations have the right systems, processes, tools, and technologies to meet the increasing demands for digital transformation (Allers, 2022).

The working relationship is improving between the EPMO and the Distribution Project offices. This can be seen in the requests the EPMO receives from the Distribution Asset Creation managers to retrain staff on some of the Process Control Manuals. This study concludes that the Eskom PMO (EPMO) is pursuing their traditional bureaucratic practices of standardisation in best practices and excessive documentation and is not ready to prepare Eskom for project management in Industry 4.0.

6.3 Recommendations

This study found consensus amongst participants about the need for an EPMO in Eskom. The literature has also confirmed the critical role effective PMOs play in ensuring organisations achieve their strategic objectives by ensuring their critical projects receive priority in their organisations. Furthermore, while Eskom and South Africa are facing rapid transformation challenges, it is also an opportunity for the Eskom Project Management Office to transform its role by building new relationships, adding strategic value across the organisation, and leveraging opportunities that arise in the digital space. The EPMO can start with the following recommendations:

6.3.1 Ensuring the EPMO has a seat at the strategic table

The directive EPMO must evolve through a collaborative exercise involving PMO leaders in Eskom to redesign the EPMO in ways that will support strategic initiative execution. The EPMO can start by ensuring the following:

i. It has the support of Executive Management. This can be achieved by reconfiguring the EPMO to move away from the development of methodologies, searching for off-the-shelf methodologies, thereby freeing up much-needed knowledgeable resources to ensure the current strategic initiatives in Eskom are aligned and correctly prioritised, assessing the readiness of the medium term strategic initiative as a start.
ii. Redefine the EPMO with key business leaders.
iii. Establish collaborative platforms with business leaders that will allow for continuous communication with business leaders.
iv. Ensure visibility by real-time reporting on key strategic initiatives.
v. Build or strengthen relationships.

Effective PMOs must create structures and processes critical to helping projects succeed and achieve their organisation's strategic ambitions (Alkhaldi, 2021). However, effective PMOs should engage stakeholders and knowledge workers across the business by involving them in decisions about the most appropriate processes and structures to support the different needs of the organisation.

This is a collaborative workplace where an idea is introduced by a central figure to a community of practice for participation in the exploration and the testing to alter/amend the

proposed solution (Da Vinci, 2020). However, this calls for a culture change which the EPMO should initiate if they want to stay relevant.

This can be achieved if the EPMO takes the lead in arranging and implementing project management appreciation workshops for executives and Senior Managers where the PMO can showcase the tools and systems available to assist them in implementing and tracking strategic initiatives. Some of these initiatives are already underway, but Senior Managers or executives in Eskom do not attend them well. These workshops should be promoted and communicated rigorously through the internal Eskom social media platforms.

However, it does not end with the EPMO. Effective relationships must also be built with others, such as the EPMO Executive Sponsor, the Senior Managers in the Eskom Distribution Group, and of course, other internal clients. The EPMO leadership will have to influence various senior people, without the necessary authority, to obtain input and commitment.

6.3.2 The EPMO to embrace flexible work processes

The disruption of Industry 4.0 technologies has caused organisations to change their work processes. However, the 2020 global lockdown has accelerated new ways of working and delivering value. It has exponentially accelerated the pace and scale of digitalisation (PMI, 2021). The pandemic has also shown that some organisations are more resilient than others. These organisations are called gymnastic enterprises. Gymnastic enterprises recovered more rapidly than other organisations from the pandemic because they have allowed their teams to:

i. Master different ways of working, whether agile, predictive, hybrid approaches or tech-enhanced tools like complex problem-solving techniques or micro-learning apps.
ii. Elevate power/people skills to ensure effective leadership and communication, including collaborative leadership, empathy for customers and colleagues, innovative thinking, and the ability to build trusting relationships.
iii. To build business acumen to create well-rounded employees, those who have expertise in their specific roles and projects and understand how their efforts relate to the macro environment, strategic objectives, and other parts of the business.

The EPMO should expect that the business world we live in today demands a flexible approach to project management tools and processes.

6.3.3 EPMO to ensure Eskom project managers are ready to embrace project management in Industry 4.0

The Covid-19 pandemic has forced local organisations in both the public and private sectors to embrace digital transformation and the digitalisation of internal processes (Parker, 2021). South Africa was left behind in the previous industrial revolutions. Hence, the EPMO must ensure Eskom project managers have the necessary skills and technology for project management in Industry 4.0.

Teaming across organisational boundaries helps continuously improve and fundamentally rethink established working methods (WEF, 2019). Moreover, creative networks enable knowledge sharing, encourage diversity of thought, and promote experimentation in a safe-to-fail working environment which stimulates innovation (Jarche, 2014, cited in Da Vinci, 2020). The EPMO should adopt fit-for-purpose Project Management 4.0 methodologies and technologies by developing training programmes with trusted partners that have already shown improved project delivery in the Industry 4.0 project environment.

Projects in Eskom are inherently delivered through internal and external value chains from Network Planning to Network Engineering Design to Procurement and Material Management to Suppliers of material, Project Execution and Contracting; all tied down by bureaucratic processes which cause all sorts of bottlenecks. Concluding the traditional waterfall project methodology is firmly entrenched and supported by the EPMO.

The reseracher recommends that the EPMO engage their customers, applying people-centred principles to adapt project deliver methodologies and processes to changing business needs ensuring they are fit for purpose and are value adding.

6.3.4 The EPMO should embrace a system thinking approach to management

Eskom comprises the most notable Eskom Generation, Transmission, and Distribution. Each of these entities is systems divided into sub-systems such as Human Resources, Commercial Department, Customer Services, Engineering, and Asset Creation Departments. These sub-systems interact with each other to enable, for instance,

Distribution to build, operate, and maintain the Distribution Network to ultimately sell electricity to external customers.

The systems approach to management views an organisation as an open system of interrelated and interdependent parts that interact as sub-systems (Gordon, 2021). Eskom is viewed as an open system because it receives inputs from external systems such as coal supplies for electricity generation from the coal mines, materials to build and maintain networks from material and equipment suppliers, and contractors to construct the networks.

Organisational success is dependent upon the interaction and interdependence of the sub-systems. For instance, the recent strike at the Eskom power stations, which forced South Africa into stage 6 load-shedding, exemplifies how one incident influences the whole system. The striking employees ensured that power stations did not have enough resources to run the stations. Coal suppliers were not able to deliver coal. The already constrained power stations could not generate enough electricity, and in the end, the South African economy suffered massive losses.

6.4   An appropriate transformation framework for the EPMO

The literature reviewed, and the findings from this study suggest that the role and mandate of the EPMO are generally well understood. The problem arises when PMO leaders do not deliver on what the stakeholders in the organisation expect from them.

Furthermore, digital disruption caused by Industry 4.0 technologies impacts organisations, their structures, services, and business models. These rapid changes are transforming project management methodologies, tools, and technologies. The EPMO, as the custodian of project management methodologies and practices, should be leading their organisations in implementing the most appropriate Industry 4.0 project management practices, tools, and technology.

This study found that the Eskom Project Management Office (EPMO) has not yet started the Industry 4.0 project management journey. The researcher, therefore, recommends a holistic transformation framework that underscores the importance of re-configuring the EPMO for project management in Industry 4. 0.

6.4.1　Stakeholder focus

The EPMO, like any other organisation, depends on its stakeholders at all levels to assist them in rising to the level of an accepted strategic partner. Therefore it is critical for the EPMO to understand the current and future stakeholder needs. This implies a process to facilitate conversations with stakeholders to probe current problems. Re-configuring the EPMO should start with a collaborative process combining people, processes, and technology to advance carefully considered goals and objectives.

The researcher recommends the Eskom Project Management Office schedule roadshows and the use of internal social media platforms to engage with as many of their stake holders as possible, acknowledging openly mistakes made in the past, ensuring maximum buy-in for the EPMO re-confugeration by:

i. Define a common need: Present the PMO transformation as an enterprise need rather than a PMO manager's need, with a clear business case that includes business impact and metrics for the organisation.
ii. Create a shared vision: Express the desired future state in understandable terms by defining the operating model and solution design to generate a picture of the desired future state for the organisation.
iii. Demonstrate stakeholders' benefit: Paint the future state in direct contrast to the current state to establish conclusively how the improvements will benefit the stakeholders (Cabello, Sandoval and Brucker, 2022).

6.4.2　Empower project offices

The world of project management has changed. Project Teams use a mix of execution methods such as waterfall, collaborative, and Agile work depending on stakeholders' requirements. The EPMO needs to ensure it supports the POs by:

i. Ensuring they have the right tools/processes to deliver no matter the method of execution. For example, project offices need tools combining collaboration and iterations, Gantts, milestones, and scheduling, and Agile teams need tools that focus on flow and throughput.

ii. Providing the necessary training for the PO staff to work effortlessly on the agreed tools and processes. The EPMO must collaborate and partner with training providers if it cannot provide training.

iii. Elevating the EPMO's role by managing and reporting the interdependencies, constraints, and risks of strategic outcomes delivered by interrelated teams with an adaptive approach to program management (Planview, 2021).

6.4.3   Getting the right measures in place to support decision-making

The EPMO should look for technology and 'off the shelf' project management dashboards with built-in automation that can provide real-time monitoring of the Key Performance Indicators instead of keeping EPMO resources occupied with developing work. This should free up resources for strategic alignment initiatives (Alkhaldi, 2021).

The EPMO should deliver visibility and accountability for project execution by focusing on the measures and collaborative Key Performance Indicators that matter the most to the organisation. Executive management requires data from ongoing projects that help guide their decision-making with timely risk alerts and insights about potential business opportunities (Alkhaldi, 2021).

A collaborative approach to the transformation of the EPMO will grant the EPMO the mandate to provide senior executive teams with real-time visibility of their portfolio, thus allowing them to make timely, well-informed decisions.

6.4.4   EPMO needs to build remote leadership skills

The world of work has changed; more and more people are working remotely. A transformed EPMO will facilitate the development of project managers/leaders to manage geographically dispersed teams. While there are claims that remote working has increased productivity, there are also the challenges of teams feeling disconnected, higher rates of employee burnout, and lack of morale (Allers, 2021).

The EPMO will have to increase the speed of implementing digital technologies for better communication platforms and increase the speed of developing leadership skills. Some leaders struggle to grapple with digital transformation, while others are leading. One style of leadership that inspires employees to embrace digital disruption is the transformational

leadership style. Transformational leaders drive innovation and inspire new ways of thinking, thus harnessing a team's creativity to respond to change.

The researcher recommends leadership training for both the EPMO and the DX PMO leaders utilising the Bass Transformational Leadership model as a base. This training can be done by engaging Eskom's School of Leadership at the Eskom Academy of Learning.

Bass (1985, as cited by Michigan State University, 2021) developed the Bass Transformational Leadership model consisting of the four main components of transformational leadership:

    i.   Intellectual stimulation

Transformational leaders question the status quo and encourage this same mindset in their project teams. Transformational leaders create a safe-to-fail environment by empowering employees to constantly learn to be on the lookout for new experiences, new opportunities, and innovative ways of thinking.

    ii.   Individual consideration

Transformational leaders are concerned with the professional development of team members and foster positive relationships with them. This involves creating the opportunity for collaboration, attending to the individual needs of employees, mentoring them, and recognising each person's unique contributions.

Transformational leaders communicate a clear vision and create a workplace where knowledge workers are trusted to make decisions in their assigned areas. Team members are encouraged to collaborate and creatively find new solutions to longstanding challenges.

    iii.   Inspirational motivation

Transformational leaders are motivated and willing to commit to a vision. They encourage team members to commit to this vision by raising team spirit, fostering community, and providing a sense of purpose. They demonstrate social and emotional intelligence by sensing and stimulating reactions and desired interactions from co-workers and stakeholders to achieve the anticipated business outcomes (Da Vinci, 2020).

iv. Idealised influence

Transformational leaders provide a role model for ethical behaviour, instil pride, and gain respect and trust. This can be achieved by participation in cross-cultural engagements, being aware of the self in context, and being aware of others in their context and how this will interface with and infuse and embrace diverse assumptions and responses (Da Vinci, 2020).

6.5   Recommendations for future research

Further research should be conducted to generalise the framework's usability for other State-Owned Entities. Such research should focus on State-Owned Entities on the African Continent. Future research could also investigate the link between organisational culture in State-Owned Entities and implementing Industry 4.0 technologies. Another study area is to investigate the theoretical underpinnings of flexible work processes to see whether they are fundamentally sound in the context of State-Owned Entities.

6.6   Conclusion

This research offers lessons about the Eskom PMO's implementation and its relationship with its stakeholders. Whatever PMO framework is chosen for implementing a standardised approach to the project management processes, procedures, and standards requires the recognition of the importance of human interdependence, or the social complexity, of project organising.

Introducing better methodology and processes, structures, and steering committees is not enough. The PMO leadership should concentrate their efforts on actively managing stakeholder expectations to build better relationships and trust. This is critical for the success of the PMO as the literature indicates that the role of the PMO is expanding. Hence, the PMO, as an organisational entity, will not disappear.

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APPENDICES

Appendix A: **Permission letters**

Date: 11 August 2022

Dear Mr Glen Jordan

Supervisor: Dr Amos Monareng

Ethics Exemption: (Student number: 7568)

Doctor Of Philosophy in the Management of Technology and Innovation

This to confirm that ethics approval was not required during that time, but since then introduced. Hence a note has been made on your file in this regard, attaching the consent letters. During the examination process the following note will be shared with examiners:

The student collected data without ethics approval. Based on the motivations received from the student, as tabled, and discussed at a Research and Ethics Committee meeting held in 2022, the student was allowed to continue with the study. Considering the circumstances presented, the student and supervisor(s) were instructed to include a detailed explanation of how the study aligned to and dealt with all ethical principles and procedures impacting participants/respondents, the researcher(s), the institution, and research methodology employed in the study.

Kind Regards,

Prof HB Klopper
Executive Dean: Research and Institutional Partnerships
Tel: +27 11 608 1331
The Da Vinci Institute for Technology Management

⊗ Eskom
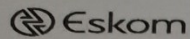
The Registrar
DA VINCI INSTITUTE

Date:
11.03.2014

Enquiries:
HR Shared Services
Tel +27 11 800 2311

REGISTRATION:
PART-TIME STUDIES: CLEN JORDAN
STUDY TERM: APRIL 2014 TO MARCH 2015
STUDENT NUMBER: 00
PROPOSED QUALIFICATION: PHD BUSINESS MANAGEMENT

Please make the necessary arrangements for the above Eskom employee to enrol at your institution for the above mentioned qualification.

Please note that Eskom has awarded an Eskom Further Study bursary to this student.
The bursary covers the following: Prescribed books, Registration fees, Course fees and, Examination fees
A detailed account must be addressed to:
-
Eskom Holdings SOC Limited
P BOX 1091
JOHANNESBURG, 2000
Attn.   GPD JORDAN

Please note that Eskom will not be responsible for the payment of any repeat subject/s.

Yours sincerely

**SHARED SERVICES UNIT
FINANCE DIVISION**

1923- 2013

Finance Division
Shared Services
Eskom Holdings SOC Limited Reg No 2002/015527/06

145

⊗ Eskom
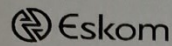
Mr. GP Jordan
Unique number:
1025200

Date:
14 January 2016

Enquiries: Roelien Moller
Tel +27 11 800 6460

Dear Glen,

APPLICATION FOR PART-TIME FURTHER STUDIES 2016 FOR PHD IN BUSINESS MANAGEMENT (CONTINUATION)

I hereby take this opportunity to inform you that your application for part-time further studies has been approved by the SPD/EPMO further study committee for 2016 in terms of the Eskom's Procedure for Learning Delivery- Further Studies (240-42854346).

Qualification: PHD in Business Management
Institution: Da Vinci Institute for Technology Management
Duration: 5 years
Total costs approve: R 44 460.00

Kindly complete the e-form for processing and registering of your studies on SAP HR.

I trust that you will find the above in order.

Yours sincerely

Pieter Underhay

CHAIRPERSON:
Strategic Projects Department
Further Study Committee Meeting

146

Appendix B: Research instruments

Date: 15 September 2017

Dear Sir/Madam

Re-configuring the Project Management Office in a State-Owned Entity to Embrace Project Management in the Fourth Industrial Revolution

My name is Glen Jordan, as explained in my telephonic discussion. I am currently completing my PhD in the Management of Technology and Innovation at The Da Vinci Institute for Technology Management.

The purpose of this qualitative study is to explore and describe the link between the Eskom Enterprise Project Management Office (EPMO) and the nine Provincial Project Execution Offices based in Eskom's Distribution Division and to recommend a Leadership Framework to re-configure the EPMO for project management in the Fourth Industrial Revolution (Industry 4.0).

I would appreciate your assistance in this study. The study's outcome will be used for academic purposes only, and nothing will be published in the public domain without the explicit consent of participants.

Please note that your interview response will be treated as confidential.

Thank you in advance for your participation.

Kind Regards

Glen Jordan

Mobile No: 0827727549

E-mail address: jordangp@eskom.co.za

Senior Managers' Asset Creation Eskom Distribution Interview Schedule

PhD MOTI

(Management of Technology and Innovation)

My name is Glen Jordan, as explained in my telephonic discussion. I am currently completing my PhD in the Management of Technology and Innovation at The Da Vinci Institute for Technology Management.

The purpose of this qualitative study is to explore and describe the link between the Eskom Enterprise Project Management Office (EPMO) and the nine Provincial Project Execution Offices based in Eskom's Distribution Division and to recommend a Leadership Framework to re-configure the EPMO for project management in the Fourth Industrial Revolution (Industry 4.0).

Thank you for agreeing to complete these interview questions electronically. I want to assure you of the anonymity and the confidentiality of your responses.

1. Literature suggests that the Project Management Office if implemented effectively, can improve project performance by up to 60%. Have you ever been informed about the Eskom Project Management Office's (EPMO) mandate?

2. Was the implementation of the Eskom Project Management Office officially communicated with you at the Asset Creation Manager's Forum or any other forum?

3. Many colleagues believe that the EPMO was created to support Mega Projects like Medupi and Kusile. Do you agree or disagree? Please give a short motivation for your answer.

4. The Project Management Process Control Manuals (PCMs) have been developed to facilitate a standard approach to the management of projects across Eskom. Are you aware of the implementation of any of the Project Management PCMs in your Operating Unit or in Distribution?

5.   Do you encourage your teams to implement the project management PCMs in their Project Offices?

6.   How many times, if any, have you received a courtesy visit/call from Senior Managers in the EPMO?

7.   In your monthly meetings with your direct reports/ managers, do you discuss what the EPMO can offer to your Project Offices?

8.   Do you think there is a good working relationship between Eskom Distribution and the Eskom Project Management Office?

9.   Do you see a need for an Eskom Project Management Office? Please give a short motivation with your answer.

Senior Managers' Eskom Project management Office Interview Schedule

PhD MOTI

(Management of Technology and Innovation)

My name is Glen Jordan, as explained in my telephonic discussion. I am presently busy completing my PhD in the Management of Technology and Innovation at The Da Vinci Institute for Technology Management.

The purpose of this qualitative study is to explore and described the link between the Eskom Enterprise Project Management Office (EPMO) and the nine Provincial Project Execution Offices based in Eskom's Distribution Division and to recommend a Leadership Framework to re-configure the EPMO for project management in the Fourth Industrial Revolution (Industry 4.0).

Thank you for agreeing to complete this interview questions electronically. I would like to assure you of the anonymity and the confidentiality of your responses.

1. Literature suggests, the Project Management Office does not add value in the delivery of projects (Time, Cost, Scope, Quality and Customer Satisfaction). Literature also suggests disagreement in the role/function of the PMO. In your view, why did Eskom implement the Eskom Project Management Office (EPMO)?

2. Literature further suggests that the PMO often deliver services to business according to the skills available in the PMO and does not deliver service according to business requirements. What is you view on this statement?

3. Many people in the Distribution Group are of the opinion that the EPMO was introduced to support the Mega Projects only. What is your view?

4. A recent study by IPMA suggests PMOs are stuck on compliance on the implemented methodology rather than focusing on customer satisfaction and building of relationships. What is your view?

5.	Some authors are of the opinion, the standardisation of project management methodology and process are often in opposition to the flexibility needed in the execution of a project in real life, and this is creating tension. What is your view on this?

6.	Was there any change management or any other process followed to introduce the EPMO and its related services into the Eskom business (All Groups)?

7.	The EPMO has been up and running for a few years, are you convinced the EPMO has gained the necessary recognition and role clarity in the Eskom business?

8.	Are you aware of any platform/ forum where Senior Managers from the EPMO engaged with Senior Managers from other Eskom Groups?

9.	What role do you see the EPMO plays in future?

Appendix C: Survey questionnaire

INSTRUCTIONS

1.   Please mark your answers with an X in the appropriate block.

2.   Questions are ranked from 1 – 5, 1 indicating Strongly Disagree and 5 indicating Strongly Agree.

Abbreviations:

PO: Project Office

OU: Operating Unit

EPMO: Eskom PMO

PCM: Process Control Manuals – Project Management Process Control Manuals

SECTION A: BIOGRAPHIC INFORMATION

1.	Gender	Male			Female	
2.	Race	Asian	Black	Coloured	White	Other
2.1 If 'Other' specify						
3.	Position in organisation					
Portfolio Manager						
Program Manager						
Senior Advisor Projects						
Project Coordinator						
Contracts Manager						
Quantity Surveyor						
Project Service Manager						
Project Service Officer						

5. Operating Unit where you are located	Eastern Cape		Free State		Gauteng		Kwazulu Natal		Limpopo
	Mpumalanga		North West		Northern Cape		Western Cape		

6.	Age	18 - 24	25 - 29	30 - 39	40 - 49	50 +

7. Years' experience in the Eskom Project Management Environment	Less than 3	3 - 5	5-9	More than 10 years

8. Highest Qualification	Matric	Diploma	Degree	Post Grad

9. E- mail address, if feedback is required				

SECTION B: Role of the EPMO

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The Role of the EPMO						
B1	I am aware of the Back-to-Basics program that Eskom has introduced	1	2	3	4	5
B2	Back-to-Basics called for a standardised approach to the Management of projects in Eskom	1	2	3	4	5
B3	I understand what the Eskom High Performance Utility Model (EHPUM) is all about?	1	2	3	4	5
B4	I am aware of the existence of the Eskom Project Management Office (EPMO)	1	2	3	4	5
B5	The Eskom PMO was established as part of Back-to-Basics program.	1	2	3	4	5
B6	The process control manuals (PCMs) were introduced to standardise the project management processes in Eskom	1	2	3	4	5

B7	The process control manuals (PCMs) are only applicable to the Mega projects like Medupi and Kusile in Eskom	1	2	3	4	5
B8	I have been trained on the Project Management Process Control Manuals	1	2	3	4	5
B9	We have implemented all of the project management PCMs in our Operating Unit	1	2	3	4	5
B10	We have implemented some of the project management PCMs in our Operating Unit	1	2	3	4	5
B11	I am aware of what services are provided by the Eskom PMO (EPMO)	1	2	3	4	5
B12	The Eskom PMO is needed to advise and implement best practices in project management in Eskom.	1	2	3	4	5
B13	The EPMO is the custodian and implementers of Project Management Best Practices in Eskom	1	2	3	4	5
B14	I am aware of how the EHPUM and the PCMS can improve my day-to-day work	1	2	3	4	5
B15	The EPMO has introduced the Construction Industry Institute (PDRA and PKHI) tools sets into our OU	1	2	3	4	5

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
SECTION C: Organisational Relationship						
Organisational Relationship						
C1	My Manager encourages our Project Office to implement and utilise the Project Management PCMs recommended by the EPMO	1	2	3	4	5
C2	My Manager has discussed the role of the EPMO with us	1	2	3	4	5
C3	The EPMO resources have introduced themselves into our Project Office	1	2	3	4	5
C4	In my mind there is no need for an EPMO in the Eskom Project Management community	1	2	3	4	5
C5	The EPMO has no authority that is why there is little or no implementation of PCMs	1	2	3	4	5
C6	The EPMO has the necessary experienced resources to advise the project office on project management bets practices.	1	2	3	4	5
C7	The relationship between the EPMO and Project Offices in the Distribution Business is healthy.	1	2	3	4	5
C8	It is believed that the EPMO serves the interests of the various Project Offices.	1	2	3	4	5
C9	There will be greater cooperation if the EPMO can play the role of monitoring and reporting on portfolio performance.	1	2	3	4	5
C10	We have received proper communication on the implementation of the EPMO.	1	2	3	4	5
C11	The EPMO has been implemented to service only the new build projects in Eskom like Medupi and	1	2	3	4	5

	Kusile.					
C12	Given the opportunity I would like to work for the EPMO.	1	2	3	4	5
C13	Greater cooperation between the EPMO and our Project Office will assist us to perform better in project management.	1	2	3	4	5
C14	Greater cooperation between the EPMO and the Operating Units will ensure that we become a more mature project organisation.	1	2	3	4	5
C15	We have received little or no communication on how the project management PCMs will assist us in our everyday work environment.	1	2	3	4	5
C17	There is enough participation and consultations from the Project Offices before the EPMO implements new methodologies.	1	2	3	4	5
C18	The interests of the various POs are taken into account in arriving at key decisions.	1	2	3	4	5

Thank you for participating in this important survey. The results will be made available to all participants

Appendix D: Transcribed observation report

Transcribed Observation Report

The Project Management Office for project office set up by the PMO in the EPMO was initiated through teleconference and based on a Power Point presentation that was send to the Distribution Project Offices before the kick-off meeting date. The purpose of the telephonic contact was seen as a kick-off session to discuss the implementation plan for the Project Office Set Up with the following objectives: **Establish the PO Organisation** **Support the roll out of project tools** **Excellence in Execution** **Build Basic project Skills** **Implementation of the agreement** One of the first observations the researcher observed was the number of contracted resources in the PMO with assigned authority to a point where the researcher was not able to distinguish between contracted resources and permanent resources. Adding to this, the competitiveness between the resources employed in the EPMO as Centre of Excellence resources and PMO resources as implementers of what has been developed by the EPMO resources. Moreover, there were four distinct centres concerned with project management capability delivery in Eskom: **Enterprise Project Management Office (EPMO):** EPMO Mandate: The EPMO will establish systems and process that will ensure a standardise approach to all projects and establish best practice procedures and will be responsible for improving and maintaining Eskom's project management lifecycle model. The EPMO mandate is to ensure identification, development, implementation, assurance and continuous improvement of project management strategies, systems, structure and data models for Eskom's Project Management Fraternity (Eskom, 2012). **Eskom Project Management Office (PMO)** PMO Purpose: The PMO will offer complete and comprehensive project management professional services which will be reviewed consistently and benchmarked against international and internal best practices. Advisory Services will be provided by the various Centres of Excellence for the purpose of staying relevant in achieving its mandate of supporting the delivery of capital build programme objectives as well as reducing operational risk to the build programme and supporting change	 Contracted Resources/ Internal relationships Contracted Resources / Internal relationships Authority of Resources/ Internal Relationships Competition between resources

157

management. (Eskom, 2013) **Project Management Training Centre of Excellence (PMTCoE):** Project Management Training Centre of Excellence is a learning hub of choice established to capacitate the Guardians with project management tools and techniques. This learning repository advocates and nurtures a learning culture and excellence across the organisation through provision of focused foundational programmes. PMTCoE stance is to continue with conceptualisation and packing of meaningful in-house programs in the technical and non-technical disciplines while further establishing collaborations with diverse reputable Universities (Eskom, 2013)	Centres of Power
The Distribution Asset Creation Managers Forum (DX Asset Creation Managers Forum): The purpose of the DX Asset Creation Managers Forum is a national meeting where all nine Senior Managers Asset Creation in Eskom Distribution are collaborating and strategising on all asset creation matters. This forum is also the gate way into the Distribution project offices for the support in the implementation of any initiative concerning project management methodology (the researcher). Furthermore, the researcher was not able to observe collaborative relationships between the leadership of these entities.	Centres of Power / External relationships
A second observation was the budget cuts in Eskom from 2013 called the Business Productivity Program. These budget cuts, lead to the conclusion of contracts of many external resources (consultants/contracted resources) that were employed in the PMO. **The budget cuts made it very difficult for the PMO to deliver on the agreed objectives of the Service Level Agreements signed between the different Project Offices and the Project Management Office.**	Centres of Power / External relationships
A **third observation** was the uncoordinated effort between the EPMO and the PMO as well as the PMTCoE resources when visiting the Project Offices in the Operating Units. These visits were organised to introduce the EPMO, the PMO as well as the PMTCoE and how they intend supporting the project offices in training as well as to the implementation of the recommended project management process control manuals (PCMs) and the project management systems to support the process control manuals. These events were uncoordinated as different resources from the three units visited the project offices at different times promising inconsistent support and system performances, without informing the Asset Creation Managers Forum (the researcher).	Centres of Power /External relationships

A **fourth observation** was the lack of trust from staff within the EPMO and the PMO leadership which emanated from conversations where the Eskom resources felt they have the necessary skills but were not meaningfully engaged in projects while contracted resources were managing most of the initiatives (the researcher).	Lack of trust /Internal relationships
A **fifth observation** was the difference in the understanding between which process control manuals, the PMO categorised as priority for implementation and what the project offices requested to be priority from the PMO. This was observed in meetings where Compliance and Advisory resources gave feedback on the implementation of the project management process control manuals in the project offices visited, where some of the comments were "the project offices do not know what they need".	Disjointed efforts / Internal Relationships
A **sixth observation** is the evolution of the Eskom **Enterprise Project Management Office** In the year 2012 the Eskom Enterprise Project Management Office had a mandate to establish Systems and Processes to ensure a standardised approach to all projects in Eskom. The EPMO was further tasked to establish best practice procedures and also had the responsibility for improving and maintaining Eskom's Project Life Cycle Model (Enterprise Project Management Business Plan, 2012). In order to deliver on this mandate, the EPMO established the following Key Focus Areas (1-5 years):	
• Establishment of a Project Management Office and Project Offices	Lack of Trust Internal Relationships
• Policy, Standards, Processes, Procedures, Guidelines and Systems	
• Project Management strategic Direction	
• Project Reporting and Assurance	
• Embed Programme Management Principles	Customer Relationships
• Standardisation and Execution	
• Strategic Resource Planning and Optimisation	
• Talent Management	
• Project Tools	
In early 2013, the EPMO refined its operating model in order to bring it to the next stage of maturity. Specific areas it addressed included:	
• Moving the focus from activities to roles	
• Setting KPAs in line with Operating Unit success:	
• Principle-based interfaces	EPMO Evolution
• Addition of critical services to meet customer requirements	
The Project Management Office (PMO) During the financial year April 2013 to March 2014 the	

PMO had the mandate to offer complete and comprehensive project management professional services, which was to be reviewed consistently and benchmarked against international and internal best practices. Advisory Services were to be provided by the various Centres of Excellence (EPMO) for the purpose of staying relevant in achieving its mandate of supporting the delivery of capital build programme objectives as well as reducing operational risk to the build programme and supporting change management. In order to deliver on this mandate, the PMO established its own structure with the objective to deliver the following business goals: • Achieve overall project management excellence • Effectively and efficiently identify and execute strategic projects supporting the overall Eskom strategy • Establish a standardised and centrally managed project management system • Assure the standardised execution of projects centrally and across the Operating Units • Comply with the PLCM (Eskom Project Lifecycle Model) and relevant identified processes and systems • Ensure a sufficient and competent staff contingent for all projects • Institutionalise standard programme and portfolio KPI's across the PO's specific domain • Ensure all IT project tools are utilised and supported • Guarantee data accuracy and integrity at the appropriate levels • Measure project management efficiency and effectiveness • Implement ISO 9001:2008 compliant standard document and record management and knowledge management systems in the Operating Units • Benchmark against international best practices to identify current and potential gaps and align with international best practice and appropriate standards. • Benchmark internally different OU's business ratios against standards and each other to identify inefficiencies. However, the revenue gap that was left after NERSA announced a tariff increase of 8% in February 2013 instead of the initial 16% applied for resulted in significant changes required in the Eskom business. These changes did not relieved Eskom's Group Capital Division from their key responsibilities to fulfil its mandate through asset creation (generation, transmission, distribution and land acquisition) in a cost-effective way (to ensure financial sustainability) while fulfilling Eskom's	EPMO Mandate PMO Focus

vision and values. However, Group Capital does not only include functions that develop and execute assets, but also functions that provide the capability to deliver these assets such as project management, contract management, capital efficiency, assurance and monitoring.	
The Eskom business changes have thus forced the Group Capital Division to refine their organisational structure and governance which led to the formation of the Strategic Projects Delivery Department.	
With the formation of the Strategic Projects Delivery (SPD) department came further refinement which combined the Enterprise Project Management Office and the Project Management Office under one General Manager and Senior Manager:	
The combination of the Enterprise Project Management Office (EPMO/ Centres of Excellence) and the Project Management Office (PMO) to form the Eskom Project Management Office (EPMO) under the previous PMO Senior Manager brought with it its own challenges. This is evident in the actions of some EPMO resources which do not show the willingness to let go of the responsibilities now assigned to the PMO resources. There also seems to be reluctance of EPMO resources to report and form better relationships or cohesions with PMO resources, as is evident in the current seating arrangements and preferred reporting allegiances.	Tariff Increase / Mandate
Feedback on Observation from colleagues	
Participant 1: 26 June 2017	
I am not informed regarding your scope for the studies but would have liked to see something regarding the success rate to implement the mandate of the EPMO within the business.	
Participant 2: 29 June 2017	
I think the observation is a good reflection of the EPMO/PMO. The observation stopped at 2014, will you reflect on further refinement of the EPMO itself where EPMO has created a value chain to deliver on its mandate?	Change in structure /Mandate
Participant 3: 29 June 2017	
Role clarity between the different sections in EPMO also contributed to the slow delivery of the products or services rendered by the EPMO to the business. The current EPMO delivery view model catered for the development and implementation of the project management capabilities under the care of EPMO. The model fell short of addressing the ongoing maintenance after initial development and implementation of the capabilities. Hence, the project offices where the methodology is roll out as a project rarely gets completed and the project office never gets to see total picture of how the capabilities integrate with each other.	Working relationships

The other challenge is that the project offices are not staffed in such a way that they support the roles that are defined in the PCMs, and as such this creates a problem of accountability on activities that are in PCMs. Example: DRM roles are not in the current PO structure and there is reluctance from current staff performing other roles like Project Controllers to undertake/perform the DRM roles. For other roles there seem to be an overreach in terms of duties performed. For instance, the programme manager would be performing the roles defined for Project Manager, and also the Project Coordinator would be performing some of the roles of the Project Manager.	Evolution
	Further EPMO Refinement/ Methodology Implementation
The other challenge is lack of commitment from the project offices to adopt the methodology being rolled out by EPMO. This is evidenced by the acceptance by senior management of project documentation compiled from the outdated or obsolete templates. Again, there is rarely a regular review of the project files by PO management to ensure compliance to the new methodology. Some Project Offices even accede to the fact that project files compiled using the new methodology are done when the Project Office is notified that a compliance review will be undertaken by EPMO Assurance and Compliance section.	Methodology Implementation/Role Clarity
The purpose and value for adopting the new methodology is lost as the exercise is done for the Project Office to look good in the eyes of EPMO. Even when non-compliance is picked up, no consequence management is initiated to avoid re-occurrence of the non-compliance.	Methodology Implementation
Participant 4: 30 June 2017	
The whole EPMO team as well as the C&A team is logistically in different locations, varying from all the different provinces, including Johannesburg, Bloemfontein, Cape Town, Durban and Witbank etc. In general, the C&A team meetings are a challenge as it has to coincide with other meetings in order to save on travelling cost. In the past, team meetings have been cancelled or moved due to other meetings being cancelled resulting in travel arrangements being cancelled to save cost. The WebEx functionality does not always work and has been a challenge in the past. Most of the times, team meetings are then rescheduled without taking everyone's diaries, prior commitments and availability into consideration.	Methodology Implementation/ Roles in PCMs
The EPMO staff meetings are evident of the disbursement of the EPMO individuals across the country. Overall there is approximately 90 or more people in the EPMO. The EPMO staff meeting attendance is very poor in general and this should also be brought into the study as this also has an impact. At the last staff meeting only about 20 employees attended the session. The one before the last one only about 30 people showed up. Out of 90	Methodology implementation
	Lack of Commitment

employees, this statistic is not good at all.	
However, through modern technology, sitting in different locations, should not have an impact on the team's delivery. It has been proven through research that some people are more adaptable to using technology than others.	Non-Compliance
Relating to the assessments – the challenge is that the C&A team are based in various provinces currently. About 98% of the assessments are being conducted in Gauteng. The challenge is that the C&A team will have to be in Gauteng the majority of the time in order to participate in the assessments. An assessment meeting generally starts at 9 am in the morning. This will be a challenge for the C&A team to actually be at the assessment at 9 am as they will be flying and/or driving to Johannesburg for the assessment. The majority of the time, there are 5 assessments scheduled per week. In order for the C&A team to participate, they will have to cover flight and accommodation and meal cost for the whole week.	Dispersed Resources
Due to the C&A team's commitment to other initiatives as well as the logistical challenge it is challenging for the C&A team to gain the practical experience required for the assessments. Assessments are scheduled in advance and it has happened in the past, that the C&A team members accept the invitation to an assessment, and then decline later at short notice due to flights being cancelled as other meetings have been cancelled. From a service delivery perspective, we cannot cancel an assessment at short notice due to the facilitation team not being available. A facilitation team consists of two or three members (depending on the stage gate) and if one of the facilitation team cannot attend, that poses a challenge for the assessment, especially at short notice.	EPMO Team meetings/Relationship

Staff Meetings /Relationships |
Statistically, the C&A compact performed (targets were met) the last financial year, due to the number of assessments that has been conducted. If it wasn't for the number of assessments that were conducted, the C&A would not have met their compact. Also take into consideration that the majority of the current people used as facilitators, do not report directly to the EPMO.	Internal Relationship/ Turf protection
When one looks at the number of assessments conducted and the areas where the majority of assessments are currently, we need resources with extensive Transmission and Generation experience and a project management background, to facilitate and to act as technical advisors	
Participant 5: 06 July 2017	
Attached, I only have one comment. I think you captured our development as EPMO well, I don't see anything I don't agree with.	
Only recommendation from me is to do an introduction	Internal Relationship /Turf

comment on what you are going to describe, so basically indicate that the EPMO has evolved since 2011 and you will describe your observations based on these different evolutionary structures and services??	Protection
Participant 6: 06 July 2017	
I am in support of your observations made. If you require any other additional info regarding implementation of EPMO in Eskom you welcome to let me know I have tons of info that could help/or not.	
Participant 7: 06 July 2017	
On Reacher's second observation:	
Very true, it was a mistake to assign critical issues to the External resources. I had a personal experience where	
- An external Project Manager and his external Scheduler had booked a group of 30 OU personnel for a course in a venue that was 200km away	
- I had a war of words with an external PM who wanted to book OU PC's for back to back courses lasting 7 days. I tried to reason that PC cannot be away for that long but it fell on deaf ears. Courses were booked and the attendances (as expected was extremely poor)	
In short, the EPMO should have not given such a critical activity to the external Consultants. Handover from external Consultants to the EPMO personnel could have been handled better	
Comment on researcher's third observation:	
The role that was given to the Business Relationship Managers was not respected. The observation is still relevant NOW, activities are still uncoordinated. Teamwork needs to improve significantly	Implementation date
Comment of researcher's fifth observation".	
Observation still holds true in the current environment. The end Customer deliverables (Shareholder compact KPI) are not taken into consideration. Every time, the EPMO works on new developments without considering if these will assist the end Customer. In short, there is no association between the Customer's needs and the EPMO's products and services.	
Further Comments from Participant 7 06 July 2017	
The EPMO cannot satisfy the requirements of its Eskom-wide Customers. The EPMO resources have to be matched with the needs of the end Customers. Alternatively, the limited resources can be productive if there is FOCUS. A good example will be the Reference Site Project and the request by NWOU for the EPMO resources to work on real project while applying the PM Methodology.	Internal Relationship
A focused approach would have seen the above projects being prioritised and the EPMO allocating / deploying its best resources to the above Programmes. Headway has not been made on the above projects and the opportunity	

to prove the methodology was lost. Other issues are the following - Never ending development - Prioritising and developing the products that are not the priority of the end Customer - Not involving the Customers in the development. Most of the developed templates are developed within the EPMO, problems are encountered when these have to be rolled out to the Customers. Customers do not own these leading to a reduced adoption	Internal Relationships Internal Relationships
Participant 8: 06 July 2017 Your observations concur with what I believe to be the case. The study documents a journey of events over time and makes certain observations. I however don't see the objective of the study in the introduction or the findings/conclusions at the end. Some of these will no doubt be controversial, e.g. accommodating 2 x E band managers to fulfil almost the same function (EPMO/PMO) because they were already in these positions, and the issues that caused.	Customer Relationship Customer Relationships
Participnat 9: 06 July 2017 The grey matter was really tested through this narrative – I think it capsulate the progression of the EPMO/PMO very well.	
Participant 10: 07 July 2017 Observation 1 PMO project managers-contracted resources. There was a disjoint between the PMO resources allocated implement and the project managers. The main issue being be authority that was vested to the contracted resources was more than that of permanent resources. There was also Misalignment of the KPI between the Project Manager and the implementation team both teams working on the same project but not being measured on the same milestones The contracted resources also did not understand the Eskom business and now the different divisions operate the had a one-size-fits-all approached/plan which caused major problems for the implementation team when trying to implement DRM implementation The biggest portion of the implementation of the project offices was to that DRM is implemented in fact the only section within PMO that had sufficient resources to implement was DRM. As per the schedule however the structure proposed by PMO to the OU did not cater for DRM. This cause a strain as this becomes a role of an already existing resource e.g. Project controller who over	Customer Relationships Development of methodology Internal Relationships

and above her own duties must ensure that DRM is aligned and this was almost impossible to implement	
Participant 11: 07 July 2017	
Comment 1: Hope this input give some perspective, which management did not consider exhaustively,	
Comment2: Heavy reliance on consultants and not utilising EPMO resources to full capacity.	
Comment 3: Management did not fully define and support the initiative. (Benchmarking)???	
Comment 4: EPMO lack clear approach to embed and deploy resources to all sites. The whole approach created inefficiencies and lack of appreciation for projects	Internal Relationships
Participant 12: 07 July 2017	
Participant 12 did not comment on the observation but included the following comment under the DRM (Documents and Records Management) Implementation program of the Service Level Agreement.	Internal Relationships
• EPMO Resource PO Set up deliverables;	Customer Relationship
o Requirement definition	
o Project Charter and Time Frame	
o PO Taxonomy	
o Data migration guideline	
o Handover and close-out	
• The PO was expected to identify a resource that was to fulfil the role of Documentation Officer and to whom the skills were to be transferred to. This has however brought challenges to the POs as there are always resources constraints and they expected EPMO to provide the resource to do the actual work.	Customer Relationships
• The Data migration includes amongst others the data residing in legacy system and those personal laptops.	
• The naming convention was to comply with Eskom documentation management Policy and Procedure, and other best practices.	Customer Relationships

Appendix E: Survey Monkey report

Q1 Gender

Answered: 59   Skipped: 0
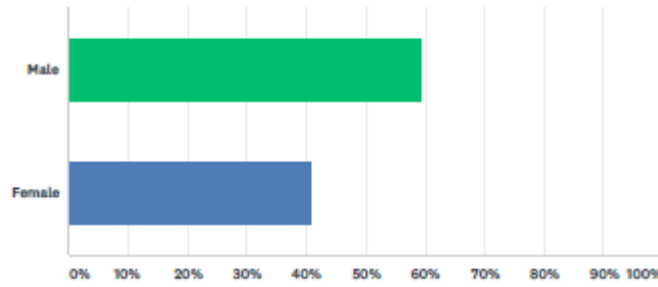
ANSWER CHOICES	RESPONSES	
Male	59.32%	35
Female	40.68%	24
TOTAL		59

Q2 Race

Answered: 59   Skipped: 0
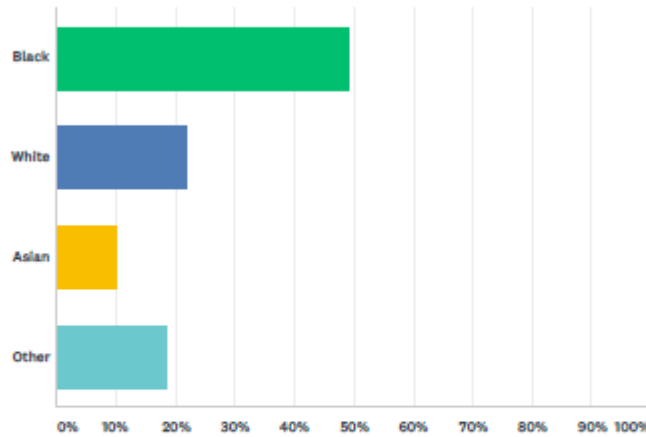
ANSWER CHOICES	RESPONSES	
Black	49.15%	29
White	22.03%	13
Asian	10.17%	6
Other	18.64%	11
TOTAL		59
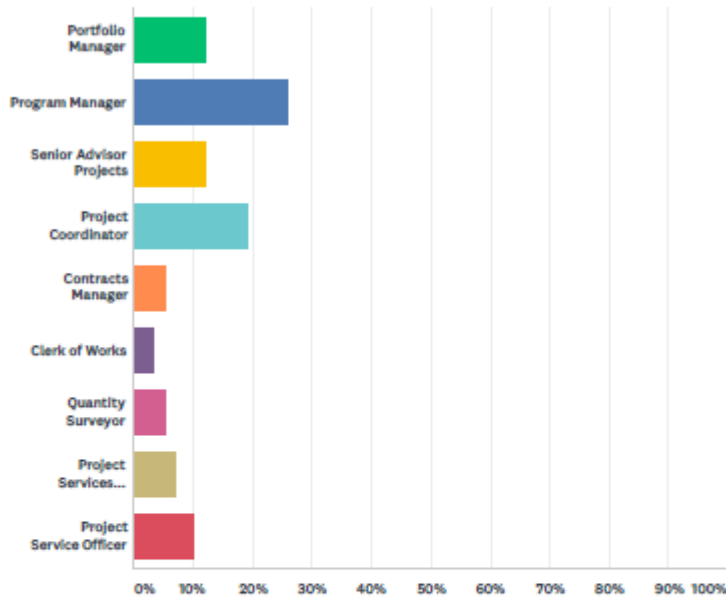
167

Q3 Position in organisation

Answered: 58   Skipped: 1

ANSWER CHOICES	RESPONSES	
Portfolio Manager	12.07%	7
Program Manager	25.86%	15
Senior Advisor Projects	12.07%	7
Project Coordinator	18.97%	11
Contracts Manager	5.17%	3
Clerk of Works	3.45%	2
Quantity Surveyor	5.17%	3
Project Services Manager	6.90%	4
Project Service Officer	10.34%	6
TOTAL		58

Q4 Operating Unit where you are located
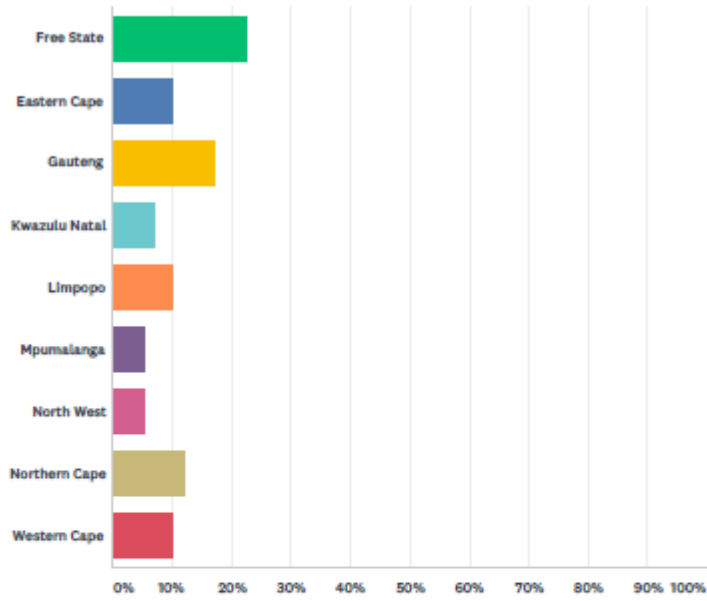
ANSWER CHOICES	RESPONSES	
Free State	22.41%	13
Eastern Cape	10.34%	6
Gauteng	17.24%	10
Kwazulu Natal	6.90%	4
Limpopo	10.34%	6
Mpumalanga	5.17%	3
North West	5.17%	3
Northern Cape	12.07%	7
Western Cape	10.34%	6
TOTAL		58

Q5 Age
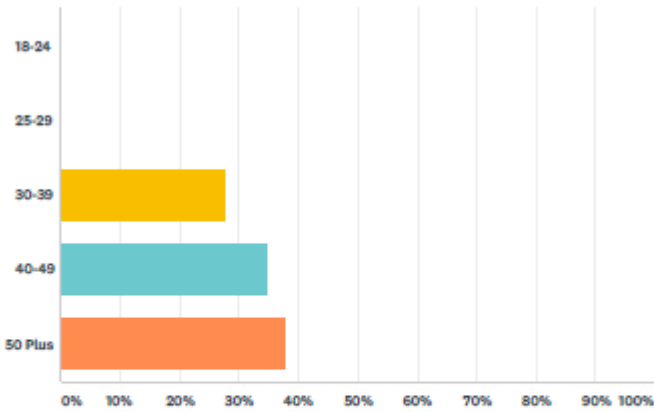
ANSWER CHOICES	RESPONSES	
18-24	0.00%	0
25-29	0.00%	0
30-39	27.59%	16
40-49	34.48%	20
50 Plus	37.93%	22
TOTAL		58

Q6 . Years' experience in the Eskom Project Management Environment
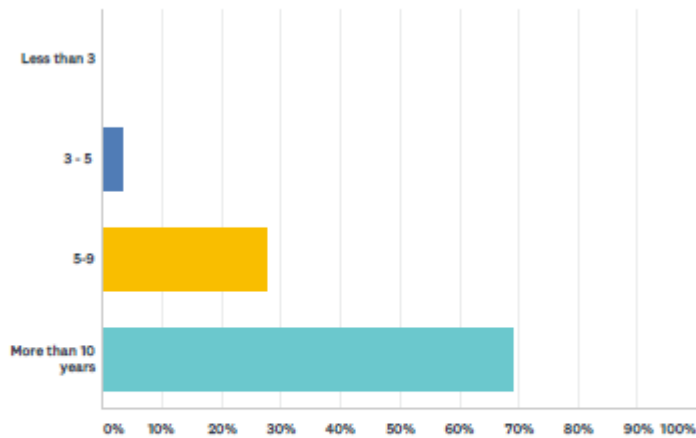
Answered: 58   Skipped: 1

ANSWER CHOICES	RESPONSES	
Less than 3	0.00%	0
3 - 5	3.45%	2
5-9	27.59%	16
More than 10 years	68.97%	40
TOTAL		58

170

Q7 Highest Qualification

Answered: 59   Skipped: 0
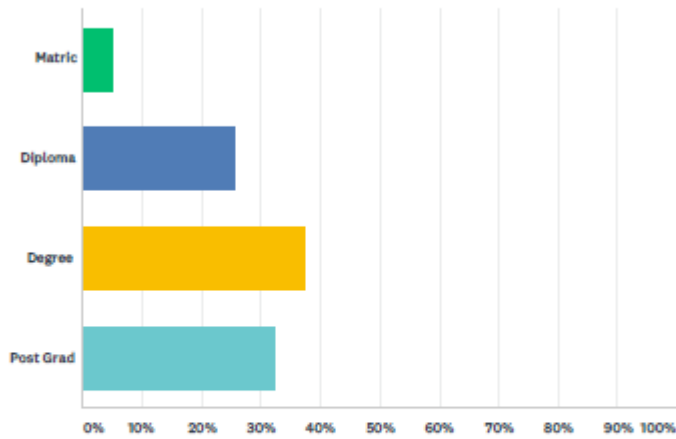
ANSWER CHOICES	RESPONSES	
Matric	5.08%	3
Diploma	25.42%	15
Degree	37.29%	22
Post Grad	32.20%	19
TOTAL		59

Q8 E- mail address, if feedback is required

Answered: 46   Skipped: 13
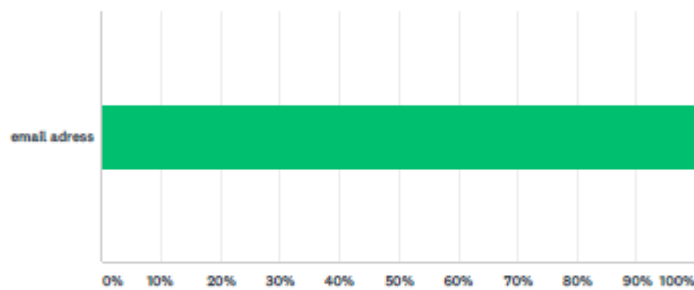
ANSWER CHOICES	RESPONSES	
email adress	100.00%	46
TOTAL		46

Q9 I am aware of the Back to Basics program that Eskom has introduced

Answered: 57   Skipped: 2
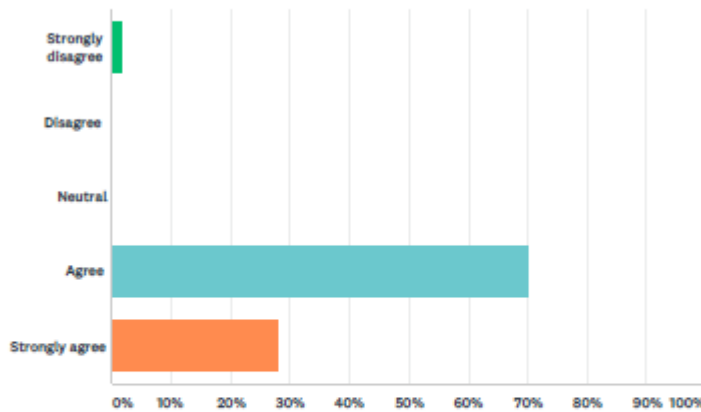
ANSWER CHOICES	RESPONSES	
Strongly disagree	1.75%	1
Disagree	0.00%	0
Neutral	0.00%	0
Agree	70.18%	40
Strongly agree	28.07%	16
TOTAL		57

Q10 Back to Basics called for a standardised approach to the Management of projects in Eskom

Answered: 57   Skipped: 2
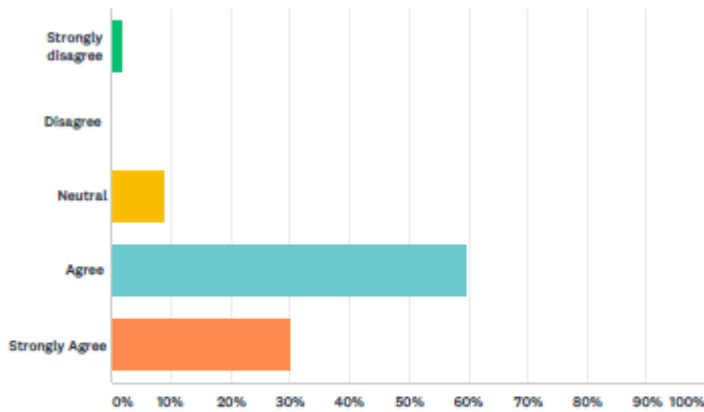
ANSWER CHOICES	RESPONSES	
Strongly disagree	1.75%	1
Disagree	0.00%	0
Neutral	8.77%	5
Agree	59.65%	34
Strongly Agree	29.82%	17
TOTAL		57

Q11 I understand what the Eskom High Performance Utility Model (EHPUM) is all about?

Answered: 56   Skipped: 3
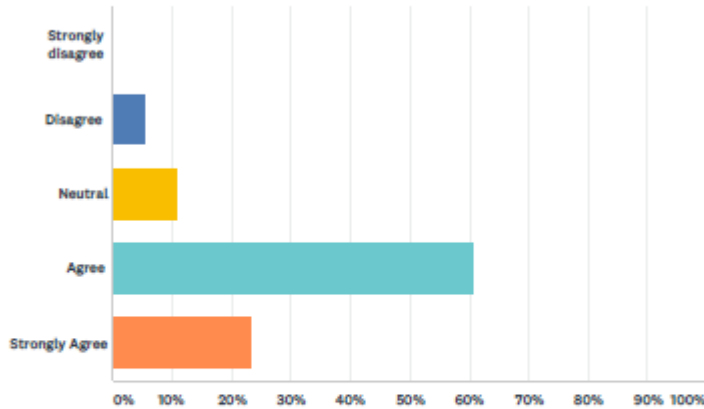
ANSWER CHOICES	RESPONSES	
Strongly disagree	0.00%	0
Disagree	5.36%	3
Neutral	10.71%	6
Agree	60.71%	34
Strongly Agree	23.21%	13
TOTAL		56

Q12 I am aware of the existence of the Eskom Project Management Office (EPMO)

Answered: 57   Skipped: 2
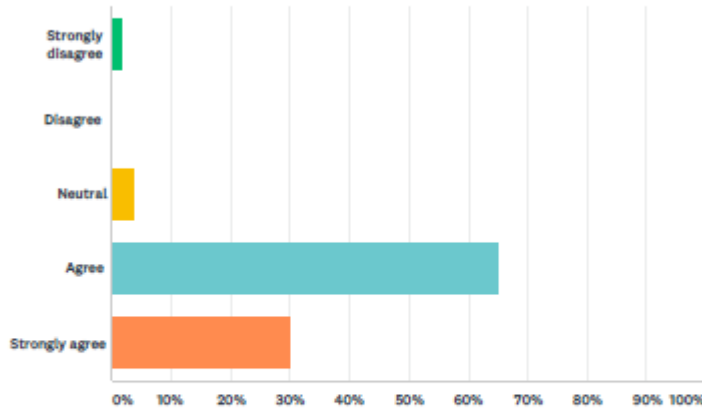
ANSWER CHOICES	RESPONSES	
Strongly disagree	1.75%	1
Disagree	0.00%	0
Neutral	3.51%	2
Agree	64.91%	37
Strongly agree	29.82%	17
TOTAL		57

173

Q13 The Eskom Project Management Office was established as part of Back to Basics program.

Answered: 57   Skipped: 2
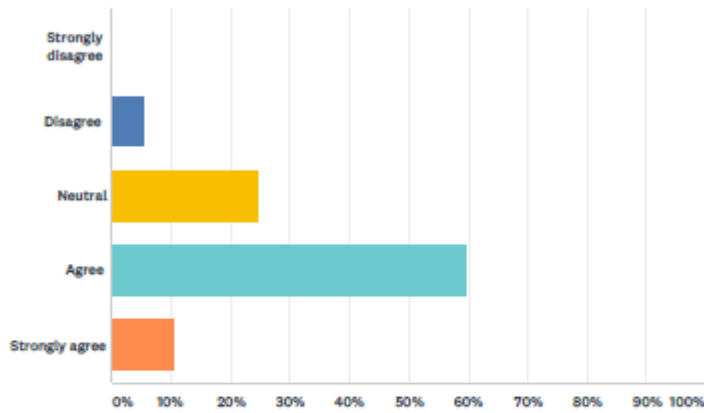
ANSWER CHOICES	RESPONSES	
Strongly disagree	0.00%	0
Disagree	5.26%	3
Neutral	24.56%	14
Agree	59.65%	34
Strongly agree	10.53%	6
TOTAL		57

Q14 The process control manuals (PCMs) was introduced to standardise the project management processes in Eskom

Answered: 57   Skipped: 2
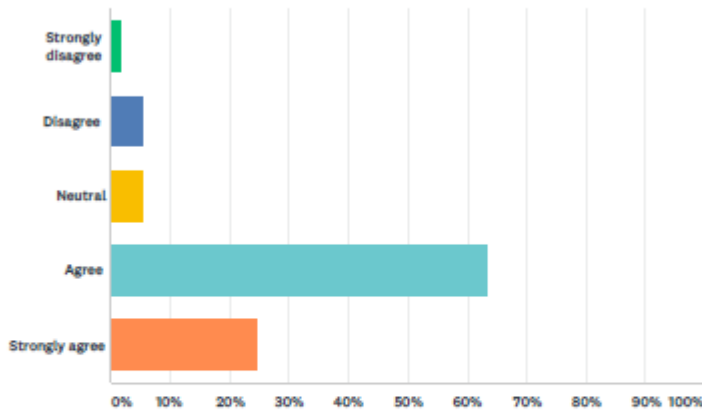
ANSWER CHOICES	RESPONSES	
Strongly disagree	1.75%	1
Disagree	5.26%	3
Neutral	5.26%	3
Agree	63.16%	36
Strongly agree	24.56%	14
TOTAL		57

174

Q15 The process control manuals (PCMs) is only applicable to the Mega projects like Medupi and Kusile in Eskom

Answered: 57 Skipped: 2
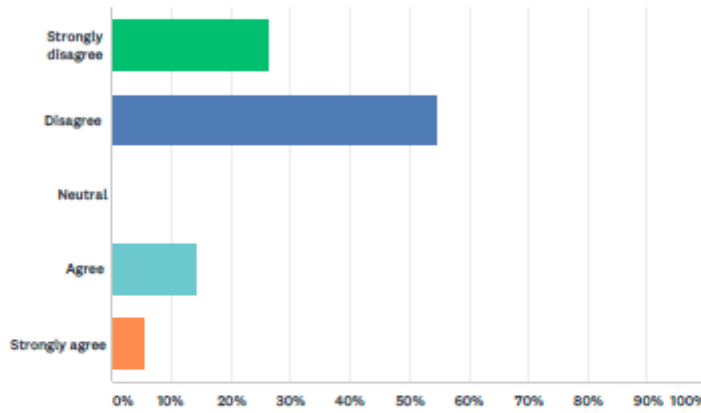
ANSWER CHOICES	RESPONSES	
Strongly disagree	26.32%	15
Disagree	54.39%	31
Neutral	0.00%	0
Agree	14.04%	8
Strongly agree	5.26%	3
TOTAL		57

Q16 I have been trained on the Project Management Process Control Manuals

Answered: 55 Skipped: 4
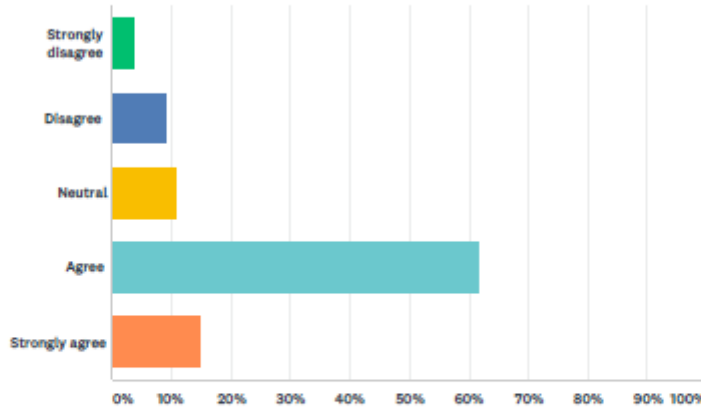
ANSWER CHOICES	RESPONSES	
Strongly disagree	3.64%	2
Disagree	9.09%	5
Neutral	10.91%	6
Agree	61.82%	34
Strongly agree	14.55%	8
TOTAL		55

Q17 We have implemented all of the project management PCMs in our Operating Unit

Answered: 56   Skipped: 3
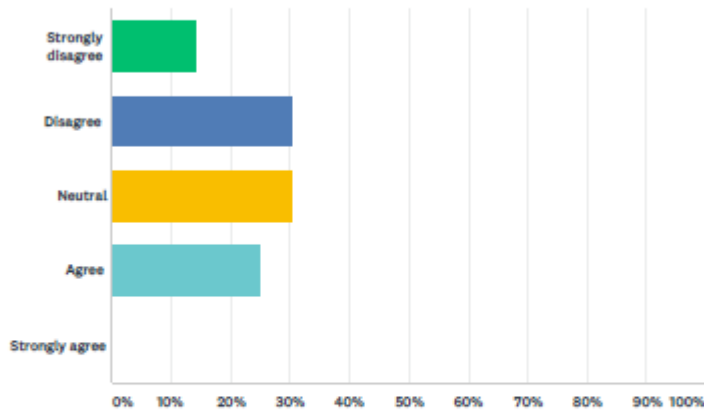
ANSWER CHOICES	RESPONSES	
Strongly disagree	14.29%	8
Disagree	30.36%	17
Neutral	30.36%	17
Agree	25.00%	14
Strongly agree	0.00%	0
TOTAL		56

Q18 We have implemented some of the project management PCMs in our Operating Unit

Answered: 57   Skipped: 2
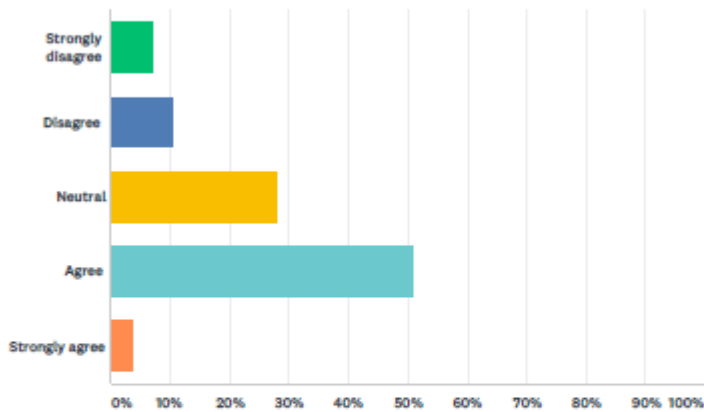
ANSWER CHOICES	RESPONSES	
Strongly disagree	7.02%	4
Disagree	10.53%	6
Neutral	28.07%	16
Agree	50.88%	29
Strongly agree	3.51%	2
TOTAL		57

## Q19 I am aware of what services are provided by the Eskom Project Management Office (EPMO)

Answered: 56   Skipped: 3
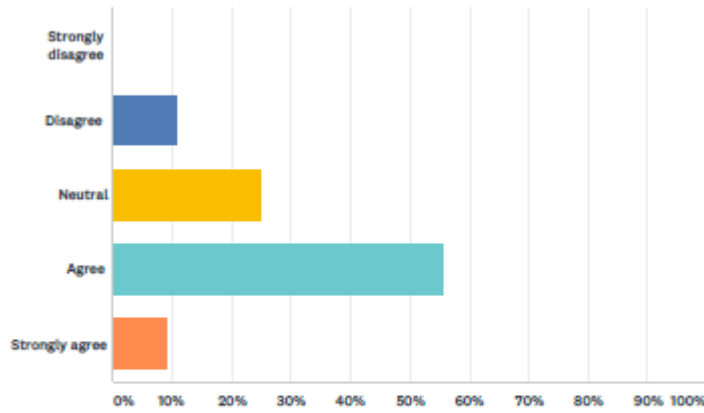
ANSWER CHOICES	RESPONSES	
Strongly disagree	0.00%	0
Disagree	10.71%	6
Neutral	25.00%	14
Agree	55.36%	31
Strongly agree	8.93%	5
TOTAL		56

Q20 The Eskom Project Management Office is needed to advise and implement best practices in project management in Eskom.

Answered: 57   Skipped: 2
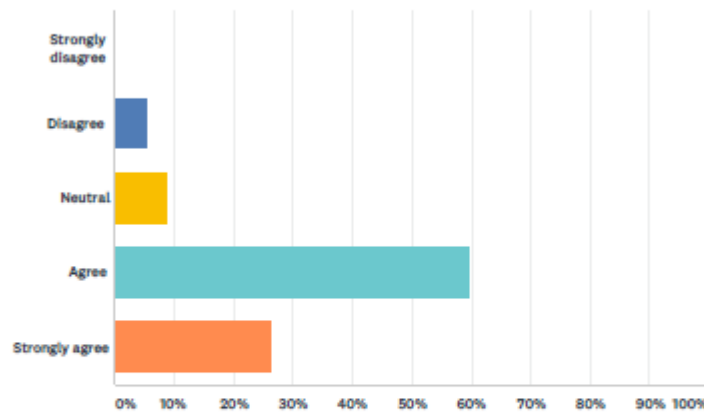
ANSWER CHOICES	RESPONSES	
Strongly disagree	0.00%	0
Disagree	5.26%	3
Neutral	8.77%	5
Agree	59.65%	34
Strongly agree	26.32%	15
TOTAL		57

177

Q21 The EPMO is the custodian and implementers of Project Management Best Practices in Eskom

Answered: 57   Skipped: 2
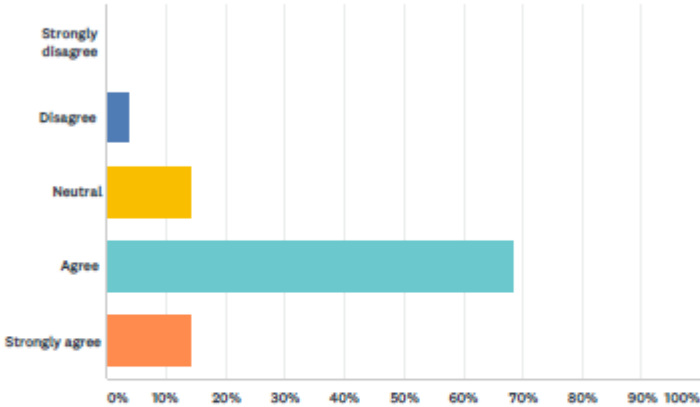
ANSWER CHOICES	RESPONSES	
Strongly disagree	0.00%	0
Disagree	3.51%	2
Neutral	14.04%	8
Agree	68.42%	39
Strongly agree	14.04%	8
TOTAL		57

Q22 I am aware of how the EHPUM and the PCMS can improve my day to day work

Answered: 57   Skipped: 2
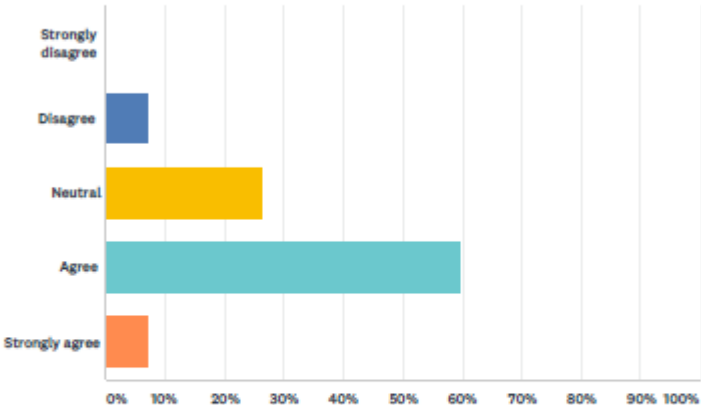
ANSWER CHOICES	RESPONSES	
Strongly disagree	0.00%	0
Disagree	7.02%	4
Neutral	26.32%	15
Agree	59.65%	34
Strongly agree	7.02%	4
TOTAL		57

178

Q23 The EPMO has introduced the Construction Industry Institute (PDRA and PKHI) tools sets into our OU

Answered: 57   Skipped: 2
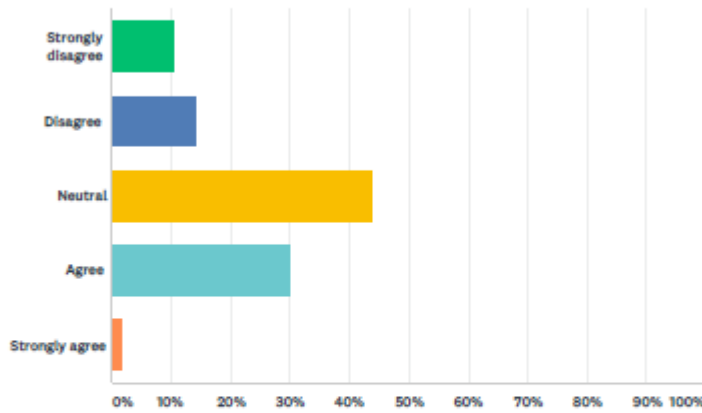
ANSWER CHOICES	RESPONSES	
Strongly disagree	10.53%	6
Disagree	14.04%	8
Neutral	43.86%	25
Agree	29.82%	17
Strongly agree	1.75%	1
TOTAL		57

Q24 My Manager encourages our Project Office to implement and utilise the Project Management PCMs recommended by the EPMO

Answered: 56   Skipped: 3
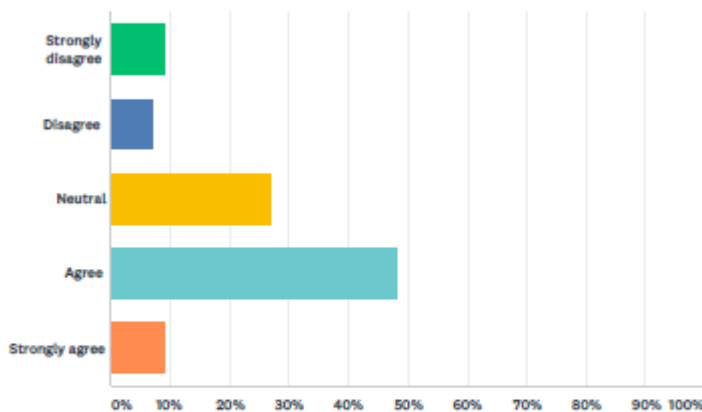
ANSWER CHOICES	RESPONSES	
Strongly disagree	8.93%	5
Disagree	7.14%	4
Neutral	26.79%	15
Agree	48.21%	27
Strongly agree	8.93%	5
TOTAL		56

179

Q25 My Manager has discussed the role of the EPMO with us

Answered: 56   Skipped: 3
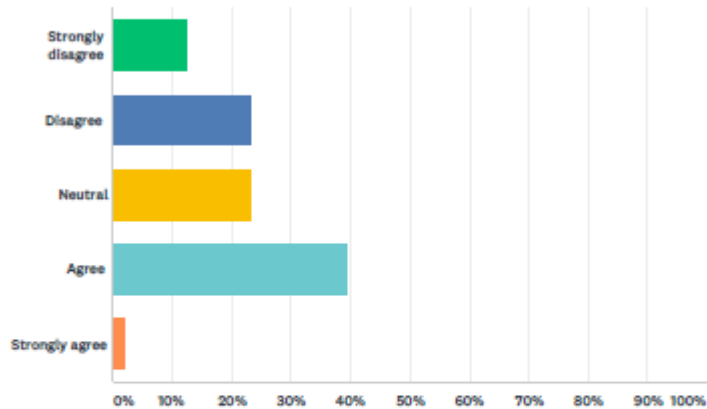
ANSWER CHOICES	RESPONSES	
Strongly disagree	12.50%	7
Disagree	23.21%	13
Neutral	23.21%	13
Agree	39.29%	22
Strongly agree	1.79%	1
TOTAL		56

# Q26 The EPMO resources have introduced themselves into our Project Office

Answered: 55   Skipped: 4
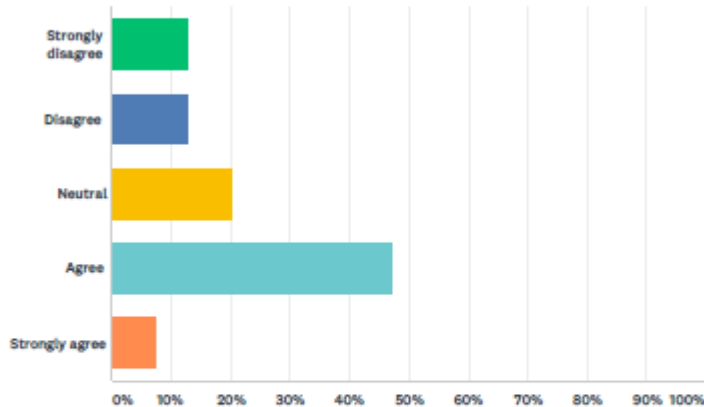
ANSWER CHOICES	RESPONSES	
Strongly disagree	12.73%	7
Disagree	12.73%	7
Neutral	20.00%	11
Agree	47.27%	26
Strongly agree	7.27%	4
TOTAL		55

180

Q27 In my mind there is no need for an EPMO in the Eskom Project Management community

Answered: 55   Skipped: 4
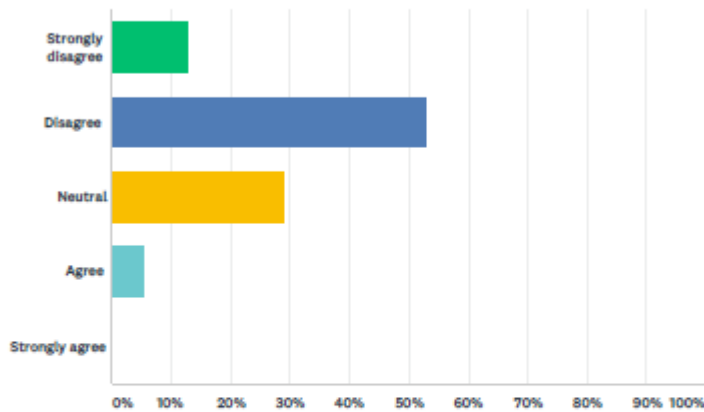
ANSWER CHOICES	RESPONSES	
Strongly disagree	12.73%	7
Disagree	52.73%	29
Neutral	29.09%	16
Agree	5.45%	3
Strongly agree	0.00%	0
TOTAL		55

Q28 The EPMO has no authority that is why there is little or no implementation of PCMs

Answered: 57   Skipped: 2
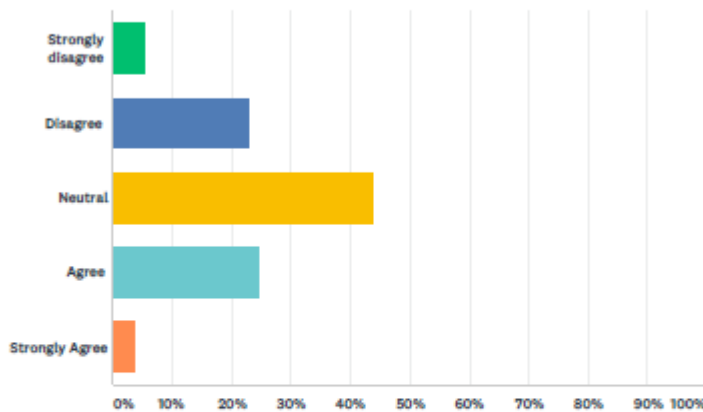
ANSWER CHOICES	RESPONSES	
Strongly disagree	5.26%	3
Disagree	22.81%	13
Neutral	43.86%	25
Agree	24.56%	14
Strongly Agree	3.51%	2
TOTAL		57

181

Q29 The EPMO has the necessary experienced resources to advise the project office on project management bets practices.

Answered: 56   Skipped: 3
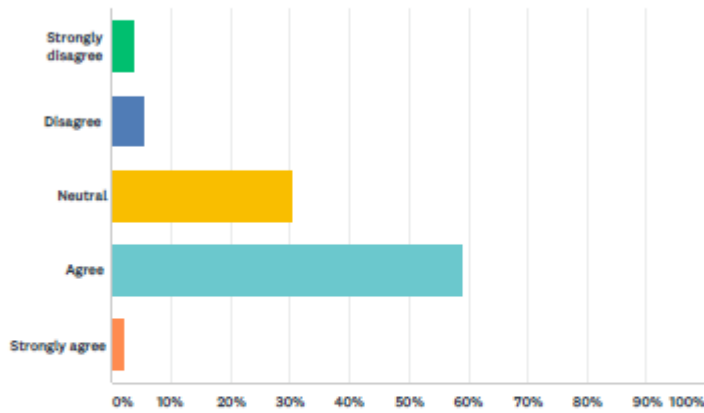
ANSWER CHOICES	RESPONSES	
Strongly disagree	3.57%	2
Disagree	5.36%	3
Neutral	30.36%	17
Agree	58.93%	33
Strongly agree	1.79%	1
TOTAL		56

Q30 The relationship between the EPMO and Project Offices in the Distribution Business is healthy

Answered: 55   Skipped: 4
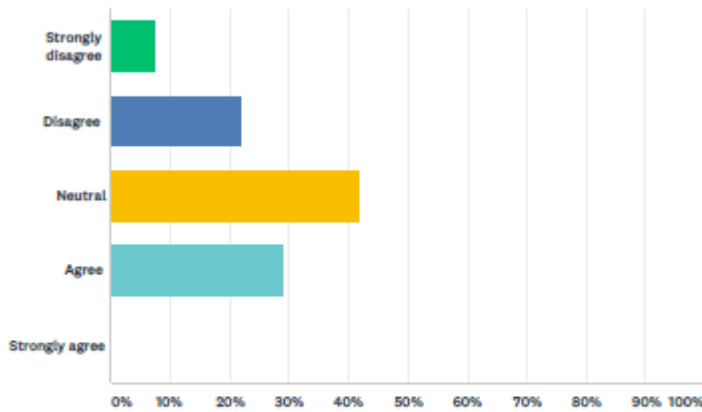
ANSWER CHOICES	RESPONSES	
Strongly disagree	7.27%	4
Disagree	21.82%	12
Neutral	41.82%	23
Agree	29.09%	16
Strongly agree	0.00%	0
TOTAL		55

182

Q31 It is believed that the EPMO serves the interests of the various Project Offices

Answered: 56   Skipped: 3
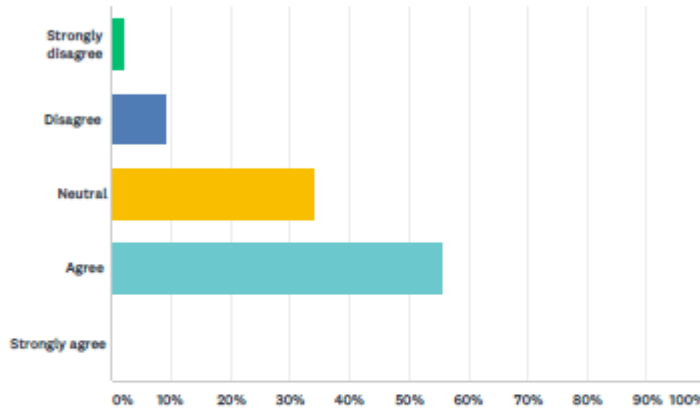
ANSWER CHOICES	RESPONSES	
Strongly disagree	1.79%	1
Disagree	8.93%	5
Neutral	33.93%	19
Agree	55.36%	31
Strongly agree	0.00%	0
TOTAL		56

Q32 There will be greater cooperation if the EPMO can play the role of monitoring and reporting on portfolio performance

Answered: 56   Skipped: 3
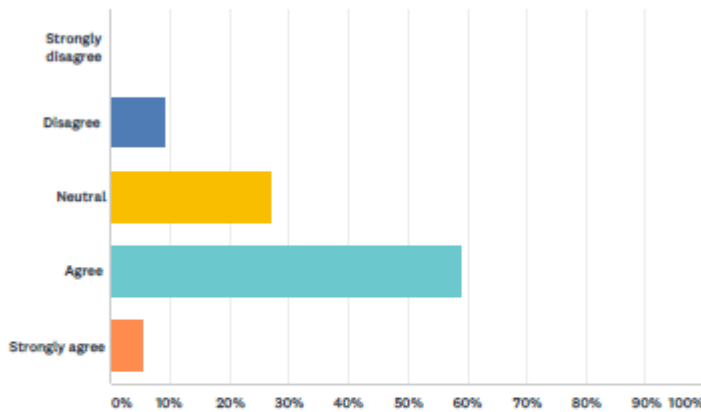
ANSWER CHOICES	RESPONSES	
Strongly disagree	0.00%	0
Disagree	8.93%	5
Neutral	26.79%	15
Agree	58.93%	33
Strongly agree	5.36%	3
TOTAL		56

183

Q33 We have received proper communication on the implementation of the EPMO

Answered: 57   Skipped: 2
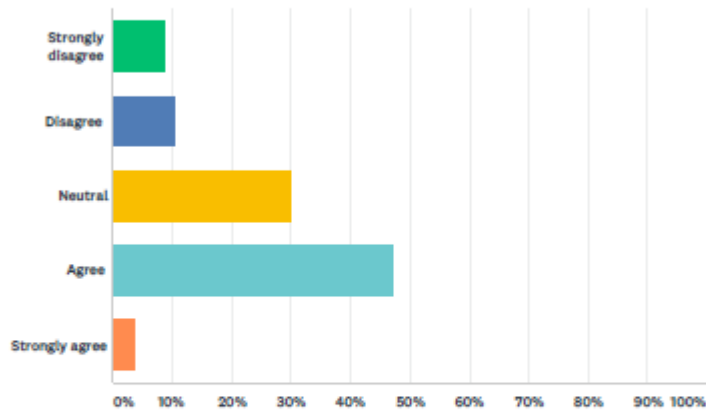
ANSWER CHOICES	RESPONSES	
Strongly disagree	8.77%	5
Disagree	10.53%	6
Neutral	29.82%	17
Agree	47.37%	27
Strongly agree	3.51%	2
TOTAL		57

Q34 The EPMO has been implemented to service only the new build projects in Eskom like Medupi and Kusile

Answered: 56   Skipped: 3
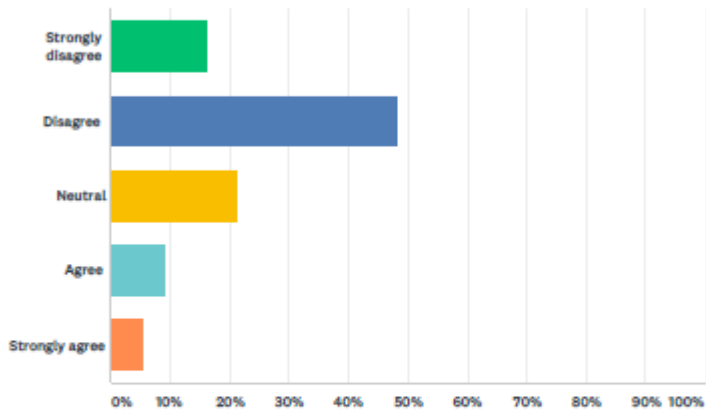
ANSWER CHOICES	RESPONSES	
Strongly disagree	16.07%	9
Disagree	48.21%	27
Neutral	21.43%	12
Agree	8.93%	5
Strongly agree	5.36%	3
TOTAL		56

184

Q35 Given the opportunity I would like to work for the EPMO

Answered: 57   Skipped: 2
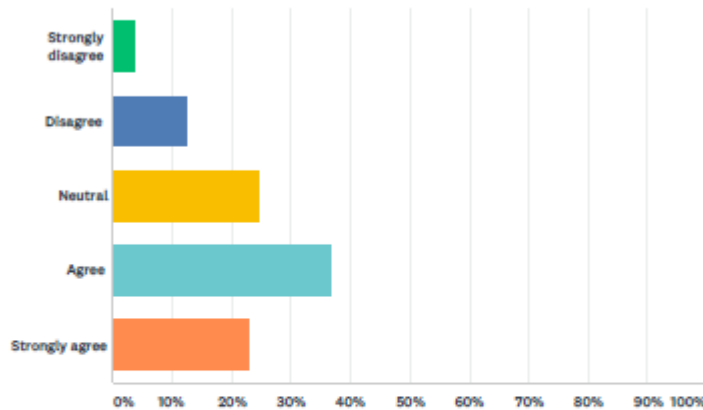
ANSWER CHOICES	RESPONSES	
Strongly disagree	3.51%	2
Disagree	12.28%	7
Neutral	24.56%	14
Agree	36.84%	21
Strongly agree	22.81%	13
TOTAL		57

Q36 Greater cooperation between the EPMO and our Project Office will assist us to perform better in project management

Answered: 57   Skipped: 2
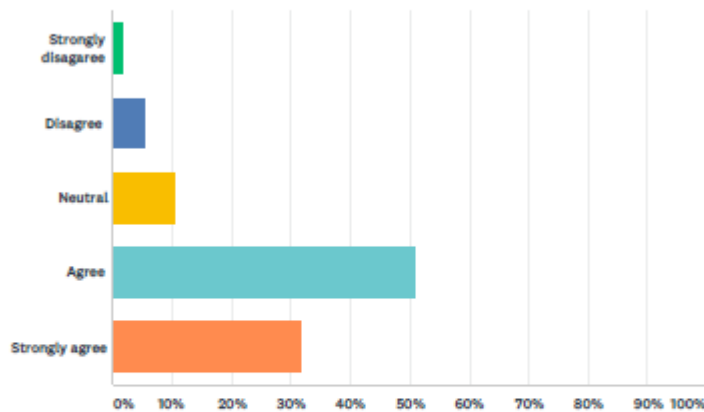
ANSWER CHOICES	RESPONSES	
Strongly disagaree	1.75%	1
Disagree	5.26%	3
Neutral	10.53%	6
Agree	50.88%	29
Strongly agree	31.58%	18
TOTAL		57

185

Q37 Greater cooperation between the EPMO and the Operating Units will ensure that we become a more mature project organisation

Answered: 57   Skipped: 2
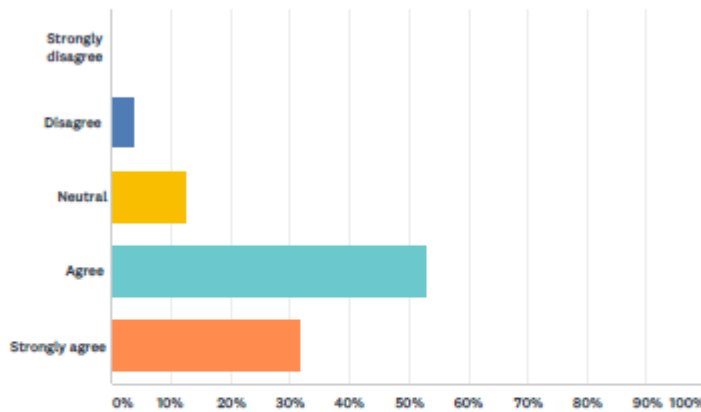
ANSWER CHOICES	RESPONSES	
Strongly disagree	0.00%	0
Disagree	3.51%	2
Neutral	12.28%	7
Agree	52.63%	30
Strongly agree	31.58%	18
TOTAL		57

Q38 We have received little or no communication on how the project management PCMs will assist us in our everyday work environment.

Answered: 56   Skipped: 3
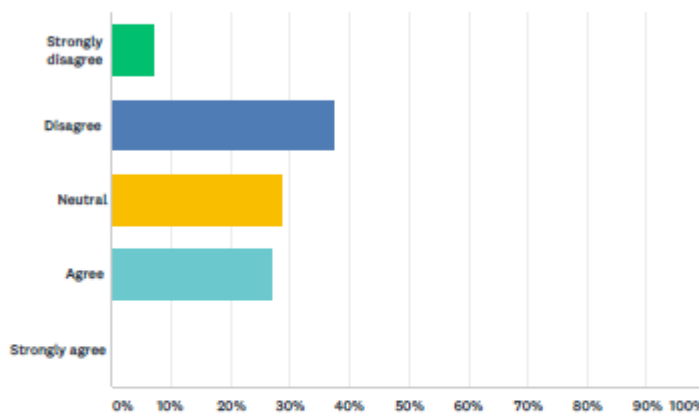
ANSWER CHOICES	RESPONSES	
Strongly disagree	7.14%	4
Disagree	37.50%	21
Neutral	28.57%	16
Agree	26.79%	15
Strongly agree	0.00%	0
TOTAL		56

186

Q39 There is enough participation and consultations from the Project Offices before the EPMO implements new methodologies

Answered: 57   Skipped: 2
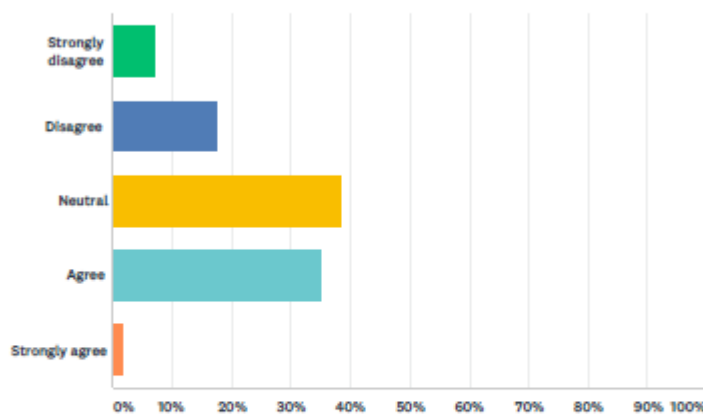
ANSWER CHOICES	RESPONSES	
Strongly disagree	7.02%	4
Disagree	17.54%	10
Neutral	38.60%	22
Agree	35.09%	20
Strongly agree	1.75%	1
TOTAL		57

Q40 The interests of the various POs are taken into account in arriving at key decisions

Answered: 56   Skipped: 3
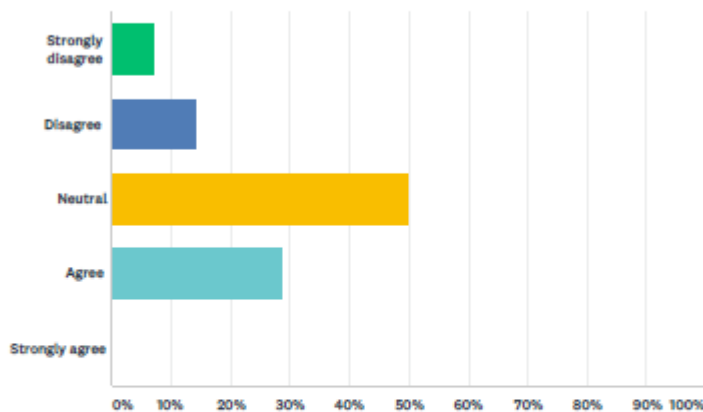
ANSWER CHOICES	RESPONSES	
Strongly disagree	7.14%	4
Disagree	14.29%	8
Neutral	50.00%	28
Agree	28.57%	16
Strongly agree	0.00%	0
TOTAL		56

187

Appendix F: Interviews with Senior Managers Asset Creation Distribution

1.   Literature suggests the Project Management Office, if implemented effectively can improve project performance up to 60%. Have you ever been informed on what the mandate of the Eskom Project Management Office (EPMO) is?

AC Man 1: **Yes,** to provide guidance in terms of project management-related issues to our company and support Eskom's mega projects.

AC Man 2: **Yes,** the mandate was shared at a number of engagements I had with the EPMO.

AC Man3: **Yes,** I have

AC Man4: **YES.**

AC Man5: **Yes.**

AC Man 6: **Yes** we have, the weekly posts that are done by EPMO are also very helpful in understanding the mandate plus keeping one in tune of the latest with regard to Portfolio, Programme and Project Management.

Yes coded = 1
No coded = 2

	Yes	No
AC Manager 1	1	
AC Manager 2	1	
AC Manager 3	1	
AC Manager 4	1	
AC Manager 5	1	
AC Manager 6	1	
	100.00%	
	Yes	No
AC Manager 1	1	
AC Manager 2	1	
AC Manager 3	1	
AC Manager 4	1	

AC Manager 5	1	
AC Manager 6	1	
	100.00%	
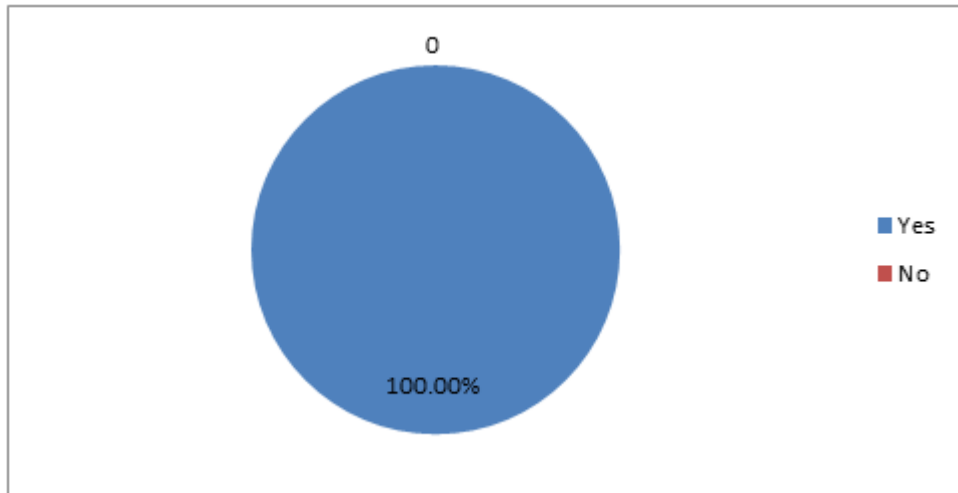
2.　Was the implementation of the Eskom Project Management Office, officially communicated with you at the Asset Creation Manager's Forum or any other forum?

AC Man1: I have recently been appointed and would not know if it was formally communicated to the ACM but it was communicated to the business as a whole. **Yes**

AC Man2: I cannot recall. The EPMO sends regular communications, and it can create the impression that implementation communication is effective. **No**

AC Man3: **Yes,** it was

AC Man4: **YES,** at OU level.

AC Man5: **Yes**

AC Man 6: Well, not that I know of but there has been a lot of communication on emails regarding Eskom EPMO. **No**

Yes, coded as = 1
No coded as = 2

	Yes	No
AC Manager 1	1	
AC Manager 2		2
AC Manager 3	1	
AC Manager 4	1	
AC Manager 5	1	
AC Manager 6		2
	66.67%	33.33%
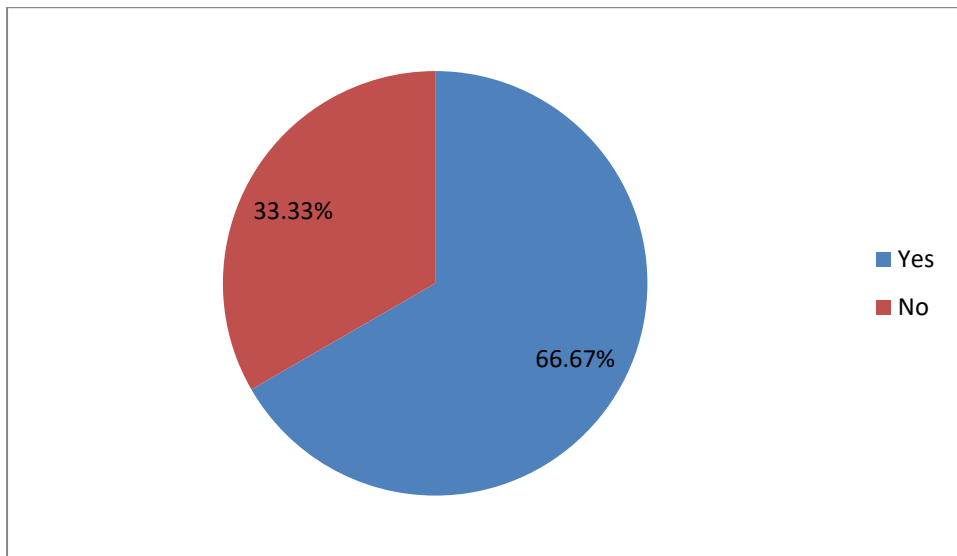
3.   Many of the colleagues are of the opinion that the EPMO was created to support the Mega Projects like Medupi and Kusile. Do you agree or disagree? Please give a short motivation for your answer.

AC Man1: Yes, because that is what was communicated, that for the most part the focus would be on those projects. **Agree**

AC Man2: No my understanding is that EPMO is the COE for Project Management in Eskom. The effectiveness in Dx wrt this support is however limited. **Disagree**

AC Man3: In fact, initially it was and most of the resources concentrated on the major projects to the detriment of DX. The resources that were transferred from DX to the EPMO did not allocate their time to the operating units and it was difficult to get them to support DX. **Agree**

AC Man4: At first yes, I thought so until the scope was defined. And there was contact with the office. **Agree**

AC Man5: **Agree.** The focus seems to have been mainly on the group capital projects in terms of support.

AC Man 6:   **Agree.**
Most of the EPMO processes never looked at the standard and repeatable projects, thus expectations have been that all projects are the same and volumes don't matter.

| Agree coded as = 1 |
| Disagree coded as = 2 |

	Agree	Disagree
AC Manager 1	1	
AC Manager 2		2
AC Manager 3	1	
AC Manager 4	1	
AC Manager 5	1	
AC Manager 6	1	
	83.33%	16.67%
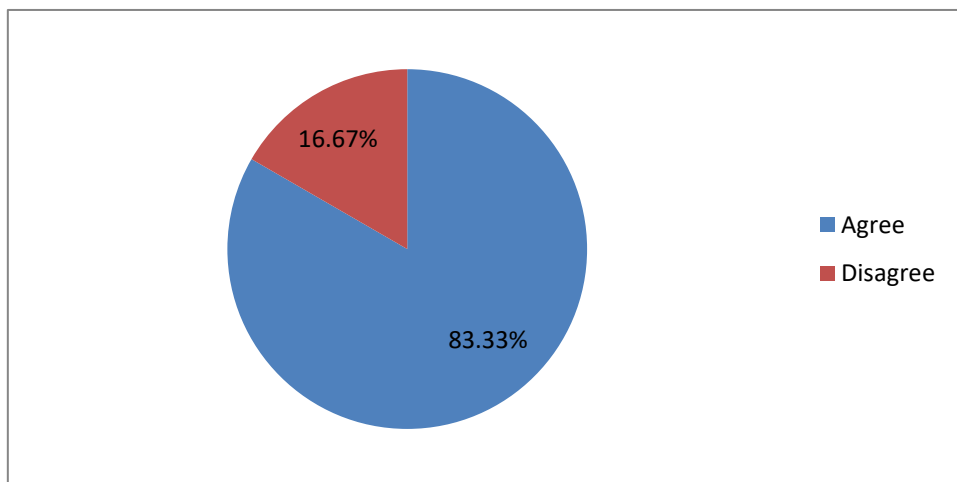
4.   The Project Management Process Control Manuals (PCMs) have been developed to facilitate a standard approach to the management of projects across Eskom. Are you aware of the implementation of any of the Project Management PCMs in your Operating Unit or in Distribution?

AC Man 1: **Yes.**

AC Man 2: I am aware, but I cannot with confidence say that the local teams have been trained and/or complies with the PCM. The old Dx AC Value Chains are embedded and change management is a challenge. Project delivery takes priority and training is playing second fiddle. **Yes**

AC Man3: **Yes,** I am. These PCMs did not take into account DX type of work where there are many projects and did not take the administration of the thousands of projects. In fact the PCMs are directed at major projects rather than the standard and repeatable projects

AC Man4: **Yes,** a number of them have been shared and implemented in the OU.

AC Man5: **Yes** I am aware.

AC Man 6: a. **Yes,**
b.   Our OU has gone and tested the implementation of Planning and scheduling PCM as well as Project Management PCMs. This has not been an easy journey as when we started the implementation; further developments were done by EPMO on the same PCMs and changing of templates, without involving Dx and lack of communication of developments.
c.   Also the support from EPMO is non-existent in guiding the team on how to comply as well as support in terms of volumes of work to be done for standard and repeatable projects.

Yes, coded as = 1		
No coded as = 2		
	Yes	No
AC Manager 1	1	
AC Manager 2	1	
AC Manager 3	1	
AC Manager 4	1	
AC Manager 5	1	
AC Manager 6	1	
	100.00%	
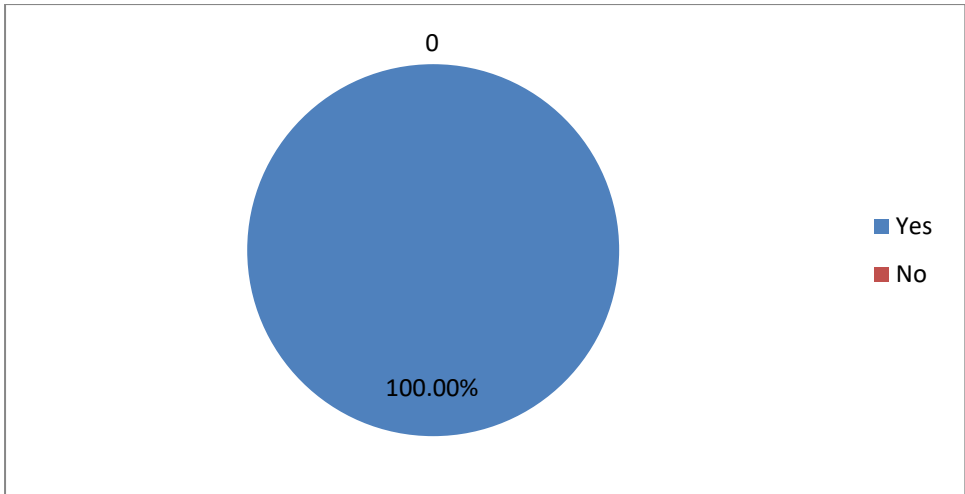
5.   Do you encourage your teams to implement the project management PCMs in their Project Offices?

AC Man1: **Yes.**

AC Man2: **Yes,** I have included it in the 2017/18 Performance Compacts.

AC Man3: **Yes,** we do, but it is an uphill battle due to these PCMs focus on major rather than standard projects

AC Man4: **Yes,** there's was effort to have them rolled out even the ones requiring integration with the support services.

AC Man5: **Yes** I do, as far as practicable.

AC Man 6: **Yes.** This is also driven through our PrMO. The recent decision to only focus for now at >10M projects and on 5 PCMs need to be signed off and then, PMs given 3 months to fully implement. After the 6 months, an assessment can be done on the implementation and its effectiveness thereof.

Yes, coded as = 1		
No coded = 2		
	Yes	No
AC Manager 1	1	
AC Manager 2	1	
AC Manager 3	1	
AC Manager 4	1	
AC Manager 5	1	
AC Manager 6	1	
	100.00%	

100.00%

- Yes
- No
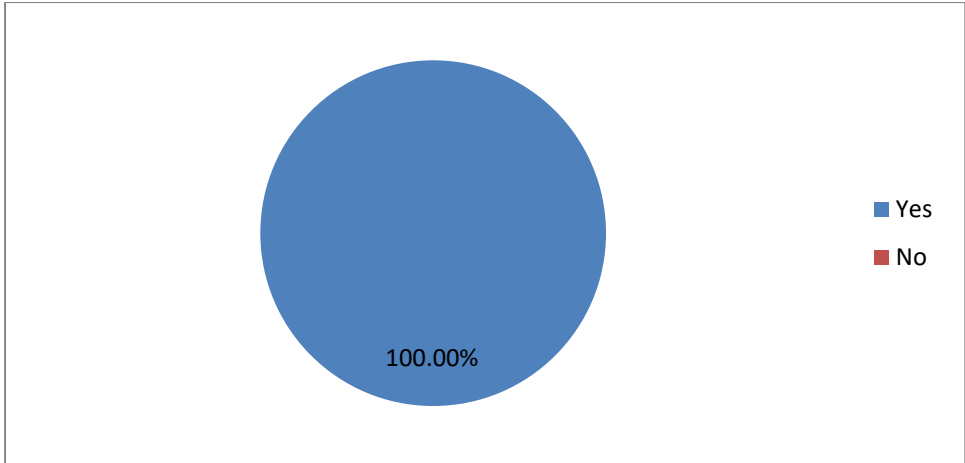
6.   How many times if any have you received a courtesy visit/call from Senior Managers in the EPMO?

AC Man1: Never.**3**

AC Man2: None. **3**

AC Man3: A few times but mainly because of my work as the Capex portfolio owner. **1**

AC Man4: Regularly. **2**

AC Man5: I don't. Not sure if there would be a necessity. **3**

AC Man 6: Not from Senior Managers. Only interacted with Middle Manger (M18) and about once a quarter.**3**

| Never/None =3 |
| A few times =1 |
| Regularly = 2 |

	Never/None	A few times	Regulary
AC Manager 1	3		
AC Manager 2	3		
AC Manager 3		1	
AC Manager 4			2
AC Manager 5	3		
AC Manager 6	3		
	66.67%	16.67%	16.67%
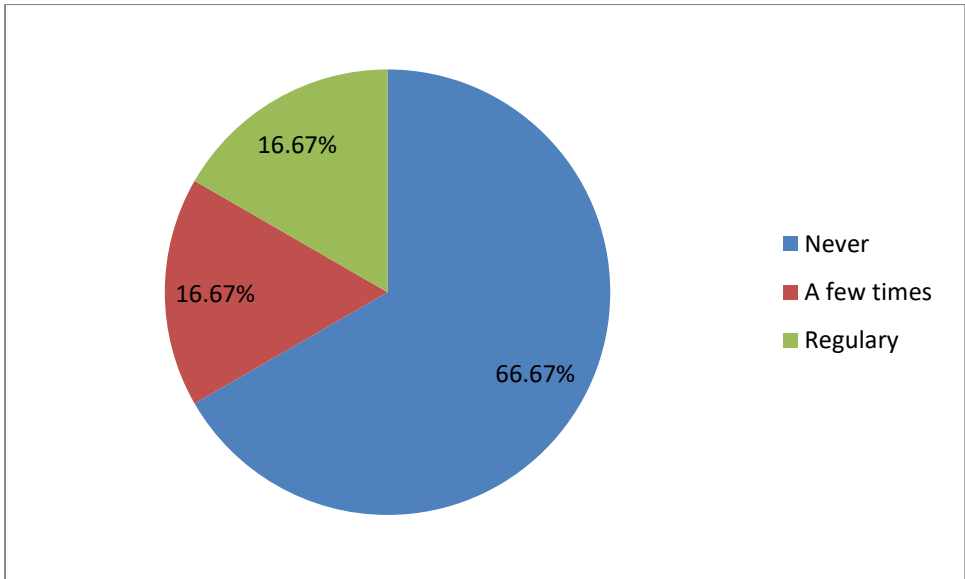
7.   In your monthly meetings with your direct reports/ managers do you have a discussion as to what the EPMO can offer to your Project Offices?

AC Man1: **No.**

AC Man2: **No**

AC Man3: **Yes** we did.

AC Man4: **Yes,** we had representation from EPMO in our monthly OU meetings.

AC Man5: **No.** The monthly meeting is on our operational activities together with input from support departments present

AC Man 6: Not as a standard item on the agenda as yet. **No**

Yes = 1
No = 2

	Yes	No
AC Manager 1		2
AC Manager 2		2
AC Manager 3	1	
AC Manager 4	1	
AC Manager 5		2
AC Manager 6		2
	33.33%	66.67%
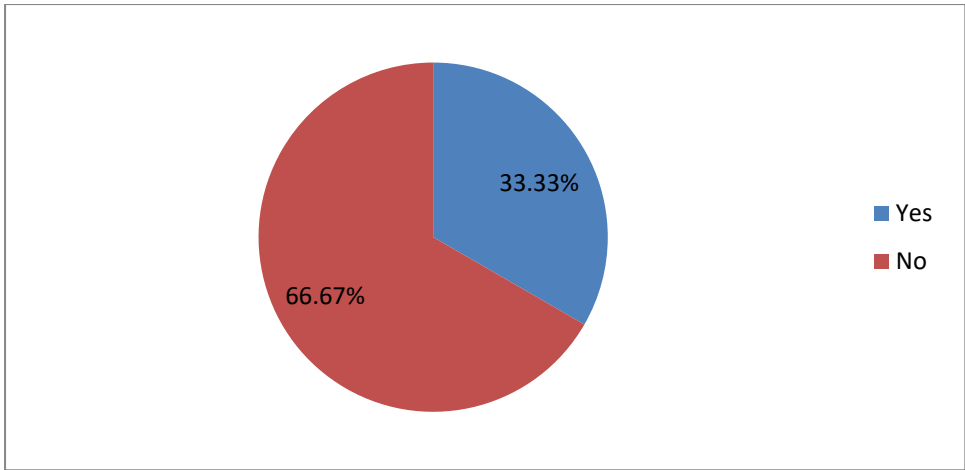
8.   Do you think there is a good working relationship between Eskom Distribution and the Eskom Project Management Office?

AC Man1: **No.**

AC Man2: The relationship is a long-distance relationship. We feel like we are part of the family but we are that family you love but do not really get involved in their less important matters. We are doing our own thing and as long as we get the electrification connections and spend the Capex. **N0**

AC Man3: Fairly good – **Yes**

AC Man4: **Yes** but it can be improved. **Yes**

AC Man5: **No**. It can be much better.

AC Man6: From the visits and discussions with Cedrick and his team, Yes there is a working relationship but not a good working relationship. We just need to improve on the timeous implementation of the agreed actions/strategies and do away with the ' us and them '. **NO**

Yes, coded as = 1		
No coded is = 2		
	Yes	No
AC Manager 1		2
AC Manager 2		2
AC Manager 3	1	
AC Manager 4	1	
AC Manager 5		2
AC Manager 6		2
	33.33%	66.67%
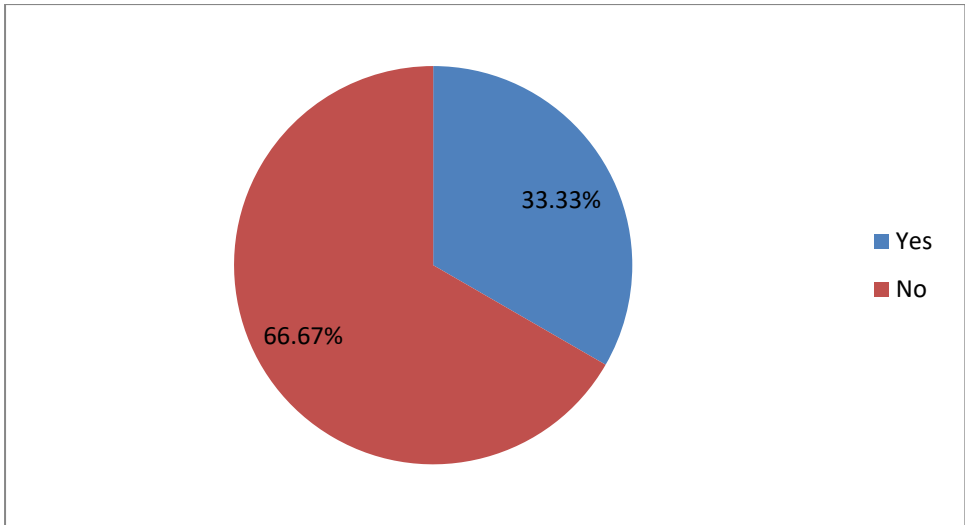
9.   Do you see a need for an Eskom Project Management Office? Please give a short motivation with your answer.

AC Man1: The role of the office needs to be clarified and the services they provide.
No

AC Man2: Do we need a PM COE…YES. See my response in Q8 – No, bring back the Process Managers (or establish a local COE) per OU and make sure Project Management, Contract Management and related skills are where it is needed. No

AC Man3: **Yes,** there needs to be standardisation in the business or we will have each Operating Unit going in their own direction with no meaningful direction. EPMO also needs to involve itself in the day-to-day running of the business and not isolate themselves at the HO level

AC Man4: **Yes,** there's a need. Support to rolling out business initiatives, training interventions and auditing to confirm compliance

AC Man5: **Yes,** their mandate is well justified however the implementation of said mandate can be much inproved especially in the distribution environment.

AC Man 6: Of course, I however think there is a lot of concepts that are not applied on the 'non' mega project, like the capital budgeting techniques (Dx mainly focuses on non-financial benefits but poor in benefits realisation), earned value analysis etc.
**Yes**
The top benefits for me are strategic alignment
Standardisation.
Gap assessment

Mentoring and coaching. If you ask how many of our teams are being mentored by the EPMO office, the number will be very minimal. I sent an e-mail to the EPMO address a while ago asking for names of mentors and never got feedback.

If we get the EPMO team to understand Dx Project Management space.
Re-align PCM implementation for standard and repeatable projects.
Provide guidance and support, rather sending people to training to be told about how good the PCM has done for i.e' Kusile and Medupi
Understand that standardisation is possible even where there is exceptions.

Yes, coded as = 1
No coded as = 2

	Yes	No
AC Manager 1		2
AC Manager 2		2
AC Manager 3	1	
AC Manager 4	1	
AC Manager 5	1	
AC Manager 6	1	
	66.67%	33.33%
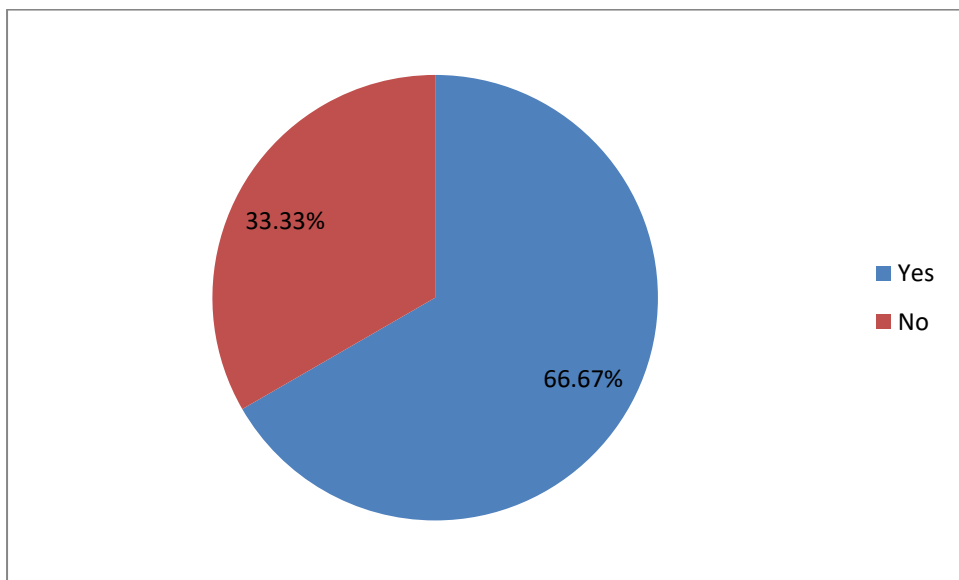
Appendix G: Interviews with Senior Managers Eskom EPMO

1. Literature suggests, the Project Management Office does not add value in the delivery of projects (Time, Cost, Scope, Quality and Customer Satisfaction). Literature also suggests disagreement in the role/function of the PMO. In your view, why did Eskom implement the Eskom Project Management Office (EPMO)?

Sen Man EPMO 1: The original SoW of the EPMO as in 2012

The Group Capital EPMO will establish the systems and processes to support Eskom's migration to an EPCM business. In specific, the Group Capital EPMO's mandate is to:

Be the Project Management Subject Matter Expert (SME) to all projects

The EPMO will collaborate and partner with functions such as Engineering, Procurement and EAL to drive and realise the EPCM business model

Ensure standardisation and optimisation in project development and execution across all projects.

Establish best practice processes, policies, procedures, standards and guidelines for Project Management. The EPMO provides system's requirements for the development of Project Management and related systems; as well as oversee the quality assurance on all project tools developed

Provide direction for continuous improvement, lessons learned initiatives and global interactions

The EPMO function will provide Project Management Governance and Assurance across all projects.   Assurance will be provided across the project management lifecycle with enhanced controls in the front-end loading phase of capital projects.

The EPMO will provide independent strategic assurance of capital performance through monitoring and reporting across the PLCM of Eskom's significant spend.

The EPMO will improve and maintain Eskom's project management life cycle systems and processes by providing a sound project management lifecycle model that is aligned with international best practices and local requirements.

Provide a Centre of Excellence service in Project Management, Project Controls, Contracts Management, Reporting, and Monitoring and Assurance.

Sen Man EPMO 2:

Standardise Project Implementation Methodology ito people, process, technology and governance

Retain intellectual property for future generations to jump the learning curve

To obtain learning curve benefits

Sen Man EPMO 3:

Eskom consists of various Divisions. Although autonomous they all compete for the same resources and they all comply with PFMA. To enable a 'common' language when talking about capex and to give insurance to the tax payer /stakeholder all projects must be govern satisfactorily. The reference to literature in the opening statement that PMO's does not add value (T, C, S, Q and CS) happens when methodologies are applied from a text book. Methodologies must be applied integrated within the business processes. Therefore, the creation of the EPMO. The Eskom business processes were not changed in terms of governance and the likes , but through EHPUM integration is enhanced to ensure 'One version of the Truth'

Best Practice =1
Collaboration and Partnering= 2
Continuous Improvement=3
Standardisation and optimisation=4
Governance and Assurance=5

	Best Practice	Colaboration and Partnering	Continious Improvement	Standardisation and optimisation	Governance and Assurance
Sen Man EPMO 1	1	2	3	4	5
Sen Man EPMO 2				4	5
Sen Man EPMO 3	1				5
	66.67%	33.33%	33.33%	66.67%	100.00%
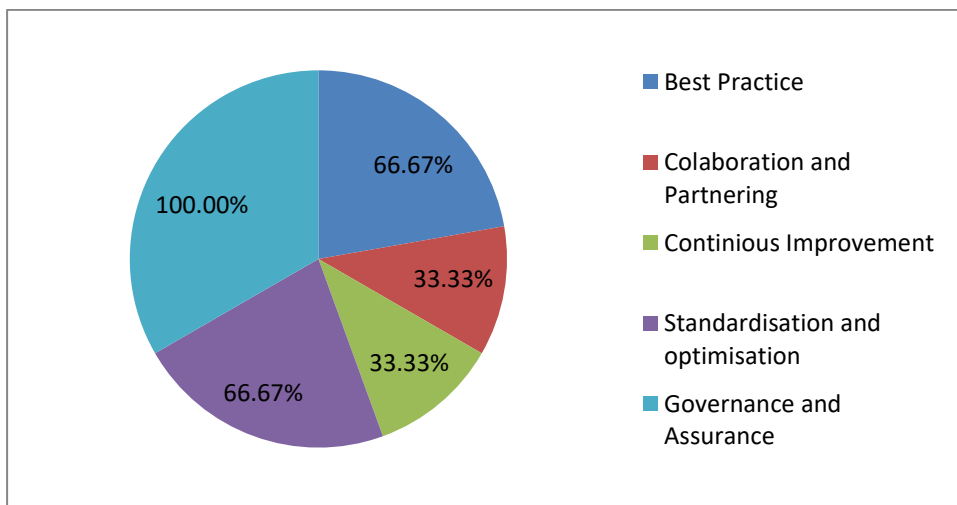
2. Literature further suggests that the PMO often deliver services to business according to the skills available in the PMO and does not deliver service according to business requirements. What is you view on this statement?

Sen Man EPMO 1: Agree

My opinion in this regard is that in many instances the PMO knowledge and understanding of the business is limited to a specific field. The mistake that is often made is to assume that the PMO has all the answers before they engage with the business. This leads to resistance from business as the feeling is that development is forced unto them without a proper understanding of the organisational needs. Agree
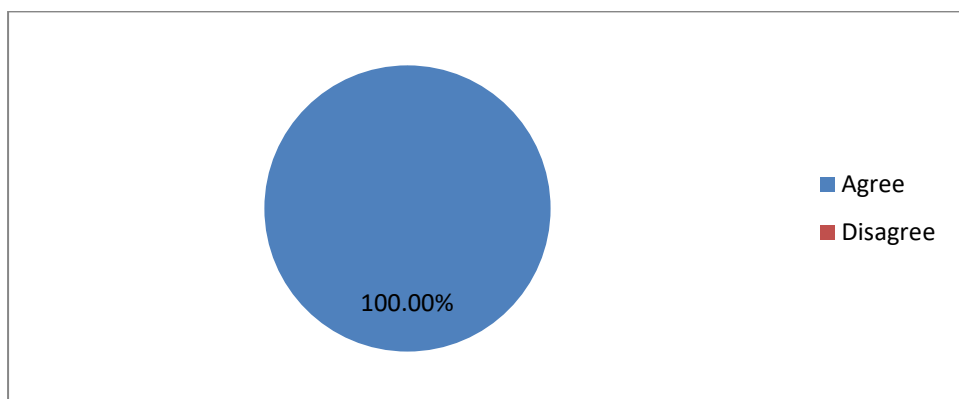
Sen Man EPMO 2: Agree

This can be true. We always aim to align as best as possible the intent in (1) with people capabilities and develop people. This does however require a critical mass of experts. Agree

Sen Man EPMO 3: Agree

That is correct. The reason is employees follow and study a theoretical model and do not get trained on a methodology that is integrated to business process. Project people will thus follow what they know or business will only use resources that delivers. With one integrated model which is well documented and integrated as a reference all resources can follow the process and with time become successful. Agree

| Agree coded as= 1 |
| Disagree coded = 2 |

	Agree	Disagree
Sen Man EPMO 1	1	
Sen Man EPMO 2	1	
Sen Man EPMO 3	1	
	100.00%	

3. Many people in the Distribution Group are of the opinion that the EPMO was introduced to support the Mega Projects only. What is your view?

Sen Man EPMO 1: Disagree

That is incorrect.   Disagree

Scope

- Design and manage systems and processes at enterprise level
- Ensure standardisation and execution optimisation across all capital projects
- Cascade key learnings to divisional PMO and project office
- Ensure application of PLCM and enhance model
- Ensure compliance to best practices

Sen Man EPMO 2: Agree

This perception is possibly true as the impetus for an EPMO was around the Mega Projects environment. With most things, the reason for initial creation becomes less important over time. The focus moves to value creation by use of the EPMO methods. Agree

Sen Man EPMO 3: Agree

The perception can be that way because in Eskom there is always huge inter-divisional competition. With the EPMO to be placed in the structure of GCD other division might believe the methodology is only applicable to GCD.   Distribution in its nature also demonstrated in the past that they want to do their own thing. Over the past 5 years by ignoring guidance from the EPMO and not investing in their own improvement Dx lost a huge capability within Project Delivery. More change management is required in the Dx space. The three Mega project in GCD also took too much effort from all resources in Eskom
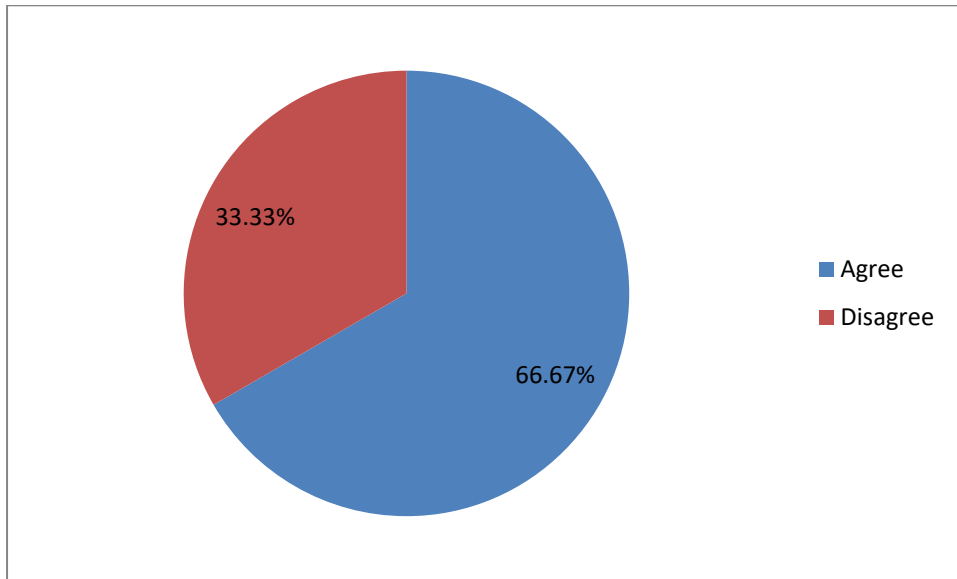
Agree coded as = 1
Disagree coded as

= 2		

	Agree	Disagree
Sen Man EPMO 1		2
Sen Man EPMO 2	1	
Sen Man EPMO 3	1	
	66.67%	33.33%

4. A recent study by IPMA suggests PMOs are stuck on compliance on the implemented methodology rather than focusing on customer satisfaction and building of relationships.

What is your view?

Sen Man EPMO 1: Agree

My personal experience in the role that I fill in Eskom reflects this position as well. It appears that PMO's do not listen to the customer and rather force their own perceptions and ideas on the customers. It is a two-edged sword as it becomes a partnership between the PMO and customer. By following this concept, the result is a win-win situation.

Sen Man EPMO 2: Agree

This is a real possibility dependent on how the EPMO functions. It is important that the EPMO has a real presence on the ground in finding solutions so that they can understand and build customer relations. This also allows enhancement of methodology and people development

Sen Man EPMO 3: Agree

Studies must be viewed in the light of maturity. In Eskom and SA for that matter research must consider a major affirmative action programme over the last 20 years and the fact that SA is a 3rd world country. Therefore, the balance between compliance and customer satisfaction must be carefully considered when making measurements. The Body of Knowledge and PMO's has developed from a compliance policing function, but in first world countries the customer requirements are becoming more important. I believe we are measuring both in Eskom to give indication of a balanced approach. At this stage and at the level Eskom is performing the compliance to methodology is not negotiable.

| Agree coded as = 1 |
| Disagree as coded = 2 |

	Agree	Disagree
Sen Man EPMO 1	1	
Sen Man EPMO 2	1	
Sen Man EPMO 3	1	
	100.00%	
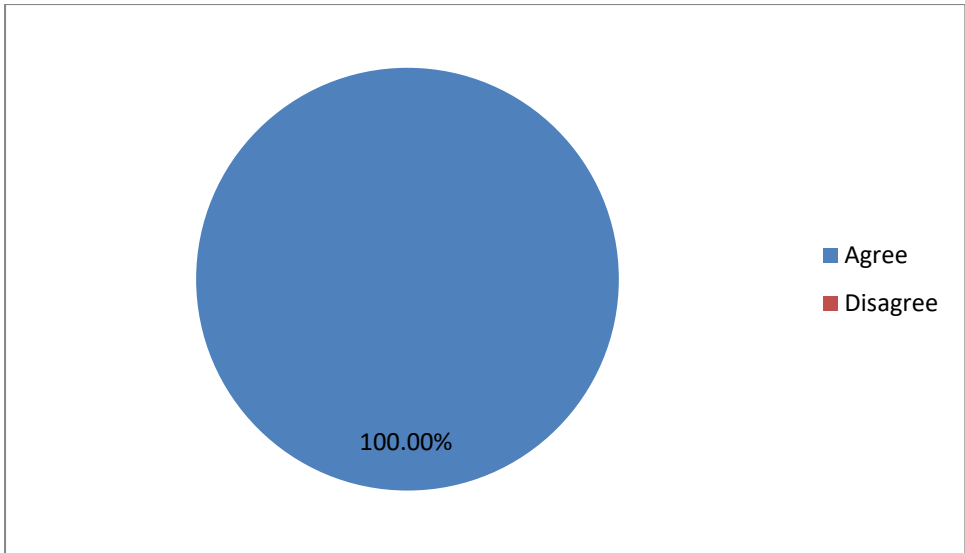
5.   Some authors are of the opinion, the standardisation of project management methodology and process are often in opposition to the flexibility needed in the execution of a project in real life, and this is creating tension. What is your view on this?

Sen Man EPMO 1: Neutral

A project has the freedom to move freely within the boundaries set to execute a project successfully. Following a project management methodology reduces the risks that may occur during execution and also ensure that execution is consistent. Implement a centrally-led, standardised methodology for POs within Operating Units and across Divisions to assure project execution excellence, through a competent workforce, standard processes and reliable systems.

Sen Man EPMO 2: Neutral

A balance is required. Methodology will create basis for success, but people will deliver the success. A good example is pianos are standard in design, but the music depends on the skill, talent and innovation of musician.

Sen Man EPMO 3: Neutral

I view it in the light of depending on who is voicing their opinions. If you build a plane, I am sure any other will want everything to be too specification, especially if they fly on the plain themselves. The same when using the tax payer's money to select and do projects. In

smaller private business matured PM could and should be allowed flexibility to excel. In companies that are heavily regulated flexibility happens much slower and is governed. However, for the individual who are a leader in its field there are platforms where this flexibility can be utilised. Again, a balanced approach is required between maturity and huge numbers of repetitive work.

| Agree coded as = 1 |
| --- |
| Disagree as coded = 2 |
| Neutral coded as =3 |

	Agree	Disagree	Neutral
Sen Man EPMO 1			3
Sen Man EPMO 2			3
Sen Man EPMO 3			3
			100.00%
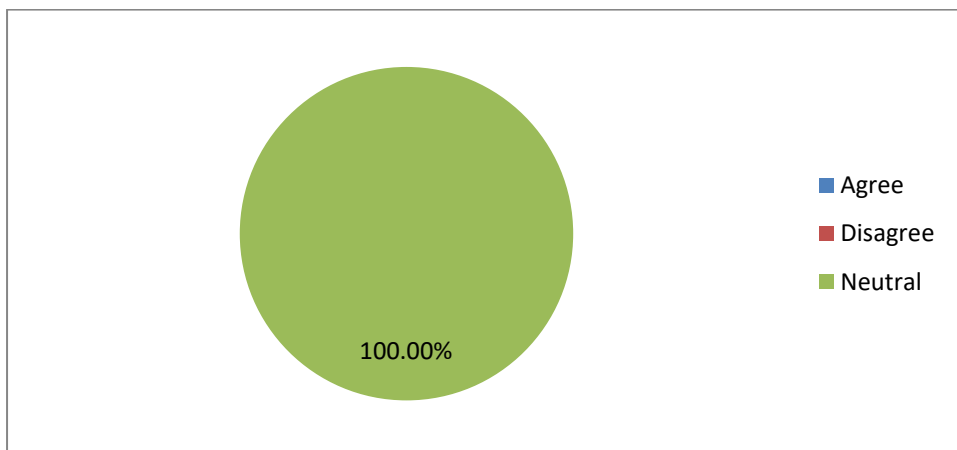
6. Was there any change management or any other process followed to introduce the EPMO and its related services into the Eskom business (All Groups)?

Sen Man EPMO 1: Yes

There was a comprehensive process followed during the establishment of the EPMO. The scope, however, was broader than what it is currently.
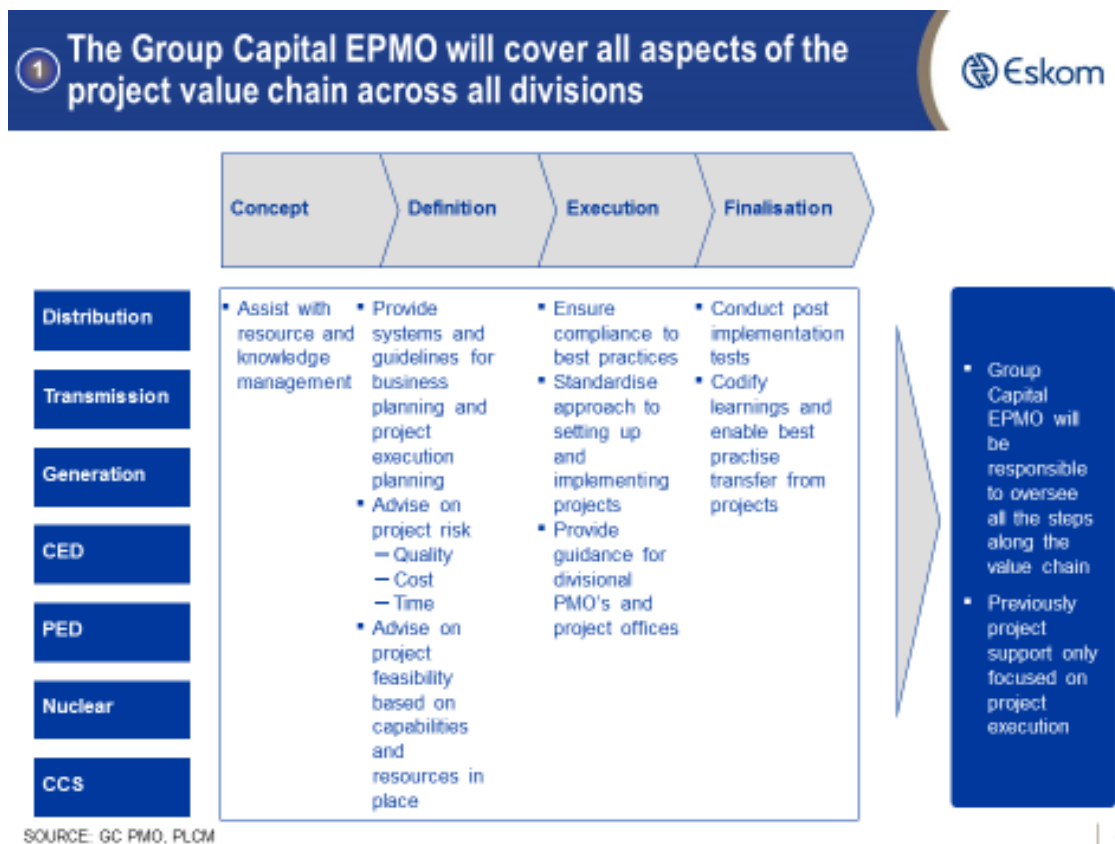
Sen Man EPMO 2: Yes

A change management process was followed. Adoption still takes long.
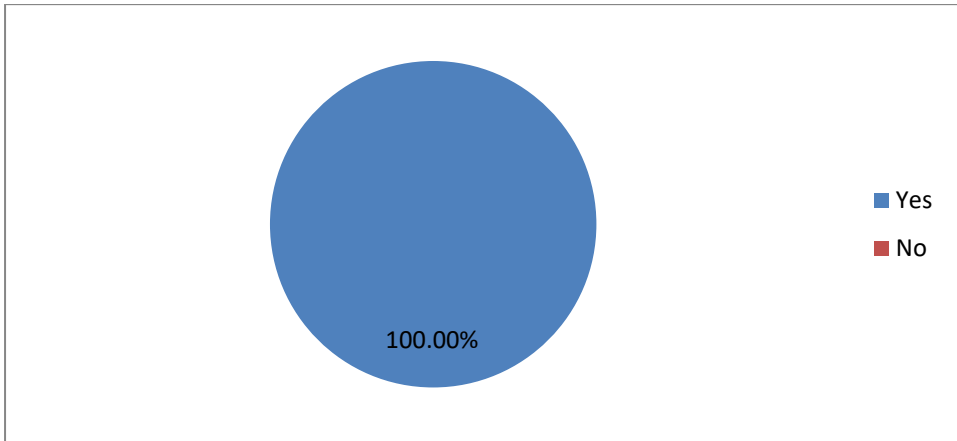
Sen Man EPMO 3: Yes

Yes. It was lead from the top leaders in Eskom. Change in leadership and a culture of 'Doing your own thing' made it more difficult to introduce. Resources on the ground representing the EPMO also is not assertive enough by leading the organisation through the change at the pace that is required. Change is happening but the risk is another restructuring before a solid embedment.

Yes, coded as = 1
No coded as = 2

	Yes	No
Sen Man EPMO 1	1	
Sen Man EPMO 2	1	
Sen Man EPMO 3	1	
	100.00%	

7. The EPMO has been up and running for a few years, are you convinced the EPMO has gained the necessary recognition and role clarity in the Eskom business?

Sen Man EPMO 1: No

Unfortunately, not. There are too many deviations from what the original intention was and too much effort is out on the wrong stuff. It is like developing and planning the wrong project.
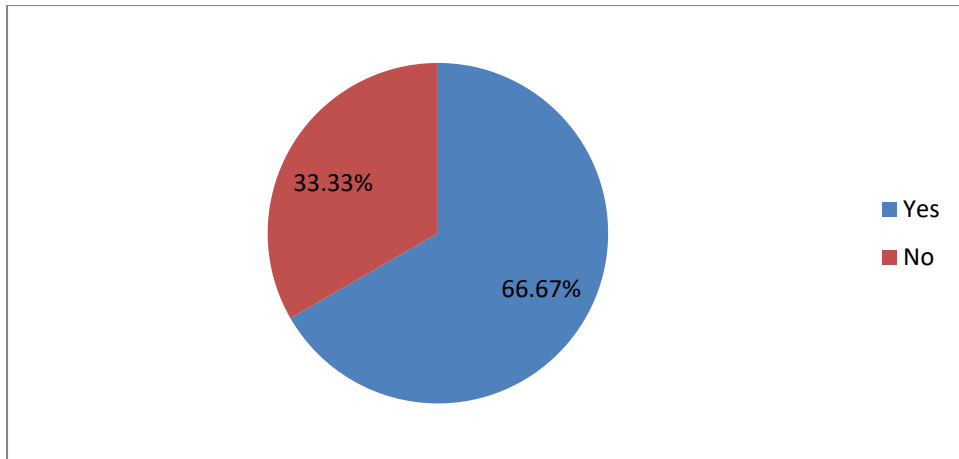
Sen Man EPMO 2: Yes

Sen Man EPMO 3: Yes

Recognition is improving by the day. The first number of years was problematic. Change is happening at the speed of the own skill improvement within the EPMO and the maturity of the methodology.

Yes, coded as = 1

No coded as= 2		
	Yes	No
Sen Man EPMO 1		2
Sen Man EPMO 2	1	
Sen Man EPMO 3	1	
	66.67%	33.33%

8. Are you aware of any platform/ forum where Senior Managers from the EPMO engaged with Senior Managers from other Eskom Groups?

Sen Man EPMO 1: No

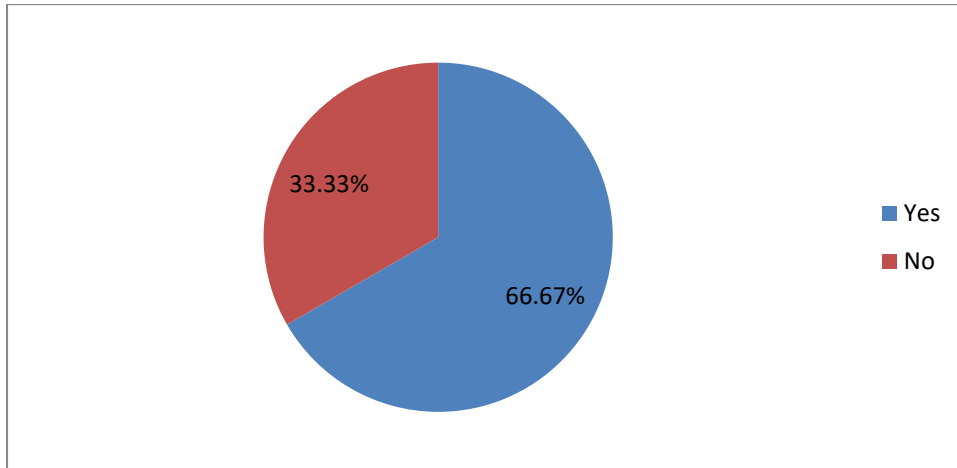No, I am not aware. No

Sen Man EPMO 2: Yes

Yes, through forums run by the EPMO. The reputation of individuals also drives engagement

Sen Man EPMO 3: Yes

Eskom implement Technical Process Governance that allows all levels in the organisation to get together to engage.

Yes = 1
No = 2

	Yes	No
Sen Man EPMO 1		2
Sen Man EPMO 2	1	
Sen Man EPMO 3	1	
	66.67%	33.33%

9. What role do you see the EPMO plays in future?

Sen Man EPMO 1:

The role of the EPMO should be on as per the original scope of service. Listen to the organisation before forcing ne sided ideas and perceptions down the throats of the projects. Instil international best practices and not one-sided developed practices. **EPMO Mandate** *Source: Eskom Project Management Policy (adapted)*

The EPMO will define, implement and operate standards for processes, systems, tools, policies, and guidelines to assure consistent delivery of projects within scope, time, cost, and quality constraints.

Sen Man EPMO 2:

Continuing on current trajectory of (1) to embed methods and building up portfolio management

Sen Man EPMO 3:

If EPMO stays in GCD it will become the front runner in commercialisation of GCD. It also have the ability to become the first step of becoming the Enterprise PMO for SOE's. Focus will become more visible on delivery rather than development.

Relationship Building = 1
Best Practice = 2
Standardisation =3

	Relationship Building	Best Practice	Standardisation
Sen Man EPMO 1	1	2	3
Sen Man EPMO 2			3
Sen Man EPMO 3	1	2	
	66.67%	66.67%	66.67%
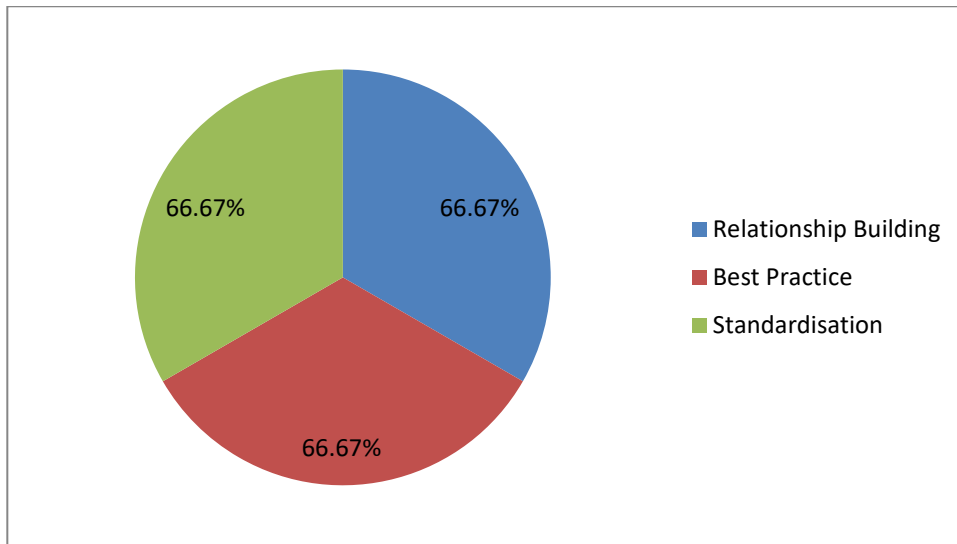
Interview questions to the managers in the Eskom Project Management Office

20 April 2022

After a telephonic interview with a Project Manager, two Chief Advisors Project Management and a Portfolio Manager (all of them actively involved in the day-to-day activities in the EPMO) in the EPMO on the readiness of the EPMO on Industry 4.0. The researcher send A follow-up e-mail to the participants for confirmation.

The Question:

The Fourth Industrial Revolution with its disruptive technologies spurred on by the 2020 Pandemic has change how organisations deliver initiatives. Literature indicates that EPMOs are in the forefront leading their organisations when it comes to the changes demanded by Industry 4.0 in Project Management. Has the EPMO started with any initiatives to prepare Eskom for project Management in Industry 4.0?

Participant 1: What is Industry 4.0?

Participant 2: As indicated, I am not aware of any initiative from EPMO in preparing Eskom for project management in 4IR.

Participant 3: My view: Eskom and the South Africa as a country cannot even satisfy the requirements of the 2nd Industrial Revolution, key elements being standardisation, **electricity supply and water supply**. I have no idea how we could magically transform into a smart production, manufacturing and artificially intelligent operating company and country in the next 2-3years.

We cannot even use current systems and applications for traditional project management (Industrial Revolution 3). Digitisation and AI's for project management, would probably lag AI's and digitisation for Engineering and Production. IT would always be at the forefront with aspects relating to software applications and digitisation and may be able to adapt earlier in a technologically mature organisation, we are far from than in Eskom.

Participant 4: Not aware of any initiatives from the EPMO. Ask the IT department they might have some initiative.

Melody Edwards

Editing • Formatting •Writing •Research •Document preparation

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September 2023

To whom it may concern:

This is to certify that I have professionally edited and formatted the following thesis:

A LEADERSHIP FRAMEWORK TO RE-CONFIGURE THE PROJECT MANAGEMENT OFFICE IN ESKOM TO EMBRACE PROJECT MANAGEMENT FOR THE FOURTH INDUSTRIAL REVOLUTION

by

Glen PD Jordan

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