



A practitioner's guide to establishing and managing a project management office at a South African parastatal

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Abstract

Project management offices (PMOs) are established to support organisations in realising their strategic objectives by aligning project initiatives with organisational goals. This is achieved through standardising their project management (PM) practices, methodologies, tools and techniques. While PMOs can be beneficial, indications are that many organisations struggle to set them up optimally. Consequently, this study investigated the unique challenges encountered when setting up and managing PMOs at South African parastatals, and how those challenges were prioritised and overcome.

The study followed an in-depth interview method where qualifying participants were identified and asked to participate in the research. It was found that the people and organisation-related challenges contributed to the six topmost challenges encountered when establishing and managing PMOs at the South African parastatals.

In general, the study contributed to the limited body of knowledge relating to the PMO topic in South Africa. Moreover, the study provided an alternative and practical guideline for the PMO establishment and management processes. This will benefit the parastatals with established PMOs as they can utilise the setup model as a guideline to re-engineer their existing PMO processes. In addition, the PMO establishment guideline was developed, especially, for those parastatals without a PMO, but wanting to establish one.

Key phrases

configuration type; parastatal; performance evaluation; personnel skills; PMO service; PMO challenge; project management; project management office

1. INTRODUCTION

In many organisations, the fundamental purpose of embarking upon projects is to achieve strategic objectives that could not otherwise be accomplished through a functional unit or department. However, the increasing use of projects to achieve strategic objectives in today's organisations requires a standardised approach to project execution (Meredith & Mantel 2012:210).

The Systems Evolution, Inc. (SEI) (2011:1) note that it is challenging at best, especially with inadequate project management (PM) tools and techniques, to successfully deliver a single strategic project, and yet few organisations attempt to implement a portfolio of projects without a robust PM framework from which to function. To achieve such a robust framework, Unger, Gemunden & Aubry (2012:608) argue that an organisational unit referred to as the project management office (PMO) has emerged as a key solution to be utilised for the coordination and management of multiple projects. Allocating a name to such an organisational PM function, such as a PMO, gives it significance and differentiates it from other functions within the organisation (Bolles & Hubbard 2015:6).

Zohrevandi (2014:12) views the role of the PMO as that of aligning the various departments within an organisation with each other in order to ensure synergy and reduce the duplication of effort. Conducted annually by the Project Management Institute (PMI) (2013a:6), the Pulse of the profession™ found that 53% of their study respondents' PMO roles included developing standards, methodologies and processes; governance and performance management and many other PMO services. Another 43% rendered unique PMO services, whereas the last 4% were vague on their PMO role (PMI 2013a:6).

In practice, however, it is unlikely that any PMO in its first attempt of establishment would render a complete suite of services. Consequently, research by Hill (2004:46), Pinto, De Matheus, Marcelo & Levin (2010:6) and others was conducted to identify typical PMO

maturity models to help establish, to some extent, the appropriate PMO configuration types suited to render certain services.

As shown in Figure 1, a PMO service maturity stage indicates the PM capabilities of a PMO within an organisation (Hill 2004:46).

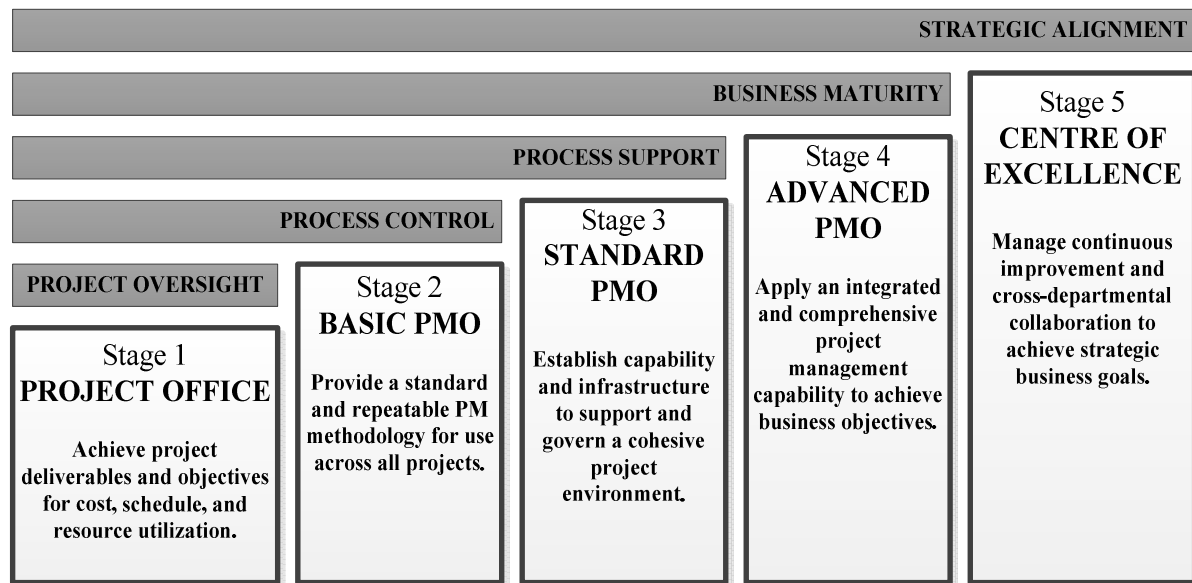


FIGURE 1: Overview of PMO service maturity levels

Source: Derived from Hill 2004:46

In contrast, Pinto *et al.* (2010:6) take a different approach in presenting their perspective on the PMO service capability maturity model. As can be seen in Figure 2, the level of maturity progresses from a basic to a more advanced PMO with the services rendered also changing from operational and tactical to more advanced and strategic services.

A comparison of the two PMO service maturity models in Figures 1 and 2 indicates similarities. For example, a project office is at the basic level of maturity and typically renders *basic* PM operational services (Hill 2004:46). Similarly, the enterprise-wide PMO is at an *advanced* maturity level and renders strategic services (Pinto *et al.* 2010:6). Singh, Keil & Kasi (2009:419) noted that a number of organisations struggle to establish PMOs despite the fact that PMOs have been shown to be beneficial.

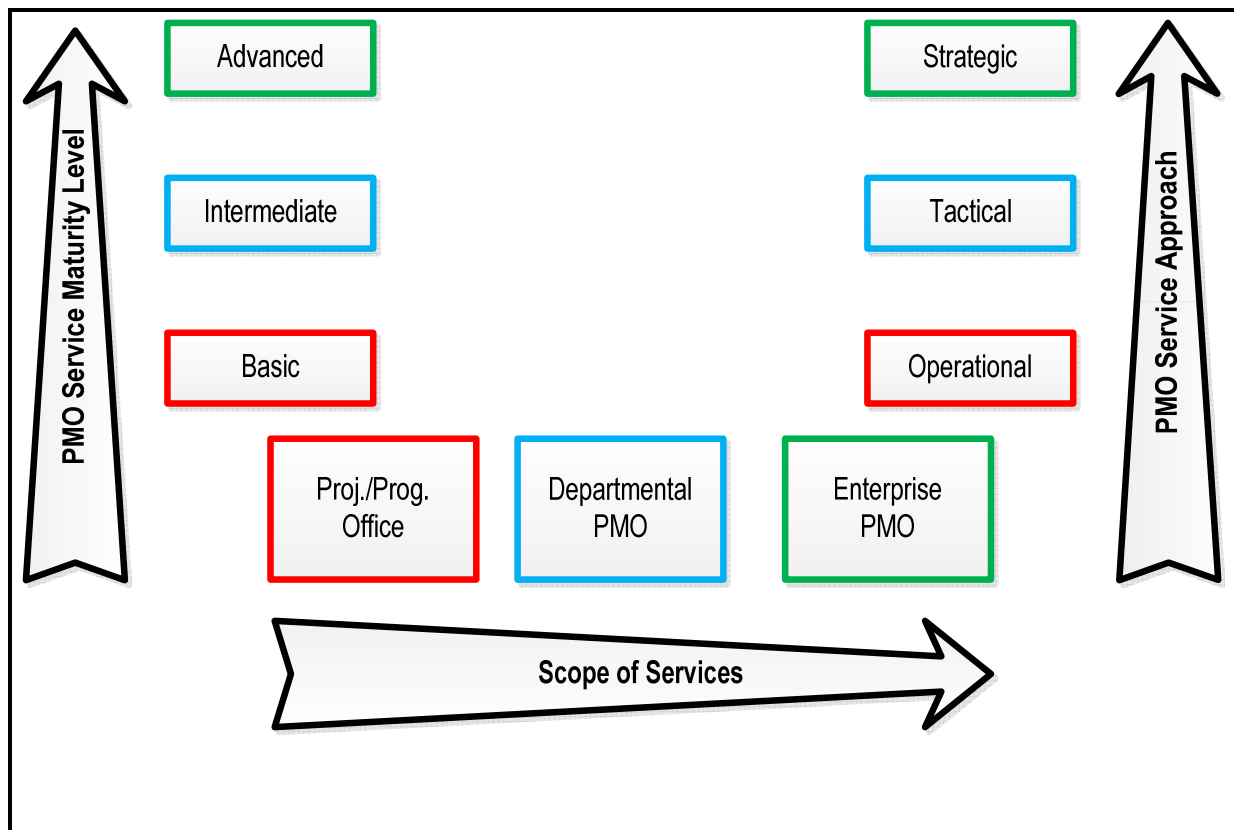


FIGURE 2: PMO service maturity model

Source: Derived from Pinto *et al.* 2010:6

The PMO white paper estimates that half of the PMOs fail on their first attempt of establishment for various reasons, including not aligning themselves to their organisational strategic objectives (PMI 2012:2). Furthermore, Müller, Gluckler & Aubry (2013a:60) adds that PMOs are enormously heterogeneous entities because they vary in mandate, functions and size. The PMI (2012:1) further notes that there is no such thing as a standard approach to PMO implementation. The need to know what PMO implementation approach could be better suited to the South African parastatals prompted this study to be undertaken.

2. OBJECTIVE OF THE STUDY

Despite the availability of literature on the challenges of establishing and managing PMOs, the literature does not focus on South African parastatals. However, establishing the PMO

has its own challenges and as stated previously there is no universal approach to establishing one (PMI 2012:1).

The purpose of this study, therefore, was to develop a model to serve as a guideline to be observed when establishing and managing a PMO at a South African parastatal. This guideline is intended to ensure that the challenges are identified and appropriately managed during the PMO establishment and when operating it. In order to identify the challenges and critically examine the impact these challenges have on its administration and day-to-day operations, the following three research questions are posed:

RQ 1: What are the challenges of establishing and managing a PMO at a South African parastatal?

RQ 2: How would these challenges be ranked and prioritised?

RQ 3: How would the top ranked PMO establishment and management challenges be overcome?

The study comprises six main sections. Section 1 includes the introduction which summarises the shortcomings and has led to the study objectives in Section 2. The literature review in Section 3 rigorously unpacks the available PMO research body of knowledge. Section 4 presents the research methodology. This details the research approach, data collection and analysis methods adopted. The research findings and implications are presented in Section 5. The final section, Section 6, discusses the study conclusions.

3. LITERATURE REVIEW

A guide to the project management body of knowledge, PMBOK® Guide, by the PMI (2013b:10), defines the PMO as “a management structure that standardises the project-related governance processes and facilitates the sharing of resources, methodologies, tools, and techniques.”

Generally speaking, the purpose of a PMO is to overcome the challenges organisations face in consistently and successfully executing their projects and programmes (Ward & Illingworth 2013:6). Moreover, Salamah (2014:20) points out that the organisations with PMOs reported more projects being completed on time, within budget and meeting business goals.

3.1 PMO services

According to Aubry (2015:20), the services that PMOs render vary according to their mandates and all of them largely work on projectised activities within a variety of time frames across the organisation.

Furthermore, Müller *et al.* (2013b:5) note that PMO's roles, mandates, responsibilities, and authorities vary with time in order to address the frequently changing project-related issues within organisations.

Arguably, Pellegrinelli and Garagna (2009:653) note that the value the PMO brings lies in solving specific challenges that make a significant difference in the performance of an organisation. To help solve some of these organisational challenges through the PMO, appropriate services must be rendered.

A list of 15 typical PMO services was derived from the literature and is presented in Table 1.

The table was synthesised by comparing the PMO services from different sources. Similar PMO services were identified from the different sources and then listed as per Table 1. The services were then grouped together into five categories according to the nature of a service in the PMO. It should be apparent that categories are constructs derived from the data and not the data themselves (Merriam 2014:181).

Each PMO service listed in Table 1 has a corresponding PMO maturity level at which that service is expected to be rendered as described in Figure 1.

The PMO service maturity level rankings were derived from studies by Salamah (2014:23), PMI (2013:8-9) and Pinto *et al.* (2010:6). It is, however, acknowledged that there are limited studies in the reviewed literature as to what PMO services should be rendered at which PMO configuration types.

However, Hill (2004:46) notes that a PMO at any stage can pursue activities at any level to address organisational needs and that this is far more important than sequentially stepping through levels of competency.

TABLE 1: Literature PMO services

PMO service offerings	Category	PMO maturity level
Standards, methodologies and processes	Governance and reporting	Level 1-5
Administration and support	Basic support and monitoring	Level 1-5
Project monitoring and controlling	Basic support and monitoring	Level 2-5
Multi-project coordination	Basic support and monitoring	Level 3-5
Allocation and sharing of resources between projects and programmes	Human capital management	Level 2-5
Promotion of PM awareness within organisation	Human capital management	Level 2-5
Benefits realisation management	Governance and reporting	Level 3-5
Portfolio management	Consulting	Level 4-5
Implementation and operation of PM software	Basic support and monitoring	Level 1-5
Talent management	Human capital management	Level 3-5
Report project's statuses to upper management	Governance and reporting	Level 3-5
Audit projects and programmes	Governance and reporting	Level 4-5
Governance, reporting, and performance management	Governance and reporting	Level 3-5
Alignment of projects with strategic objectives	Governance and reporting	Level 3-5
Knowledge management of project's activities	Knowledge management	Level 3-5

Source: Derived from Dai & Wells 2004:524-525; Desouza & Evaristo 2006:416-417; Hill 2004:48; Hobbs & Aubry 2007:82; Oracle 2013:5-6; Pinto *et al.* 2010:8-9; PMI 2013:7; PM Solutions 2014:9; Salamah 2014:20; Ward & Illingworth 2013:3 and Zohrevandi 2014:13-14

3.2 PMO configuration types

A list of the typical PMO configuration types intended to address the specific organisational challenges is shown in Table 2. The table was derived by comparing the PMO types from different studies. A category-coding scheme was used and similar PMO types were grouped under the same category and then listed as per Table 2. These categories were determined according to the nature of a PM function within a functional unit in the organisation. It should be noted that the PMO configuration types compare one-on-one with the PMO service capability maturity models previously shown in Figures 1 and 2.

TABLE 2: Literature PMO configuration types

PMO capability maturity level	Generic PMO configuration types
Level 1	Project office - for a single project
Level 2	Departmental PMO - for a business unit within an organisation
Level 3	Basic PMO - the first organisation-wide PMO with multiple unit PMOs reporting to it
Level 4	Strategic PMO - for a matured PMO that strives not only to maintain excellent project delivery, but also align all approved projects to organisational strategic goals
Level 5	Enterprise-wide PMO - the ultimate PMO responsible for the management of all projects, programmes, portfolios, strategic alignment, benefits realisation, and so on

Source: Derived from Hobbs & Aubry 2007:79; Oracle 2013:12; Pellegrinelli & Garagna 2009:651; Pinto *et al.* 2010:6; PMI 2013:6; PM Solutions 2014:5; Ward & Illingworth 2013:7

The PMI (2013b:10) points out that each of the PMO configuration types listed in Table 2 varies in the degree of influence and control they have on projects within organisations. It is also critical to understand that the location of a PMO within the organisational hierarchy is a key factor in determining the influence and control the PMO will have on projects (Jalal & Koosha 2015:463). The PMI (2013b:10) refers to these key influence and control factors of the PMO as i) supportive; ii) controlling; and iii) directive.

3.3 PMO personnel skills

PMOs need staff to operate. The PM Solutions (2014:6) argue that PMOs in high-performing organisations have a higher percentage of skilled and certified PM professionals. Similar PMO personnel skills from different sources were identified and then listed as per Table 3. Moreover, the PMO personnel skills were grouped together into three categories according to the nature of a skill in the PMO.

TABLE 3: Literature PMO personnel skills

Administrative	Project Management	Leadership
Project support administrator	Project manager Programme manager PM trainer	PMO manager PMO executive

Source: Derived from Aubry *et al.* 2010a:9; PM Solutions 2014:7; and Salamah 2014:24

3.4 PMO challenges

The previous sections described the typical PMO services, configuration types and the skills required by personnel working in the PMO. As part of addressing the study objectives, the typical challenges encountered when establishing and managing the PMO, how those challenges were prioritized and subsequently overcome, were examined.

Similar PMO challenges from different sources were identified and then listed as per Table 4. These PMO establishment and management challenges were also grouped into three categories according to the nature of a challenge.

To rank and prioritize the challenges, Singh *et al.* (2009:412) used a method where their research panellists reduced the consolidated list of 34 challenges by selecting the top 20 that they considered most significant. Thereafter, each panellist graded the randomised list of challenges in order of priority (Singh *et al.* 2009:415).

TABLE 4: Literature PMO challenges

People	Process	Organisation
Inadequate top and executive management support;	Poorly defined role, responsibility, and authority of the PMO;	Organisational resistance to change;
Lack of experienced project managers;	PMO creating unnecessary overhead in the organisation.	Low position of the PMO in the organisation;
Inadequate resource utilisation management.		Failure to design a PMO around a company's specific needs;
		Rigid corporate culture (resulting in resistance to change).

Source: Derived from PM Solutions 2014:10; Salamah & Alnaji 2014:193-194; and Singh *et al.* 2009:411

A similar method was used by the PM Solutions (2014:10) where their respondents ranked the top challenges according to their organisational experiences. Similarly, Salamah & Alnaji (2014:193) interviewed a group of project management practitioners that took part in the PMO establishment and served in it for three years after its setup.

By comparing the three studies, similar top ranked challenges were identified and then listed as per Table 5. Furthermore, the mitigating strategies on how to overcome the top ranked challenges encountered when establishing and managing a PMO are also listed in Table 5.

As can be seen from Table 5, only one mitigating response from the reviewed literature could be found for overcoming challenge number 5 - failure to design a PMO around a company's specific needs. This challenge is investigated later in the study and actually forms part of the proposed PMO establishment guideline on how PMOs can help address organisational needs.

TABLE 5: Literature PMO top establishment and management challenges and how to overcome the challenges

No.	Challenge	Mitigating factor
1.	Organisational resistance to change	There must be an influential PMO champion who can in turn influence the opinion of other leaders within the organisation. If the organisational culture executes operational activities based on politics, emotions and first-come-first-served policies, then company assets will decline - with or without efficient tools and high-profile PMOs; A positive corporate culture is of paramount importance for a winning PMO.
2.	Rigid corporate culture (resulting in resistance to change)	Must have a strong PMO champion who preaches the value of the PMO; Progress with gradual steps and illustrate the value of the PMO with some early accomplishments; Identify and pursue support from opinion leaders within the organisation who are advocates for a PMO setup.
3.	Lack of experienced project managers	In circumstances of complex and multiple stakeholder projects, lessons learned and project experiences from prior engagements are often crucial for project managers; Employ experienced programme manager/s who understand the corporate culture and power dynamics within the organisation; Utilise the most talented project managers.
4.	Inadequate top and executive management support	PMO strategy must be developed with maximum input from the entire organisational leadership team; Establish a business-driven PMO; The PMO should be seen and supported by upper and executive management as a business facilitator and enabler; Upper and executive management should attend steering committee meetings; Upper and executive management should conspicuously

		empower the PMO by giving them decision-making authority; Upper and executive management should not overtly undermine the PMO authority by overriding the decisions already taken;
5.	Failure to design a PMO around a company's specific needs	Project management offices must contribute significantly to the management of the processes that link projects to corporate strategy;

Source: Derived from PM Solutions 2014:10; Salamah & Alnaji 2014:193-194; Salamah & Alnaji 2014:196; Singh *et al.* 2009:411; Singh *et al.* 2009:419 and Steyn 2015:2782

3.5 PMO performance evaluation

Pemsel and Wiewiora (2013:31) argue that a PMO is a formal tier of control between project management and top management in an organisation. However, it has to be noted that having a PMO does not, by itself, increase project success (Ward & Illingworth 2013:10). As such, Desouza and Evaristo (2006:421) point out that executive management need to assess whether their PMOs are yielding any significant benefits by evaluating their performance against the backdrop of the operational challenges they face.

To evaluate the performance of a PMO towards projects success, Table 6 lists the key metrics per category.

TABLE 6: Literature PMO performance evaluation metrics

Operational	Tactical	Strategic
Percentage of projects completed on time; Percentage of projects completed within budget; Improvement in the resource allocation percentage;	An increase in PM maturity; Number of certified project managers; Improvement in employee satisfaction percentage; Improvement in customer satisfaction percentage;	Percentage of project health by strategic objective; Number of projects aligned with organisational strategy; Number of projects that met original business goals;

Source: Derived from Desouza & Evaristo 2006:421; PMI 2012:1; Oracle 2013:5; PM Solutions 2014:5; and PMI 2015:8-11

These PMO performance evaluation metrics were derived from a comparison of different studies. Thereafter, similar evaluation metrics were identified and then listed as per Table 6. The categories were based on the type of PMO performance measurement activity.

While the PMO performance metrics listed above are essential measurements, Desouza and Evaristo (2006:421) argue that the metrics for evaluating PMO success cannot be predetermined. Moreover, the organisation has to identify the key areas of concern before it can establish ways to determine and measure the success of a PMO in those crucial areas (Desouza & Evaristo 2006:421).

Moreover, Aubry (2015:26) argues that there are other direct effects on project management performance such as:

- i) internal project management issues;
- ii) change in top management;
- iii) external events;
- iv) new PMO manager;
- v) competition between different parts of the organisation for projects;
- vi) degree of collaboration between different units; and
- vii) change management.

3.6 Literature PMO establishment guideline

A number of principles with regard to the PMO establishment and management challenges and the appropriate mitigating responses to overcome those challenges were identified. As a consequence, a ten-step PMO setup literature guideline was developed as shown in Table 7.

Although some of the guideline steps in Table 7 can be carried out concurrently, most PMOs are usually established by consultants or the PMO manager (Perry 2009:43). It would appear that, perhaps, it might be a good idea to carry out these guideline steps sequentially because each subsequent step build on information from the preceding one as input.

TABLE 7: Literature PMO establishment guideline

No.	Factors to consider	Source
1.	Establish all the top organisational problems to be solved by the PMO in collaboration with executive and change management.	Perry (2009:46); Pellegrinelli & Garagna (2009:654); Pemsel & Wiewiora (2012:31); Ward & Illingworth (2013:10)
2.	Determine the purpose of the PMO based on the problems to be solved in collaboration with executive and change management.	Aubry <i>et al.</i> (2010a:04); Aubry <i>et al.</i> (2010b:773); Salamah (2014:21)
3.	Establish the goal and objectives of the PMO in collaboration with executive and change management.	Perry (2009:46); Salamah (2014:21)
4.	Identify all the challenges that are likely to obstruct your PMO establishment initiative and later its operation. Identify and prioritise the top challenges and then come up with mitigating strategies for each challenge in order to successfully solve the organisational problems.	Tables 4 and 5
5.	Identify a suite of services the PMO must render in order to successfully address the organisational problems identified. The service maturity levels must also be determined at this stage.	Table 1
6.	Considering the organisational structure, determine the best place to position the PMO so that its interaction with the rest of the organisation is optimised.	PMI (2013b:21-22)
7.	Adopt the appropriate PMO configuration type that will enable the rendering of identified services at the right maturity level.	Table 2
8.	Identify the appropriate skills and expertise of the PMO personnel that can render the services ascertained, in order to address the organisational problems.	Table 3
9.	Establish the PMO evaluation metrics that will be utilised to measure the performance of a PMO in solving the identified organisational problems.	Table 6
10.	Launch the PMO in collaboration with change and executive management and continually evaluate its performance.	Oracle (2013:07)

Source: As per the sources listed in the third column of the table

4. RESEARCH METHODOLOGY

An in-depth interview method was used in the form of questionnaires forwarded to the participating South African parastatals. According to Sreejesh, Anusree & Mohapatra (2014:60), unstructured questionnaires are usually open ended and try to probe into the mind of respondents, allowing them to express their own thoughts rather than restricting them to the available response options.

This is the approach that was followed in order to elicit the factual information pertaining to the PMO establishment and management challenges.

The precise steps involved in selecting the sample necessitated, first, that 132 South African parastatals be contacted to determine which ones have established PMOs. The actual population size of the study sample was finalised to 32 parastatals with PMOs. However, only 9 of the 32 parastatals participated in the study.

The PMO employees within the 9 participating parastatals were selected as per the criteria outlined in Table 8.

It was very difficult to convince all 32 identified parastatals with PMOs to commit to participation in the study. Although telephonically they had agreed to participate, they could not provide suitable dates for personal interviews. As the preferred method of research data collection at the beginning, the personal interview approach could therefore not be used. Instead, the researchers settled for a self-administered interview method where a Microsoft (MS) Word-based questionnaire was electronically mailed to all 32 parastatals. But only 9 parastatals responded.

Furthermore, in the interview questionnaire, there was a separate section provided to record the respondent's name, telephone number and employer's details. Though no obvious research analysis can be performed on such data (Sreejesh *et al.* 2014:163), it is the basis for data validation because, as Sreejesh *et al.* (2014:163) point out, it can confirm whether the interview was indeed conducted.

In addition, the *full sample diversity strategy* was also deemed suitable because the respondents came from different parastatals of vastly incomparable sizes and government mandates.

TABLE 8: Sample selection criteria

Criteria	Rationale
Respondents will have to be currently working for, or at, a South African state-owned entity (parastatal).	To ensure that the respondent is an employee of the parastatal or consultant, at least they will have the current knowledge and recollection of the relevant information being asked for by the study.
Respondents will have been involved in the implementation of a PMO from the onset to a period of at least a year, or more.	To ensure that the respondent relates first-hand knowledge for this study as opposed to hearsay or documented experiences.
Respondents will have worked for, or at, the parastatal for at least a year prior to the PMO implementation.	To ensure that the respondent, especially consultants and/or new employees, have spent enough time at the parastatal to understand the culture. This is important since qualitative research is about multiple realities (meanings individuals attach to their experiences).

Source: Own sample selection criteria

Upon collecting the data, it was captured and stored in the MS Excel software. Data analysis was also performed with this software. Thereafter, the study findings and implications were presented.

5. FINDINGS AND IMPLICATIONS

The purpose of this study was to develop a model to serve as a guideline to identify the challenges of establishing and managing a PMO at a South African parastatal. This section presents the data collected and findings derived.

As can be seen from Table 9, 9 parastatals participated in the study. Furthermore, only 1 parastatal, out of the 9, had three of its PMO employees completing the interview questionnaire. Table 9 presents the respondents' profiles at the time of the study and the roles they played within their respective PMOs.

TABLE 9: Respondent's profile

No.	Participating parastatal	No. of PMO responses	No. of years in PMO	No. of years with parastatal	Role in the parastatal's PMO
1.	Parastatal 1	1	2	2	Information technology (IT) PMO manager
2.	Parastatal 2	1	9	9	Senior manager: Projects
3.	Parastatal 3	1	0.8	2.7	PMO administrator
4.	Parastatal 4	1	-	11	Programme manager
5.	Parastatal 5	1	1.5	9	Chief advisor: PM Centre of Excellence
6.	Parastatal 6	1	3	4	Acting funds manager: Projects
7.	Parastatal 7	1	4	22	Senior project manager
8.	Parastatal 8	1	9	9	General manager: Strategy and business planning
9.	Parastatal 9	3	15	31	GM: Operations and projects
			2	28	Chief scientist
			10	30	Unit manager: Technical services

Source: Own data presentation

5.1 Respondent's PMO background information

Apart from the three main research questions, the participants were asked to specify their PMO services, configuration types and personnel skills. This additional background information provided the researchers with a better understanding of the respondents' PMO setup and business environments.

5.1.1 PMO services

The PMO service offerings were grouped into 6 categories as shown in Table 10. Moreover, the actual service offerings are exactly the same as listed in Table 1. Only the *other* category represents uniquely parastatal PMO services not listed in Table 1. Note that P1 to P9 in Table 10 represents Parastatals 1 to 9.

TABLE 10: PMO services at the South African parastatals

PMO service category	P1	P2	P3	P4	P5	P6	P7	P8	P9	Service maturity level
Basic support and monitoring		x		x		x	x	x	x	Level 1-5
Consulting					x					Level 4-5
Governance and reporting	x		x		x		x	x		Level 3-5
Human capital management			x		x					Level 2-5
Knowledge management	x									Level 3-5
Other						x			x	Level 1-5

Source: Own data analysis

The results indicate that 6 of the 9 parastatal's PMOs render basic project support and monitoring services. These services are at maturity level 1 – 5 which implies that it can be rendered at any PMO configuration type. The governance and reporting category can be rendered from a departmental PMO onwards. Only 5 of the 9 parastatal's PMOs indicated being capable of providing this service. Interestingly, only one parastatal, indicated having the capability to render strategic and enterprise-wide services. The same applies to knowledge management, where only one PMO performs this service. Two PMOs indicated that they perform additional services than the typical PMO services. It should be noted, however, that a category contains services of various types that can be rendered at various levels of maturity. The level of maturity allocated to each category in Table 10 was based on the predominant levels of the services in such a category as listed in Table 1.

5.1.2 PMO configuration types

Table 11 presents the results of the PMO configuration types at the South African parastatals.

TABLE 11: PMO configuration types at the South African parastatals

PMO configuration type	Project Office (Level 1)	Basic PMO (Level 2)	Departmental PMO (Level 3)	Strategic PMO (Level 4)	Enterprise-wide PMO (Level 5)
Parastatal 1		x			
Parastatal 2		x	x	x	
Parastatal 3				x	
Parastatal 4		x			
Parastatal 5			x		
Parastatal 6				x	
Parastatal 7		x			
Parastatal 8				x	
Parastatal 9		x	x	x	

Source: Own data analysis

The results in table 11 show some inconsistencies with the results presented in table 10. E.g. parastatal 5 indicated that they operate a PMO at maturity levels 1 to 5. The results in table 11 however shows the contrary. Moreover, the results indicate that no PMO is operating at level 5, the enterprise-wide PMO configuration type. This implies that none of the PMOs can render services that address organisation-wide challenges or even help solve strategic objectives.

The findings reveal a lack of understanding of the relationship between the PMO configuration type setup and the corresponding services.

Next the researchers analyse the respondents' PMO personnel skills to determine whether the existing skills were suitable to roll out the services associated with the adopted PMO configuration type.

5.1.3 PMO personnel skills

Table 12 presents the PMO personnel skills per category in a parastatal.

TABLE 12: PMO personnel skills at the South African parastatals

PMO skill category	Administration	Project Management	Leadership	Other
Parastatal 1		x		x
Parastatal 2	x	x		
Parastatal 3	x		x	
Parastatal 4	x			x
Parastatal 5		x		x
Parastatal 6	x			x
Parastatal 7	x	x		x
Parastatal 8		x	x	x
Parastatal 9	x	x		x

Source: Own data analysis

Table 12 indicates that 7 of 9 PMOs have unique personnel skills than those listed in Table 3 as indicated by *other* category. These unique skills include: (i) engineers; (ii) fund managers; (iii) investment associates; (iv) vendor managers; (v) system analysts; (vi) scientists; (vii) researchers; (viii) commercial experts; and (ix) business strategists. What this means is that only 2 of 9 parastatals' PMOs possess typical PMO personnel skills. Furthermore, the unique personnel skills will mostly be found in the *basic* and/or *departmental* PMO configuration types. This is because those skills will tend to be inclined to the nature of the function of such a department in the organisation.

Another observation is that only 2 of the 9 PMOs reported having a dedicated leader for their PMOs. Without a dedicated manager of the PMO, it becomes very unlikely that the PMO can

successfully standardise processes for the project management skills that 6 of the 9 parastatals are reporting to have. This further strengthens the argument that probably the majority, say 7, of the parastatals operate either a *basic* or *departmental* PMO. This is supported by the consistency of the results presented in Table 10 where only one parastatal is operating at Level 4-5 and Table 12 as explained above. The researchers speculate that the respondents probably do not understand the concept of a PMO configuration type due to Table 11's inconsistency with Tables 10 and 12.

5.2 Identification of the PMO challenges

Table 13 indicates the average number of parastatals with the PMO setup and management challenge in a category.

TABLE 13: PMO challenges (by category) at South African parastatals

PMO challenge category	No. of parastatals with PMO challenges in this category
<i>People</i>	4
<i>Process</i>	1
<i>Technology</i>	5
Organisation	3
Other	3

Source: Own data analysis

With 3 out of 9 parastatals reportedly having unique PMO challenges denoted by *other*, the following describes those unique challenges:

- Lack of formalised programmes (internally or externally) to capacitate project managers;
- Silo mentality (encourages inefficiency and duplication of effort);
- PM software available as a stand-alone application, as opposed to being centrally available on the network (encourages silo mentality);
- Limited access to projectors for effective PM progress reporting and presentations (limits communication about PMO value-addition);

- Lack of documented process flows within the organisation (encourages silo mentality; everyone does things their own way);
- Attitude/behaviour that is not conducive to a positive working environment;
- Poor network connectivity.

The results in Table 13 indicate that 6 of the PMOs experienced the typical PMO challenges as presented in Table 4. One of the *other* challenges, silo mentality, has pointed out some direction with regard to the PMO configuration types and services rendered. The silo mentality of operation is usually associated with functional units/departments within an organisation.

This observation confirmed the previous finding that the majority of the parastatals (8 out of 9) operated at anything but an enterprise-wide PMO. This is important to point out because, once again, it confirms that the reported 4 parastatals operating strategic PMOs could be doing so at a departmental level; hence the silo mentality. Unlike the enterprise-wide PMO, a strategic PMO is not necessarily geared towards solving all organisational problems. If it is a strategic PMO at a departmental level like the results suggest, then it would be pursuing only departmental projects aligned to organisational strategic objectives.

Only one parastatal reported the PMO challenge as a result of business processes. This finding means that no matter how excellent the organisational business processes are, unless people-related challenges are addressed, those processes and/or technologies will not bring about solutions. For example, if people are resisting change and/or the organisational culture is too rigid for change, efficiency in project execution as a result of the establishment of a PMO may not be fully realised.

Next the researchers discussed the parastatals' top ranked PMO challenges.

5.3 Establishment of the top challenges

The top challenges of establishing and managing a PMO at a South African parastatal is presented in Figure 3.

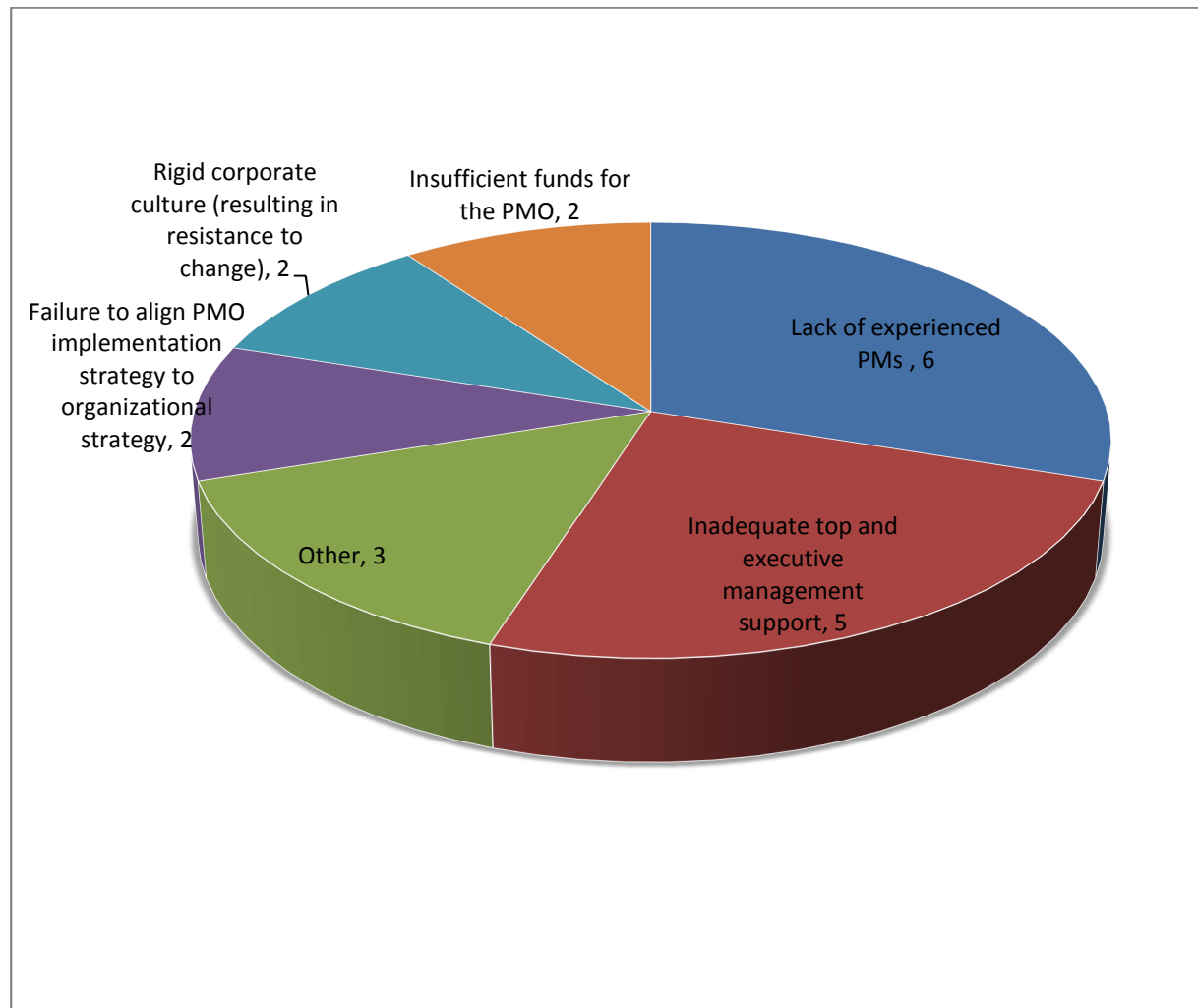


FIGURE 3: Top six PMO challenges at South African parastatals

Source: Own data analysis

In comparison with the top challenges in the literature review section presented in Table 5, only the top four challenges, excluding *other*, from the respondents matched. Lack of experienced project managers as reported by 6 out of 9 parastatals' PMOs, despite 8 out of 9 reportedly rendering typical PMO services, suggests that most PMO services can be rendered at any PMO configuration type. This could further mean that what is important is not always about what services are being rendered, but what capability maturity levels are the services being rendered at.

Consistent with the literature, the inadequate top and executive management support is also experienced by the South African parastatals as one of the top PMO challenges. Perhaps this lack of executive support could explain why the parastatals are also experiencing insufficient PMO funding and failure to align the PMO strategy to that of the business. This is because without executive support and buy-in, the PMO is very likely to encounter numerous obstacles in launching itself throughout the organisation.

The rigid corporate culture (resulting in organisational resistance to change) as reported by 2 parastatals, could mean that they were trying to change from a departmental PMO to a higher type, probably an enterprise-wide PMO. This is because departmental employees are usually unlikely to resist a project that they controlled from inception to completion within their own department. On a positive note, 7 parastatals did not see it as an issue. This implies that these 7 parastatals are operating anything but an enterprise-wide PMO. This would be consistent with the previous finding that 8 parastatals are operating anything but an enterprise-wide PMO.

The next sub-section presents the mitigating responses reportedly implemented by the participating parastatals in overcoming their top six PMO challenges.

5.4 Mitigation against the top ranked challenges

To overcome the top six challenges of establishing and managing a PMO at a South African parastatal, refer to Table 14.

Moreover, Table 14 also outlines the number of parastatals that offered mitigation responses to address their top ranked PMO establishment challenges. Moreover, some parastatals' mitigation responses were similar.

As can be seen in Table 14, 8 of the 9 parastatals mitigate against the other uniquely parastatal PMO challenges; 5 offered mitigating strategies for the top PMO challenge - lack of experienced project managers.

Successful solutions towards organisation-related challenges are normally expected to be championed by executives. Hence the finding that only 2 of the parastatals formulated some form of a mitigating response against the inadequate executive support is surprising. A higher percentage was expected.

TABLE 14: Mitigating responses against the top six PMO challenges at South African parastatals

No.	Top PMO challenges	Mitigating response	No. of parastatals with mitigation response
1.	Lack of experienced project managers	PM training to all relevant personnel; Put an eye on future budgeting outcomes to optimise the usage of experienced PMs; To minimise PM skills shortage, encourage collaborations between projects.	5
2.	Inadequate top and executive management support	Lobby PMO support from executive management; Present sound PMO business case to executive management; Provide role description, clarification and a clear focus for expected PMO related duties;	2
3.	Other	Develop team site for IT PMO on SharePoint; Train and guide project managers; Customise the PM software to adequately meet your needs.	8
4.	Failure to align PMO implementation strategy to organisational strategy	To some degree, have open discussions about the established (and cannot be changed) mandates.	1
5.	Rigid corporate culture (resulting in resistance to change)	Provide staff with training; Establish a PM forum to eliminate silo mentality ; There is room to introduce new ideas beyond what our mandate is in the balanced scorecards (BSCs). However, budgets always determine and/or limit what needs to be accomplished and how.	3
6.	Insufficient funds for the PMO	Keep an eye on future budgeting outcomes; Cost containment; Reprioritisation of projects; Pitching for external funding of some projects.	2

Source: Own data analysis

The next sub-section discusses how the overall performance of a parastatal's PMO is evaluated in order to determine its value-addition to the organisation.

5.5 Evaluation of the PMO performance

Table 15 presents the parastatals' PMO performance evaluation metrics per category.

TABLE 15: PMO performance evaluation at South African parastatals

PMO challenge category	No. of parastatals with PMO challenges in this category
Strategic	2
Tactical	2
Operational	2
Other	3

Source: Own data analysis

The other-related metrics included the following:

- project delivery at expected quality;
- compliance of PMO practices to applicable regulations;
- compliance of PMO practices to codes of good governance;
- frequency of PMO reporting to relevant stakeholders;
- quality of data coming out of the PMO, perhaps, as a consequence of the proper usage of PM software;
- BSC targets achieved through successful execution of projects;
- meeting legislative and mandatory obligations of the parastatal through the successful execution of projects;
- alignment to the annual performance plan of the parastatal.

Table 15 cross references the PMO evaluation metrics with the adopted configuration types to better understand how PMO performance is affected.

TABLE 16: PMO metric and configuration type cross reference

PMO performance metric used	Associated PMO configuration type
Operational metrics (2)	Basic PMO (1)
Operational metrics (2)	Departmental PMO (3)
Tactical metric (2)	Strategic management office (4)
Strategic metrics (2)	Enterprise-wide PMO (1)
Other metrics (3)	All four PMO types

Source: Own data analysis

It follows that at least 7 of the 9 parastatals did not use strategic-related metrics (associated with the enterprise-wide PMO type) to evaluate whether their PMOs added value. Furthermore, considering that the *other*-related metrics include strategic, tactical and operational metrics, this finding confirms that at most, 8 of the parastatals operated anything but an enterprise-wide PMO that is associated with strategic-related metrics. Unless there is a clear understanding of the role and purpose of a PMO and how it should be configured, some of the parastatals will continue to operate PMOs that do not optimally add value and assist in service delivery in the country.

However, the fact that 3 parastatals reported using *other* unique PMO performance evaluation metrics than those in the literature, meant that the parastatals recognised the value and importance of measuring the performance of a PMO. They also realised that the PMO value-addition can only be successfully managed and improved if it is measured. As previously stated, most organisations fail in their first attempt of a PMO setup (PMI 2012:2). As a consequence, the next sub-section examined the primary objectives that led to the establishment of a PMO at the parastatals.

5.6 Objectives of establishing a PMO

Figure 4 shows the PMO establishment, management, and process re-engineering guideline as a proposed solution to address the research questions.

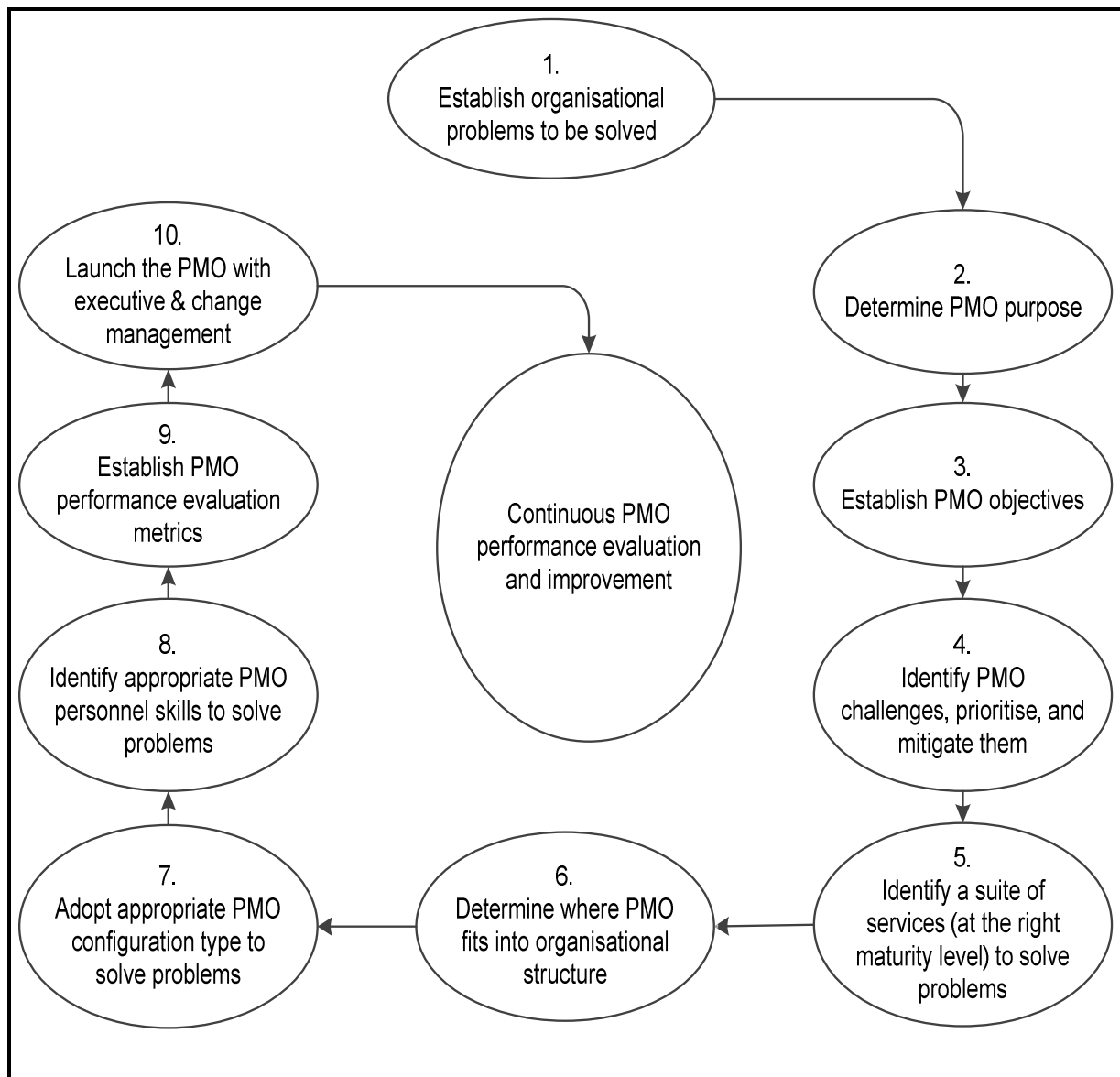


FIGURE 4: PMO establishment, management, and re-engineering guideline

Source: Derived from Oracle 2013:12; Pemsel and Wiewiora 2012:31; Perry 2009:46-48; PMI 2013a:6-7; PMI 2013b:21-22; PM Solutions 2014:5,9; Salamah 2014:20-21, Salamah & Alnaji 2014:196, Steyn 2015:2782; Ward & Illingworth 2013:3,7,10 and Zohrevandi 2014:13-14

To determine the fundamental PMO setup objectives at a parastatal, the following two questions were asked in the questionnaire:

- What did the organisation want to achieve by establishing a PMO?
- What were the key drivers and objectives behind the PMO initiative?

There were two common themes that stood out from the participants' responses, namely:

- The need to improve the rate of successful projects;
- The need to align organisational initiatives to the business strategy.

These suggested that the parastatals did have clear reasons and objectives for wanting to establish their PMOs. However, as established in the previous sections, there seems to be no clear understanding at some of the parastatals of the role and purpose of the PMO as it pertains to the configuration types and service capability maturity.

The research findings and implications discussed in this section strengthened the literature on the PMO establishment and management guideline presented in Table 7. Moreover, the PMO establishment and operational management challenges highlighted in the outcomes of the study in sections 5.1 to 5.5 informed the model in Figure 4 on how to address, or even prevent, such challenges.

6. CONCLUSION

When one takes a look at the main research and supporting questions, it can be concluded that the majority of the South African parastatals seem to have had clear reasons for establishing PMOs. However, a majority of the parastatals operated PMOs at the configuration types not appropriate to achieving their strategic objectives. They also rendered services without a clear understanding of the PMO level of maturity required to offer such services. This indicates a lack of understanding of the PMO role in the organisation and results in inadequate cohesive approach to rendering services through the PMOs. The results further indicated a lack of and appreciation for sound PM principles and practices. This inevitably led to low PM maturity levels as evidenced by *lack of experienced project managers* being the topmost challenge across all parastatals.

It also became apparent that the parastatals should first identify the top organisational problems to be solved by a PMO; thereafter, determine the type of services required to solve those problems, adopt a suitable PMO configuration type to render such services and at the appropriate maturity level, and only after that determine the type of personnel skills required in the PMO to address identified organisational problems.

The study contributed to the limited PMO body of knowledge pertaining to the South African parastatals. The study further developed PMO establishment and re-engineering guidelines which can be used by industry practitioners to establish new PMOs or re-engineer processes of existing ones for improvement.

Finally, a future research gap exists to explore the effects of the parastatals' organisational structures on their PMOs. Another interesting study would be to investigate which PMO configuration types are appropriate for what kinds of PMO services. Although some of the mitigating strategies for overcoming the top PMO establishment and management challenges have been provided, they predominantly came from only three sources, namely, Singh *et al.* (2009:419), Salamah and Alnaji (2014:194-196) and Steyn 2015:2782. This apparent lack of empirical research on the strategy of how to overcome all the known PMO challenges suggests that there is a need for further research in this area.

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