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Project management competence in public sector infrastructure organisations

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Public sector organisations responsible for infrastructure development in most non-industrialised countries, which include infrastructure departments/ministries, parastatal organisations and other statutory organisations qualify as project-oriented organisations (POO). There are strong indications to suggest that these organisations' project management (PM) competencies leave a lot to be desired. At face value they purport to be fully fledged project-oriented organisations and performing as competent PM organisations, while in reality they are predominantly dependent on accidental project managers. This paper reports on a study that was carried out in one of the large infrastructure departments in South Africa. The focus is on one of the premiere programmes managed by the department. The management of the programme is scrutinised in order to establish the department/ministry's PM competence. An evaluation of the performance of the programme was carried out in relation to the ministry's mandate in order to assess its PM competence. It is found that the programme in its current form could be described as a 'white elephant' and a programme that does not have an appropriate organisation structure, nor appropriate and sufficient staff to carry out its objectives. The programme's management system is found to be very poor and at the lowest level of maturity (level 1 out of 5). Recommendations are made that the programme in its current form cannot fulfil its mandate successfully without a fundamental overhaul, addressing its organisational structure, personnel qualifications and programme management system.

Keywords: Project management competence, public sector, culture, infrastructure organisations, South Africa, non-industrialised countries.

Introduction

The need for sustained growth of the South African construction industry is given impetus by government's commitment to infrastructure investment to achieve economic growth and to address the infrastructure backlog emanating from apartheid (Construction Industry Development Board (CIDB), 2004). Since 1994 when the new democratic government started its business, the activity of the construction industry (CI) has reached every South African community, facilitating the objectives of potable water, sewage disposal, electrification, health, education, housing and productive employment. According to the CIDB (2004), the performance and capability of the industry is pivotal to transport and communication, import and export, industry development, and to all the logistics of a growing economy that increasingly supports an integrated and economically active population.

It is in the context of these challenges that government infrastructure departments (SAIDs) are under pressure to deliver projects on time, on budget, within utility requirements, on budget and to higher standard of quality. In order to meet these project parameters, the SAIDs require sound knowledge of the design and delivery process and of the contracting options and procurement strategies through which their requirements are articulated and realised—they require project management (PM) competences for individuals, but also by project teams and by themselves.

But between 1994 and 2001, the number of civil servants decreased from just over 1.2 million to just over 1 million (CIDB, 2004). The resulting capacity constraints have significantly affected infrastructure departments/ministries such that almost 25% of the

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procurement budget of these infrastructure departments/ministries is now spent on private sector experts providing policy advice and project management services. The need for project management expertise within all infrastructure departments/ministries to supplement PM expertise from these experts (consultants) and coordinate all PM responsibilities has become fundamental in order to deal with an enormous responsibility of managing a number of programmes.

The number of projects falling under every infrastructure department as indicated in Table 1 is so huge that the only way to coordinate and deal with these projects under a high level of staff turnover and limited budgets is for the departments to be fully fledged project-oriented organisations (POOs).

South African government capacity constraints in infrastructure departments are not peculiar to South Africa. They seem to be common almost in all non-industrialised countries (Fay and Yepes, 2003; Harris, 2003; Parker and Kirkpatrick, 2004). It is very important therefore to note that the findings reported in this paper could be used towards addressing capacity constraints in other non-industrialised countries.

As clearly indicated in Table 1, South African infrastructure departments (SAIDs) are under pressure to improve performance in order to address developmental constraints facing the country. The fact that the SAIDs are structured along programmes, and consequently projects, strongly suggests that they are project-oriented departments or ministries.

The success of these infrastructure departments (IDs) is contingent on being able to make predictions and commitments relative to their services and products. As indicated above their project management competences are fundamental to making this a reality. These project management competences are extensively referred to as 'project management maturity' in various theory and practice literature (for example in Skulmonski and Ginger, 2000; Broadman and Johnson, 1995; Kaplan and Norton, 1992; Lynch and Cross, 1995). The need for the SAIDs to function fully as project-oriented departments or ministries is one of the alternative ways to succeed. According to Schlichter (1999), PM has led a number of organisations to be more effective and efficient in delivery of their products and services, to have more accurate budgeting and scheduling, improved productivity and improved customer relationships. All these are fundamental if the SAIDs are to meet their mission and vision.

Going through the SAIDs annual reports, it is clear that Florac *et al.*'s (1997) questions are forming the framework of each and every report. Every infrastructure department seems to ask Florac *et al.* (1997) questions:

> 'Are we achieving the results we desire?' 'Are we meeting our customer's success criteria?' and 'Are we achieving our desired return on investment?'

But how do they (the SAIDs) know if their projects truly are meeting set objectives embodied in their mandate? Project management competences or maturity assessment can provide the basis to evaluate progress in pursuit of best-in-class project management status. PM competences have to be described, assessed and further developed for organisations, teams and individuals. However, there is no research that has been conducted to date in South Africa or other non-industrialised countries in the world to determine PM competence levels of public sector infrastructure departments/ministries.

This paper aims to partly fulfil this gap by presenting results from a case study of a major national programme managed by one of the South African infrastructure departments (SAIDs) and to use these results to recommend an appropriate process (in steps) which could be used by any public sector POO to move smoothly to higher levels of the PM maturity ladder by creating an environment for successful projects or 'building a project management centre of excellence'.

In order to maintain the department's anonymity it is referred to in this paper as WOB. The focus is on one of the national largest programmes managed by WOB. The management of the programme (which will be referred to as KProg) is scrutinised in order to establish the ministry's PM maturity/competence. In order to determine WOB's PM maturity/competence, an

Table 1 Infrastructure departments programmes and projects (2004–05)

Infrastructure department	Number of programmes	Number of projects (approx.)
Department of Public Works (DPW)	5	35
Department of Housing (DoH)	6	31
Department of Local Government (DoLG)	6	18
Department of Transport (DoT)	6	30
Department of Water Affairs & Forestry (DWAF)	16	55

Source: www.gcis.gov.za/docs/annual/2005/pll.pdf (accessed 28 April 2006).

evaluation of the performance of the KProg was carried out in relation to WOB's mandate. A clear reflection is made on KProg's original intent of advancing the transformation process of the construction industry and diversifying its shareholding structure.

This paper is organised as follows. First a brief context of WOB and KProg is provided. Secondly the theory and practice of PM competence review and the purpose of this paper are presented. Then, the key results of the case study are presented and discussed. These results are also compared with previous results presented in the theory and practice review and a brief summary of the salient findings and their implications is presented. Finally, the paper concludes with some recommendations.

WOB and KProg—the context

WOB is one of the five infrastructure departments (SAIDs) and is responsible for coordinating the development, monitoring and dissemination of government policy for construction industry development. Within the framework of its national programmes, WOB has established a limited capacity to give effect to three major programmes (including KProg). WOB also has the responsibility of promoting public sector procurement and monitoring a culture supportive of efficient client practice and improved delivery management, as well as public and private sector partnerships.

KProg is one of the three major national programmes under WOB. The aim of establishing KProg was to have a programme that will provide direct and comprehensive support to small-scale emerging firms (as its client base) to participate in the South African construction industry within their areas of expertise. An important role of KProg is to influence construction industry transformation in a manner that purposefully encourages the emergence of these small and emerging firms. Some of the key objectives of KProg are: to make the project procurement process more accessible, understandable, transparent and streamlined for the benefit of its client; to manage the public sector database of its clients; to monitor the success of policy and support instruments and enable the effective targeting of support to its clients; to review the streamlining of payment arrangements to limit cash-flow constraints of its clients; to develop its client business management training, as well as improved access to such training opportunities; and to facilitate access to finance by cooperation with relevant institutions through programmes aimed at reducing risk, and encouraging the establishment of appropriate loan scheme programmes and mechanisms.

Theory and practice of project management competence

According to Dinsmore (1999), an organisation's project maturity level:

> is a measure of its effectiveness in delivering projects (or programmes – author's emphasis)

Strengthening Dinsmore's (1999) definition, Gareis and Huemann (2000) define PM competence as:

> … the ability to perform the project management process efficiently.

Gareis and Huemann (2000) further argue that the PM competences relate to specific PM tasks to be fulfilled, and they exist if there is PM knowledge as well as PM experience. In the POO, PM competences can be differentiated for individuals, for project teams and for the organisation.

Existing PM competence models (PM maturity models) or assessment approaches are based on the Carnegie Mellon University Capability Maturity Model (CMM) for software development, prepared in conjunction with the Software Engineering Institute (SEI) in the United States of America (USA). Details of this model are described elsewhere (Humphrey, 1989; Paulk *et al.*, 1991). According to Gareis and Huemann (2000), during the late 1990s several specific PM competence models to describe and measure organisational PM competence were developed (Ibbs and Kwak, 1997; Goldsmith, 1997; Fincher and Levin, 1997; Hartmann, 1998). Most of these are based on the Project Management Institute (PMI) (2000) *Guide to the Project Management Body of Knowledge* (PMBOK). Dinsmore (1999) and Gareis and Huemann (2000) argue that traditional competence models (the SEICMM and most of those models based on the PMBOK) use four to five steps to describe and measure the competence to perform a specific project in an organisation. The scale usually used is initial, repeatable, defined, managed and optimised according to the SEICMM (Paulk *et al.*, 1991). These levels have been adopted for this study as indicated in Table 2 and briefly described below.

At level 1 (initial) an organisation has no formal project management processes in place. Success of any project at this level depends on individual effort, since systems and procedures are poorly defined. The PM process is unclear and projects are marked by cost, quality, utility and schedule problems. Interfacing with functional areas within the organisation is usually laden with communication problems.

At level 2 (repeatable) PM systems and processes for planning, scheduling, tracking and estimating are in

Table 2 PM maturity levels

Competence level	Description
5=Optimised	• Continual improvement of process • Continual collection of data to identify • Analysis of defects for prevention
4=Managed	• Process is quantitatively measured • Minimum of metrics for quality and productivity exist • Collection of process experiences
3=Defined	• Process defined and institutionalised • Process groups defined
2=Repeatable	• Process depends on individuals • Minimum of process controlling/guidance exists • Highly risky in case of new changes
1=Initial	• Ad hoc process, not formalised • No adequate guidance • No consistency in product delivery

Source: Paulk *et al.* (1991).

place and perceived as important within a POO. The tools are seen as a solution to some of the performance problems, yet they are not used in a fully integrated form. Project success continues to be unpredictable, and cost and schedule fluctuations persist throughout the projects. There is no integration of databases, although schedule information is generally abundant.

At the defined level (level 3) the POO has a standardised approach to project management within the organisation. The project management systems, defined and documented, are integrated into the organisation systems and procedures. Project performance is predictable, with a high degree of accuracy. Schedule and cost performance tend to improve and utility considerations are considered appropriately. Strong emphasis is placed on scope management, which is perceived as a fundamental part of managing projects.

At the fourth level (managed level) process management is measured and controlled. Management is linked with the information flow on major projects and knows how to use and interpret the information. Systems are able to generate integrated management-level information without reprocessing and reformatting. Project performance tends to conform to plans, thus the project success rate is high. There is a consolidated project database, which can be accessed for estimating and benchmarking purposes.

At the top level of PM maturity (the optimised level), project management processes within an organisation are continuously improved. A sophisticated system exists such that both top-level management reporting requirements and what Dinsmore refers to as 'in-the-trenches' tracking needs are met. Resource optimisation is a reality, not only at the project level but also on an organisational basis. Reliable information can be rolled up across all projects and analysed from an organisation-wide standpoint.

Although retaining the traditional competence model characteristics as described above in assessing PM competences of WOB, this study has also added 'the spider's web' principles, developed by the 'Projektmanagement Group' of the University of Business Administration and Economics in Vienna, where PM sub-processes are considered in the study in order to clearly understand how WOB is organised and specifically on how its PM processes relate to managing KProg. Hence for the description and measurement of PM competences six areas (of the Vienna model) are imposed on the traditional model (Table 2). These are: project start; project control; project coordination; management of project discontinuities; project close-down; and design of PM process. Details of the Vienna model are described in detail elsewhere (Gareis and Huemann, 1998).

From the background information described above, it is fair to argue that the success of SAIDs is contingent on being able to make predictions and commitments relative to their services and products. Consequently, PM competence or maturity in PM is of interest to PM professionals at an infrastructure department level like WOB since a PM competent or PM mature organisation is viewed as one that is better able to meet its commitments in terms of its services and products (for example in managing KProg).

PM competences (PM maturity) in project-oriented organisations (POO) like the SAIDs are required not just by individuals, but also by project teams and organisations. According to Gareis and Huemann (2000) these competences have to correlate. The PM competences of individuals performing project roles, such as project sponsor, programme manager, project

manager or project team member, have to be in accordance with the PM competences of the organisation as a whole as documented in its procedures. The PM competences of individuals, project teams and organisations can be described, measured and further developed. As PM has to be considered as a core competence of the POO, Gareis and Huemann (2000) further argue that this competence has to be explicitly developed by the organisation.

A project-oriented organisation (POO)—the characteristics

In order for an organisation to qualify as a POO, which is a condition for the need to have a significant maturity level in project management, an organisation should have the following characteristics (Gareis and Huemann, 2000):

- management by projects must be an organisational strategy;
- adoption of temporary organisations for the performance of complex processes;
- it must manage a portfolio of different project types;
- it must have specific permanent organisations to provide integrative functions;
- it must apply a 'new management paradigm' (lean management, total quality management (TQM), business process re-engineering and learning organisation);
- it must have an explicit project management culture; and
- it must perceive itself to be project oriented.

Based on the above seven characteristics, it is important that a POO must consider projects as tools to perform complex processes and as strategic options for organisational design as indicated in Figure 1.

It is important to note that management by project is the organisational strategy of organisations dealing with an increasingly complex environment. This environment is affected by a number of forces originating from the project itself, the organisation sponsoring the project, and organisations involved in project implementation, the sector or industry relevant to the service or product resulting from the project, forces from the country/economy and forces coming from the world environment on economics, politics and other social pressures as indicated in Figure 2.

By applying management by projects, argue Gareis and Huemann (2000), the organisation will be able to sail through the forces indicated in Figure 2 and pursue the following objectives:

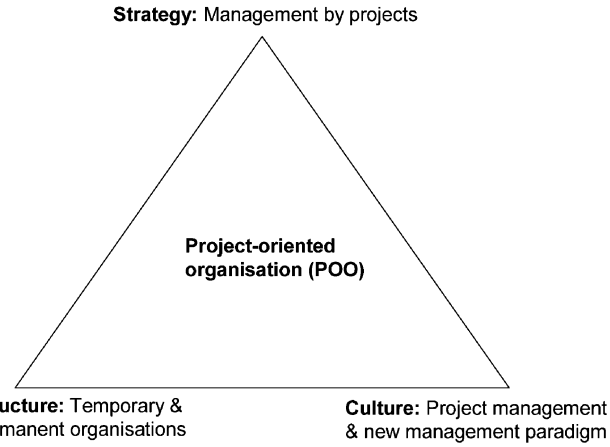

Figure 1 Strategy, structure and culture of the POO. *Source*: Gareis and Huemann (2000).

- organisational differentiation and decentralisation of management responsibility;
- quality planning, control and assurance by project team work and holistic project definitions;
- goal orientation and personnel development;
- organisation of organisational learning by projects.

Programmes and projects are perceived as temporary organisations for the performance of complex processes. The more projects of different types an organisation holds in its project portfolio, the more differentiated it becomes and the higher becomes its management complexity. In order to support the successful delivery of individual projects, and ensure the compliance of the objectives of the different projects with an organisation strategy, Gareis and Huemann (2000) and Dinsmore (1999) strongly insist that the POO must adopt specific integrative structures such as a strategic centre, expert pools, a PM centre of competence and a project portfolio steering committee. Some of these permanent organisations, they suggest, might be virtual.

In order to embrace PM good practices, the POO is characterised by the existence of an explicit PM culture, such as a set of PM-related values, norms

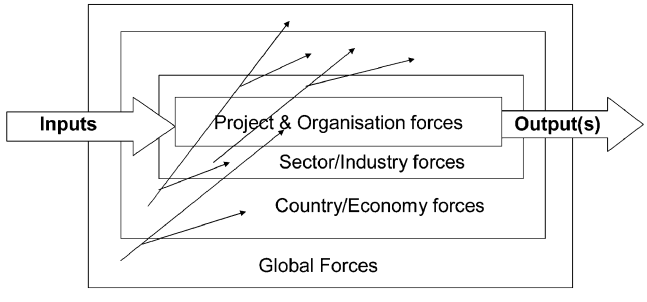

Figure 2 Project management in a complex environment

and procedures (Dinsmore, 1999; Gareis and Huemann, 2000). Furthermore, Gareis and Huemann (2000) argue that in order to manage a POO successfully, the application of a new paradigm is required—comprising the core concepts of lean management, total quality management (TQM), business process re-engineering and the learning organisation.

By perceiving PM as a business process of the POO, Dinsmore (1999) and Gareis and Huemann (2000) strongly suggest that the methods of process management can be applied to design the PM process. By describing the PM process, by defining its objectives and by defining its deliverables, Gareis and Huemann (2000) argue that it is possible to measure the quality of the PM process. The PM process consists of the following sub-processes: project start; project controlling; project coordination; management of project discontinuities; and project close-down.

Objects of consideration in the PM process (Gareis and Huemann, 2000) are:

> … the project objectives, the scope of work, the project schedule and the project costs, as well as the project organization, the project culture, the project context (and project sustainability – author's emphasis).

The achievable deliverables of each PM sub-process can be compared with the resource requirements for the performance of the PM sub-process.

In conclusion, a review of theory and practice suggests that there are few studies of project management competences in private businesses and none on public sector POOs. As indicated above, there is an evident need to analyse the status of PM competences in public sector organisations and provide direction for more research on the issue and contribute to the theory and practice knowledge base on PM competences fundamentals. This paper aims to partly fulfil this gap by presenting results from a case study of a major national programme carried out by one of the South African infrastructure departments (SAIDs) and use the results as a basis of recommending good practice processes which could be used by any public sector POO to move smoothly to higher levels of a PM maturity ladder.

Design of research instruments and research method

Design of research instruments

Research instruments used in this study and referred to in the preceding sections include: a 33 questions questionnaire for KProg clients; a 39 questions questionnaire for regional KProg managers; a 13–19 questions questionnaire for national WOB key officers; and a 13 questions questionnaire for private and public institutions offering financial support to KProg clients. These instruments were designed based on a typical SEICMM questionnaire which has 148 multiple choice questions in line with PM maturity levels as indicated in Table 2 above. The spider's web six axes areas as described above were used to reflect on the questions and thus four summarised questionnaires as described above were designed.

The KProg clients questionnaire included questions on the general background of the respondents and their projects, as well questions on their formal skills in the types of businesses they were involved in, their organisations' profiles, duration in the business, types of projects they were involved in, geographical area of operation, level of business involvement, problems facing them and their businesses, their sources of finance, and their evaluation of KProg performance (including reasons behind their dissatisfaction).

The KProg regional managers questionnaire included questions on KProg development from its inception to its current phase, achievements (on KProg objectives and tools used to meet them), processes used in monitoring their clients (including updating of KProg database), their assessment of WOB as the KProg parent department on the extent to which it has succeeded in accessing clients across the country (more in rural areas), appropriateness of existing documentation in managing clients, performance of their clients, policy on client relations management, client complaint procedures and training of clients.

The national WOB key officers questionnaire focused on the relationship between KProg and other programmes within WOB, processes in addressing KProg clients, and the ideal strategies to improve KProg. Furthermore a questionnaire for public and private financial institutions had questions focused on their policy on the support of KProg clients and tools used to measure success of their support to KProg clients.

Research method

Although structured interviews and a workshop were used in this research survey to deal with respondents within the research territory, the foundation of the study was focused on conducting a qualitative research—through a case study. Following in Priest *et al.*'s (2002a and b) footsteps, it is important to note that one of the most challenging aspects of conducting qualitative research lies in the analysis of the data. Furthermore, the author was confronted with the challenge of satisfying the 'quantitative research

believers' who strongly argue that quantitative research is the only reliable approach and the 'case study sceptics' who feel that case studies do not provide an appropriate base for reliable findings. The 'quantitative research believers' and some of the 'case study sceptics' will feel comfortable that the author has intensively used structured questionnaires to collect data. Another section of 'case study sceptics' will still see how a case study (and one case study for that matter) can represent a study on five SAIDs. The strengths of one case study representing five SAIDs have been dealt with above and the only issue to be argued here is the strength of using the case study method for this research project.

The case study method has a long and respected history in the social sciences. Yin (1994), for example, points to the classic case studies by Whyte (1943) and Allison (1971). There have also been seminal examples of case research within the management literature. Gibb and Wilkins (1991), for example cite Blau's (1955), Gouldner's (1954) and Dalton's (1959) work on bureaucracy. According to Perren and Ram (2004), the philosophy and implications of the case study method have received considerable attention in the methodological literature (e.g. Eisenhardt, 1989; Gibb and Wilkins, 1991; Ragin and Becker, 1992; Stake, 1994; Gomm *et al.*, 2000; Perren and Ram, 2004; Priest *et al.*, 2002a and b; Stake, 1995; Yin, 1994). Based on these findings, which are widely accepted, the author feels strongly that the method used in this study is sound and the way in which it was selected is balanced. Furthermore, three different approaches were used to analyse and interpret data. These are: grounded theory analysis, content analysis and narrative analysis.

Case study data

First, in order to have representative data on PM competences in SAIDs, an intensive scrutiny was made of the five SAID's PM portfolio (see Table 1), both from the scale of work they are involved in and the importance of their activities across the country (looking at three tiers of the public sector—local authority, provincial and national). The department—WOB was thus identified as fulfilling the most of the two criteria.

Within WOB, similar criteria to those used to select a focus department were used, but focusing on identifying a single programme, which has depth in terms of what is supposed to be accomplished (scale of work) and the position of the programme when looked at across the three levels of the public sector (across local authority, provincial and national—looking at the programme boundaries). KProg was identified as the largest programme within WOB and across other SAIDs based on the criteria.

In this research a thorough literature review (theory and practice) in the KProg primary business area was carried out. Structured interviews based on a questionnaire (33 questions) were carried out with KProg clients identified from the existing KProg database. The sample was randomly chosen from a total of 3,817 KProg clients and consisted of 458 clients, about 12% of the clients on the KProg client database. Structured interviews were carried out also with regional KProg managers (39 questions).

Other relevant national WOB key officers were interviewed through structured open-ended questions (between 13 and 19 questions depending on the relevance of the question). Another set of structured interviews were carried out with senior officers of two randomly selected institutions (one private and one public) offering financial support to KProg clients (13 questions).

A one-day KProg clients' organisations workshop was held, where 13 randomly selected representatives of KProg clients' organisations drawn from all over the country attended. The original intention of the workshop was to supplement the questionnaire-based interviews with KProg clients described above by reviewing the various objectives of KProg and assess whether it was meeting these objectives, its strengths and weaknesses, problems hindering it from fulfilling its mission and possible solutions to those problems. To this end a series of issues aligned with the programme was compiled and an interactive process planned which it was hoped would yield valuable input. Participants however objected to what they called 'a piecemeal review of KProg'. In the unanimous opinion of the participants the programme had been overtaken by events and they preferred a strategic, comprehensive evaluation, which they hoped would lead to a major overhaul.

Survey findings

KProg clients survey results

The following responses were obtained from a questionnaire survey of a randomly selected sample of KProg clients. In many of the questions the responses do not total 438 as some respondents chose not to answer the question.

Company profile: type of firm

The most popular type of firm for the respondents was the closed corporation, followed by sole proprietorships. Partnerships, trust firms, private limited firms

Table 3 Respondents type of firm

Type of firm	Number	Percentage
Close corporation	388	85
Sole proprietor	51	11
Partnership	10	2
Other: Trust	5	1
Pty Ltd	2	0
Non-profit organisation	2	0
Total	458	99

and non-profit organisations were not popular as indicated in Table 3.

Surprisingly, given the reported small nature of KProg client firms, close corporations outnumbered sole proprietorships by almost 7.5 to 1.

Geographical area of operation

This question was aimed at identifying the geographical scope of operations of the firm, and the responses were categorised according to whether the KProg clients indicated they carried out jobs in and out of the country, anywhere within the country, within a number of provinces, in only one province, within a city or municipality or within a district or region. The results show that most of the KProg clients have a provincial scope of operations, with 82% of them carrying out works within one province. Only one KProg client carried out work out of the country, in Botswana.

Main problems faced by KProg clients

KProg clients ranked 'lack of steady work opportunities' as the biggest problem facing them, followed by 'slow progress payments', 'credit or cashflow problems', 'complicated tendering procedures', and the 'lack of financial and managerial skills'. The 'lack of technical skills' and the 'lack of experience' were not seen as significant as indicated in Table 4.

Managerial skills and training required

The skills or training KProg clients would like to acquire most to help them in their businesses (Table 5) are tendering skills, identified by 223 KProg clients (51%), financial management skills (51%) and project management skills (50%).

Evaluation of KProg on the basis of expectations

Most KProg clients either agreed with or disagreed with the assessments of KProg, with few adopting a neutral stance as indicated in Table 6. Opinion was generally split between those who assessed KProg favourably and those who saw it in an unfavourable light. It can be concluded that KProg performs poorly in facilitating its clients to access credit facilities, and in facilitating KProg clients to acquire knowledge in competitive estimating techniques and business management. It is seen more favourably in facilitating KProg clients to access training and has best reviews in providing work opportunities and mobilising support nationally for KProg clients. Overall, however, opinion is divided as to KProg's performance.

Satisfaction with the administration of KProg

The largest group, 41%, considered themselves very satisfied with the administration of KProg, 10% 'quite satisfied', 15% saw KProg's performance as just 'satisfactory' 1% were 'somewhat dissatisfied', and 32% were 'very dissatisfied'.

The reasons given for KProg clients' dissatisfaction with KProg were:

- Lack of perceived help—this was identified by 19 respondents and focused on the lack of (perceived) support to KProg clients from the programme.

Table 4 Main problems faced by KProg clients

Problems faced	Ranking (average)
Lack of steady work opportunities	4.00
Slow progress payments	3.85
Credit or cashflow problems	3.60
Complicated tendering procedures	3.10
Lack of financial and managerial skills	3.09
Lack of technical skills	2.28
Lack of experience	2.23

Table 5 Desired skills and training

Skills	Number of KProg clients	Percentage
Tendering	223	51
Financial management	221	51
Project management	217	50
Operations management	195	45
Estimating	163	37
General business management	160	37
Material management	110	25
People management	105	24
Other specify	32	7

- Poor feedback/communication—16 KProg clients complained that there was poor feedback to them after tendering, little information on procedures and on the services offered by KProg.
- No projects—10 respondents used the lack of results in terms of projects awarded from KProg to show their dissatisfaction.
- Inadequate training by the programme (7 respondents), poor procedures (5), a perceived preference for financially strong KProg clients (4) and the long period before results positive results were other factors that caused dissatisfaction among KProg clients.

Overall assessment of KProg (its long-term usefulness)

KProg is seen as an excellent tool for long-term business success by 28% of KProg clients, and as beneficial by 15% of them. Eighteen per cent are neutral, 19% see its performance as a long-term tool as fair and 23% as poor. These figures show a fairly even split between positive and negative views on KProg.

KProg database as a tool for KProg clients' assessment

Almost half (48%) the respondents interviewed were very satisfied with the database as a tool for their assessment, monitoring and management. This is a favourable review considering that only 22% were 'somewhat dissatisfied' to 'very dissatisfied' with the database.

Help Desk Facilitator ability to provide advice and assistance

The Help Desk Facilitator was viewed as 'very satisfactory' by 54% of the respondents, as 'quite satisfactory' by 10%. Its performance was seen as 'somewhat unsatisfactory' by 2% and 'very unsatisfactory' by 16% of the respondents. Though in the minority this is still a significant number, nonetheless.

Workshop with KProg clients' organisations

The original intention of the workshop was to review the various objectives of the KProg and assess whether it was meeting these objectives, its strengths and weaknesses, problems hindering it from fulfilling its mission and possible solutions to those problems. To this end a series of issues aligned with the programme was compiled and an interactive process planned which it was hoped would yield valuable input. Participants however objected to what they referred to as 'a piecemeal review of KProg' and its performance, likening it to rearranging deck-chairs on the *Titanic*. In the unanimous opinion of the participants they felt that the programme had been overtaken by events and they preferred a strategic,

Table 6 Assessment of KProg's performance

Statements	Fully met with my expectations	Nearly met with my expectations	Percentage of KProg clients		
			Neutral	Somewhat	Not at all
Through the WOB, KProg is providing work opportunities and mobilising support nationally for its clients	42	9	10	4	35
KProg is facilitating for its clients to access credit facilities	26	3	5	3	63
KProg is facilitating for its clients to access training	43	5	4	3	45
KProg is facilitating its clients to acquire knowledge in competitive estimating techniques and business management	36	4	6	2	52

comprehensive evaluation, which they hoped would lead to what is called 'a major overhaul'.

While acknowledging the need for KProg as an intervention to level the playing field in the South African construction industry, participants had numerous criticisms of the programme. The following are some of the problems identified with KProg as it stood:

- There was a perception by participants that the fundamental premise underpinning the philosophy of KProg and the underlying reasoning behind its strategy were flawed. The programme did not build on the strengths of the existing emerging KProg clients but instead chose to focus on identifying weaknesses and attempting to correct them. The end result was a negative instead of positive scrutiny of emerging KProg clients and their capabilities.
- KProg did not bring the KProg clients' organisations on board *ab initio*, and has made no attempt to give them a voice in the running of the programme, preferring to deal with individuals.
- Who constitutes KProg clients? In the unanimous opinion of the participants, one of the biggest problems with the programme arose because of the absence of a filtering mechanism that could sort out genuine KProg clients from opportunists.
- There was also little emphasis on the need to develop KProg clients and pull them from whatever their entry level was to an exit level predetermined where they could then be independent of KProg.
- The programme did not formalise a regular framework and process of review, and did not establish milestones for the achievement of objectives.
- WOB seemed uncomfortable with strong critical views, especially those expressed by KProg clients' organisations, which led to the marginalisation of the organisations.
- KProg's emerging clients database was a powerful tool for driving transformation that appeared to be poorly implemented and not fulfilling its function.
- Inadequate attention to the major problems faced by KProg clients, especially finance.

Summary of findings: regional officers responsible for KProg

The managers identified a KProg major weakness as the blanket acceptance of every client who had applied without physically visiting the client business office to check and verify information and capacity. There was no limit to the number of clients entering the programme, little or no attempt at a screening process and no focus so the targeted market became too broad. This created problems later on in terms of poor KProg client performance and client dissatisfaction.

The regional managers concentrated on the technical, executing aspects of the programme. They were especially concerned with the database, which was seen as poorly designed and managed, taking up too much time to maintain and not user-friendly.

In addition, they had serious concerns about the monitoring mechanism for KProg clients, which was either poor or non-existent. The programme was seen as lacking sustainability because it couldn't provide more work, as KProg cannot guarantee work on a sustainable basis.

A fundamental assertion by regional managers was that the KProg mandate is not clear as whether to achieve numbers of clients or sustainable clients. This goes to the core of the KProg function, and attempts to clarify this to the regional offices must be made in order to ensure the entire programme pulls together.

Opinion is split as to the performance of clients in KProg, though all saw signs of progress if their recommendations were carefully enforced. Most regional managers are of the opinion that KProg objectives have not been achieved. This has been attributed mainly to the lack of screening of participants (clients), unsustainable work opportunities, the lack of financial resources and little training.

Synthesis of results

In order to interpret the above results through PM maturity levels as indicated in Table 2 above, an extensive Excel spreadsheet was formulated and the research results were mapped within the five levels of maturity. Furthermore, corresponding characteristics of WOB, KProg and the environment where they exist were simultaneously analysed by using the input–output model as shown in Figure 2. For lack of space the spreadsheet is not provided but the synthesis results are described below.

By interpreting maturity levels characteristics it was possible to link the findings to the five quadrants where each quadrant represented a maturity level. Quadrant 1 represented level 1, quadrant 2 – level 2, quadrant 3 – level 3, quadrant 4 – level 4 and quadrant 5 – level 5. Every answer coming from respondents was given an equal weight of two points (if supporting the characteristic, then +2 was given and when not supporting –2 was given). The decision to give equal points was based

on the fact that all WOB and KProg stakeholders (internal and external) were considered to have equal weight in terms of understanding the two entities and success or failure of the organisations was dependent on their involvement in the programme as either clients or service providers.

Based on the mapping exercise, the scores as indicated in Table 7 were realised.

Conclusions

The results of this study described above and mapping summary in Table 7 provide a strong indication to show that WOB doesn't seem to have formal project management processes in place and the ability to make predictions and commitments relative to its services. There are strong indications to suggest based on the department's premiere programme (KProg) management that WOB does not possess sufficient skills and abilities to manage its programme as a POO. With the absence of appropriate systems and procedures, there are strong indications to suggest that any possible success on various projects falling under KProg are dependent on individuals. On the PM maturity levels (Table 2) and respective scores shown in Table 7, WOB seems to be dominated by competence level 1 characteristics. Under these circumstances, the position of WOB need to be reassessed and reorganisation of its framework revisited.

It seems that government ministries or departments have good intentions and basic ideas on how to deal with implementation of various responsibilities within their mandate. The choice to organise around projects is an appropriate one, but the choice needs to be supported by other requirements in order to deliver successful projects. For these public sector organisations to benefit from this choice of organising around projects (becoming true POOs), they need to fully embrace PM as a core competence, where individual and team learning have to be organised.

Clear lessons could be learnt from this study for all infrastructure departments/ministries in other non-industrialised countries. One aspect which is evident from the study is the absence of a 'collective brain' in WOB—that is the organisation's ability to gather knowledge and experience and store them in a 'collective mind'. This is possible if and only if public sector POOs have consciously formulated standing operational procedures, description of work processes, role descriptions, recipes, routines and databases of products or services, and project knowledge.

Table 7 Mapping of results in PM maturity levels

Competence level	Total points scored
5=Optimised	+2 & −98
4=Managed	+4 & −96
3=Defined	+10 & −90
2=Repeatable	+30 & −70
1=Initial	+80 & −20

For WOB and other infrastructure departments/ministries in non-industrialised countries, the lesson to be learnt from this study is that organising around programmes and projects (as a project-oriented organisation—POO) is an appropriate way of fulfilling their mandate under conditions of high staff turnover and limited budgets. But being able to function as a POO and fulfil the department/ministry's mandate and move smoothly to higher levels of the PM maturity ladder requires the creation of an environment for successful projects or 'building project management centre of excellence'. While the details in terms of the required methodologies, tools and training for an appropriate POO are found elsewhere (e.g. Bolles, 2002; Graham and Englund, 2004), a list of steps is given here. Graham and Englund (2004) propose a seven-step process as follows:

1st step: Developing senior management support
2nd step: Developing a structure for independent input
3rd step: Developing a process for project selection
4th step: Developing upper manager's abilities in managing project managers
5th step: Establishing a project manager's development programme
6th step: Making project management a career position
7th step: Developing a project learning organisation

Finally it is very important to note that what is recommended above will require teamwork and cross-organisational cooperation, and these are antithetical to the reality experienced in most public organisations in non-industrialised countries. For this reason, there are strong indications to suggest that the changes necessary to become a fully fledged POO will be quite incompatible with the organisational culture. Even if systemic changes are made in the organisation, the old ways will still be just below the surface for many public sector organisational generations. Hence sustained leadership is imperative.

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