University of Southern Queensland

Faculty of Health, Engineering & Sciences

Project Management Maturity in Local Government

A dissertation submitted by

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Abstract

Local Governments across NSW once again face the threat of forced amalgamations under the NSW State Governments Fit for the Future reforms package. Increased pressure from communities to deliver services, coupled with a future of reduced financial assistance from State Government has challenged the sector to improve their performance. For many Councils this is a paradigm shift from an ad hoc approach of project delivery toward organisational maturity. In order to do this Local Government practitioners must improve their Project Management practices to deliver projects that are environmentally and financially sustainable, with improved quality, lower risks and maintaining the balance of community needs and desires. This paper examines the current Project Management Maturity of the sector in the adoption of project management frameworks and practices. The research provides an initial benchmark of Councils practices and defines common strengths and weakness by comparing organisations within the sector. This research, participated in by project officers across 50 Councils, demonstrates that in most instances some form of project management is conducted but that there is little standardisation within or across organisations. The research is based on the Project Management Body of Knowledge (PMBOK) and assesses maturity in areas such as Project Scoping to Cost Management - some being found more mature than others across the sector. On the whole, the sector averages little more than level 2 of 5 in the adopted maturity scale. Procurement management has been found to be the most mature with other relative strengths in Time, Cost and Risk management. Quality, Human Resourcing and Communications management have been found as a weaknesses across the sector. The root cause for such results is currently speculative and will be the subject of further research. With regular benchmarking and analysis it is hoped that improvement can be realised across the sector and a Council-specific project management body of knowledge can be formed. An opportunity exists to build maturity in the sector and improve the success rate of the many projects Local Governments deliver.

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Nathan Koenig

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Glossary

CMMI Capability Maturity Model Integration. 16, 30

FFTF Fit for the Future. 52

ILGRP Independent Local Government Review Panel. 48

IPART Independent Pricing and Regulatory Tribunal. 84

IPWEA Independent Public Works Engineers Australia. 58

OLG Office of Local Government. 46

OPM3 Organisational Project Management Maturity Model. 16, 28

P2MM PRINCE2 Maturity Model. 16

P3M3 Portfolio, Programme and Project Management Maturity Model. 16, 22, 30, 35

PM Project Manager. 78

PMBOK Project Management Body of Knowledge. 8, 28, 32

PMF Project Management Framework. 40, 78, 79

PMI Project Management Institute. 28, 61

PMMM Project Management Maturity Model. 2, 16, 17, 32, 61, 111

PMO Project Management Office. 3, 40, 78

TCorp NSW Treasury Corporation. 50

Chapter 1

Introduction

1.1 Background

Local Government departments across Australia deliver many and varied community services as well as billions of dollars worth of infrastructure projects each and every year (Department of Infrastructure & Regional Development 2003). With the cost of service delivery rising and Government funding models under constant scrutiny (Weight 2014), the Local Government sector will need to develop efficiencies in the delivery of projects to keep up with the demand for more and better services, civil infrastructure and public buildings. Established and proven Project Management methodologies may be tailored and introduced to Local Government departments to develop ongoing business improvement in project delivery.

The Local Government sector is constantly under review by the States and the Commonwealth with concerns about governance and accountability, the delivery of infrastructure, revenue and funding arrangements frequently on the agenda (Griffith 2013). Inefficiencies, budget overruns, quality assurance failures and scheduling issues in project planning and execution are major contributing factors to the ongoing scrutiny with too many councils focusing on compliance rather than performance (Independent Local Government Review Panel 2012). In 2009, the NSW Division of Local Government released the *Planning a Sustainable Future - Integrated Planning and Reporting Manual and Guidelines* in an attempt to align the services of Public Sector with the needs of the local communities in a manner that was strategically planned, and subsequently reported on, in order to

benchmark performance and resourcing strategies. A renewed push for sustainability in Local Government was initiated in 2011 with the Destination 2036 discussion paper and intensified in 2013 with the release of NSW Treasury Corporation report *Financial Sustainability of the New South Wales Local Government Sector* and the Independent Local Government Review Panel final report on *Revitalising Local Government*. This has resulted in the preparation of the NSW Government's *Fit for the Future* reform package - the results of which may see the forced amalgamation of NSW Local Governments deemed 'unfit'.

It is against this backdrop that councils must prove their capacity to stand alone as efficient and sustainable organisations while still delivering services to meet community needs and expectations. To do this, Local Government project management practitioners will need to ensure that project delivery is undertaken in the most cost-effective manner by eliminating waste in human and material resources, optimising the scheduling of works, improving first time quality and considering whole of life costs for impacts on ongoing maintenance expenditure. It is therefore imperative that Council's assess their current project management performance and seek ways of improvement, striving for industry best practice.

The purpose of this dissertation is therefore to assess the current project management performance of Local Government in Australia, and NSW in particular, to identify strengths, weakness and examples of best practice. Such an analysis will enable a targeted improvement strategy for ongoing maturity benchmarking. Data will be collected by conducting self-assessments in project management maturity at voluntary participating Local Government organisations. The data will be analysed in the context of Local Government services, performance measures and resourcing structures. Prior to collecting and assessing maturity indicators, a thorough exploration of Local Government and the current challenges faced by the sector will be conducted in order to tailor the assessment criteria of the maturity model. Existing Project Management Maturity Models (PMMM) and their usage will be investigated and discussed in detail in Section 2.2.

1.2 Research Aims and Objectives

The scope of this body of work will be framed around the objectives to be achieved by benchmarking industry performance in Project Management:

Selection of an appropriate Benchmarking tool With a large range of existing project management methodologies, this paper seeks to assess the most appropriate tool for initial performance benchmarking.

Conduct meaningful benchmarking exercise The research intends to capture sufficient and useful data to establish the current state of project management maturity in the sector and to draw comparisons. 'Meaningful' being valid, sector-appropriate data that can facilitate quantitative analysis.

Assess the application of Project Management discipline The research will seek to discover the consistency by which Project Management methodology is applied across the sector. The existence and influence of the Project Management Office (PMO) will also be determined. Comparison of results between Councils will be undertaken to determine if common factors arise between Local Governments of similar size or whether different issues are experienced between metro and regional Councils.

Existing strengths and weaknesses By identifying areas of common weakness, this research aims to provided a focus for collaborative sector improvement in concert with the intentions of the State.

Future application While the NSW State Government is embarking on a long-term strategic review of Local Government performance in financial and asset management, governance and service delivery (NSW Division of Local Government 2013) there is, to date, no focused approach to enhancing the capacity of Local Government practitioners and engineers in improving project delivery in Australia. This paper aims to introduce the scale of any shortfalls in project management practice and provide the impetus for improvement – the conclusions of this paper will enable positive change to be driven by, and for the benefit of, Local Government.

1.3 Purpose and Motivation of the Research

The purpose of this study is to frame these objectives in the the context of:

Infrastructure delivery in Local Government The majority of expenditure on public projects in Australia lays in the maintenance, extension or upgrade of existing road networks (Kaspura 2013) but also includes such civil works as footpaths, sanitation works in water and sewerage networks and the provision of public buildings (Department of Infrastructure & Regional Development 2003). Expenditure on road infrastructure, for example, makes up on average 16% of all public expenditure in Local Government in NSW however, given the variability of services between metropolitan and rural Councils, this component of annual expenditure can exceed 64% (NSW Office of Local Government 2014*a*). Project delivery in buildings and structures is more prevalent in metropolitan Councils than in regional Councils (NSW Office of Local Government 2014*a*). The paper will compare Local Government project management requirements in light of the different financial positions and functions of Local Governments across NSW.

1.4 Scope of Work

While Local Government as a sector will be analysed in regards to project management maturity, this paper will focus on the consequences for NSW Local Government in particular, against the context of the current reforms package *Fit For the Future*. A review of the literature on NSW Local Government performance will detail the criticality of efficient project delivery as it relates to fulfilling the NSW State Government *Integrated Planning & Reporting Framework* and assessment against the *Fit for the Future* benchmarks.

This research does not seek to determine the effect of project management maturity on the successful outcome of a project in Local Government. The correlation between improved project management practice and better project outcomes is well documented from research into industry maturity development (Prado 2012*b*, Ibbs & Reginato 2002, Kerzner 2001). Further research into measuring the success of projects delivered by Local Government in Australia will be needed to draw similar conclusions between Local Government project management maturity and improved project outcomes. Suggestions

for future research will be presented in Chapter 5: Conclusion.

1.5 Structure of the Dissertation

Chapter 2 details the Background of Project Management theory, existing PMMM frameworks and the history of Local Government reform in NSW

Chapter 3 details the research methodology adopted to undertake Project Management Maturity benchmarking across LG in NSW

Chapter 4 displays and analyses the data collected from the research conducted and summarises key challenges for the Local Government sector

Chapter 5 concludes the dissertation and suggests further work in the areas of researching and benchmarking project management practice in Local Government

Chapter 2

Literature Review

The following sections introduce project management as a systematic approach to developing and delivering complex works and explores some of the established industry frameworks such as PMBOK and PRINCE2. With an understanding of these best practice models, an in depth look at Maturity Models is then presented to initiate the reader in how the maturity benchmarking exercise can be undertaken within organisations delivering projects.

A literature review on Local Government performance measures is also presented in Section 2.6 to describe the current climate of business improvement and momentum for sector efficiency as initiated by State Government.

2.1 Project Management

Project Management is broadly defined as is the application of knowledge, skills, tools, and techniques to project activities to create a unique product, service, or result (Project Management Institute 2013). Worldwide, businesses and government operate with the expectation of payoff from investing time, money and resources in the aim to deliver products and services to their customers and clients. Project management, as distinct from operational management, is the method of delivery of these one-off services and products focusing on minimising costs, enabling efficiencies, improved customer and stakeholder satisfaction and greater competitive advantage (Project Management Institute 2010).

Reviewing the value of Project Management in 2010, reflecting upon the economic downturn of 2008, the Project Management Institute collated many statistics highlighting the importance of building organisational project management capacity to remain competitive and survive difficult financial conditions. This White Paper cited statistics that 80 percent of global executives believed having project management as a core competency helped them remain competitive during the recession. In a challenging business environment, with little room for error and fewer resources to rely on, project management expertise and oversight is helping organisations streamline their delivery process, cut costs and sidestep risks, enabling them to ride out the recession and implement stronger project management practices for the future (Project Management Institute 2010).

Measures for the value of Project Management practice within business however are not always readily apparent (Kerzner 2011). Business value is a concept that is unique to each organisation. Business value is defined as the entire value of the business; the total sum of all tangible and intangible elements (Project Management Institute 2013). Since the year 2000, Project Management Solutions, Inc. has been issuing a *State of the Project Management Office* report tracking the implementation of project management with industries from manufacturing to healthcare focusing on such metrics as 'decrease in failed projects' and 'cost savings per project' (Project Management Solutions, Inc. 2014*b*). A major focus in the business context is Return on Investment, on both the projects themselves, and the investment in project management activities to deliver the projects. Attempts have been made to model curves for predicted costs, schedule, quality and customer satisfaction performance levels based on company experience and their utilisation of Project Management practices (Ibbs & Reginato 2002).

While sustainability, rather than competitiveness, is the goal for government (NSW Independent Local Government Review Panel 2013); with NSW Council's facing a challenging reform environment, establishing the value of project management and its measures within the framework of Government service delivery will be imperative for Councils to avoid amalgamation, administration or painful restructure.

2.2 Project Management Frameworks

All businesses, either explicitly or implicitly, manage a portfolio of products or services delivery to their customers (Project Management Institute 2010). Disciplined project management starts at this portfolio level, where the strategic vision drives initial investments and where value measures are established (e.g. profit). More sophisticated business take an aligned approach to strategic project, program and portfolio management across the organisation (Project Management Institute 2010) also known as Organisational Project Management (Project Management Institute 2003). The development of a Project Management framework is the acknowledgment of project management as a discrete discipline that should be separated from specialist roles such as design or construction. As projects are the means by which business introduces change, and that project work entails a higher degree of risk than other business activity, it follows that implementing a secure, consistent, well-proven approach to project management is a valuable business investment (Office of Government and Commerce 2009). This section will describe in–brief the dominant models available for adoption within Local Government and against what important elements Project Management maturity might be assessed.

Conceptualising standard business practices in the management of projects across diverse industries, the Project Management Institute embarked on standardisation of project management procedures and approaches, producing the Project Management Body of Knowledge (PMBOK) in 1996. PMBOK presents the strategic delivery plan of business by defining portfolio management as aligning with organisational strategies by selecting the right programs or projects, prioritising the work, and providing the needed resources. Program management however harmonises its projects and program components and controls interdependencies in order to realise specified benefits (Project Management Institute 2013). Project management, as a separate discipline, develops and implements plans to achieve a specific scope that is driven by the objectives of the program or portfolio.

Within this framework PMBOK explores the lifecycle of Project Management through five Process Groups:

Initiating – Those processes performed to define a new project or a new phase of an existing project by obtaining authorisation to start the project or phase.

Organizational Project Management			
	Projects	**Programs**	**Portfolios**
Scope	Projects have defined objectives. Scope is progressively elaborated throughout the project life cycle.	Programs have a larger scope and provide more significant benefits.	Portfolios have an organizational scope that changes with the strategic objectives of the organization.
Change	Project managers expect change and implement processes to keep change managed and controlled.	Program managers expect change from both inside and outside the program and are prepared to manage it.	Portfolio managers continuously monitor changes in the broader internal and external environment.
Planning	Project managers progressively elaborate high-level information into detailed plans throughout the project life cycle.	Program managers develop the overall program plan and create high-level plans to guide detailed planning at the component level.	Portfolio managers create and maintain necessary processes and communication relative to the aggregate portfolio.
Management	Project managers manage the project team to meet the project objectives.	Program managers manage the program staff and the project managers; they provide vision and overall leadership.	Portfolio managers may manage or coordinate portfolio management staff, or program and project staff that may have reporting responsibilities into the aggregate portfolio.
Success	Success is measured by product and project quality, timeliness, budget compliance, and degree of customer satisfaction.	Success is measured by the degree to which the program satisfies the needs and benefits for which it was undertaken.	Success is measured in terms of the aggregate investment performance and benefit realization of the portfolio.
Monitoring	Project managers monitor and control the work of producing the products, services, or results that the project was undertaken to produce.	Program managers monitor the progress of program components to ensure the overall goals, schedules, budget, and benefits of the program will be met.	Portfolio managers monitor strategic changes and aggregate resource allocation, performance results, and risk of the portfolio.

Figure 2.1: The Portfolio-Program-Project framework (Reproduced from PMBOK 5th Ed. p.7)

Planning – Those processes required to establish the scope of the project, refine the objectives, and define the course of action required to attain the objectives that the project was undertaken to achieve.

Executing – Those processes performed to complete the work defined in the project management plan to satisfy the project specifications.

Monitoring and Controlling – Those processes required to track, review, and regulate the progress and performance of the project; identify any areas in which changes to the plan are required; and initiate the corresponding changes.

Closing – Those processes performed to finalise all activities across all Process Groups to formally close the project or phase.

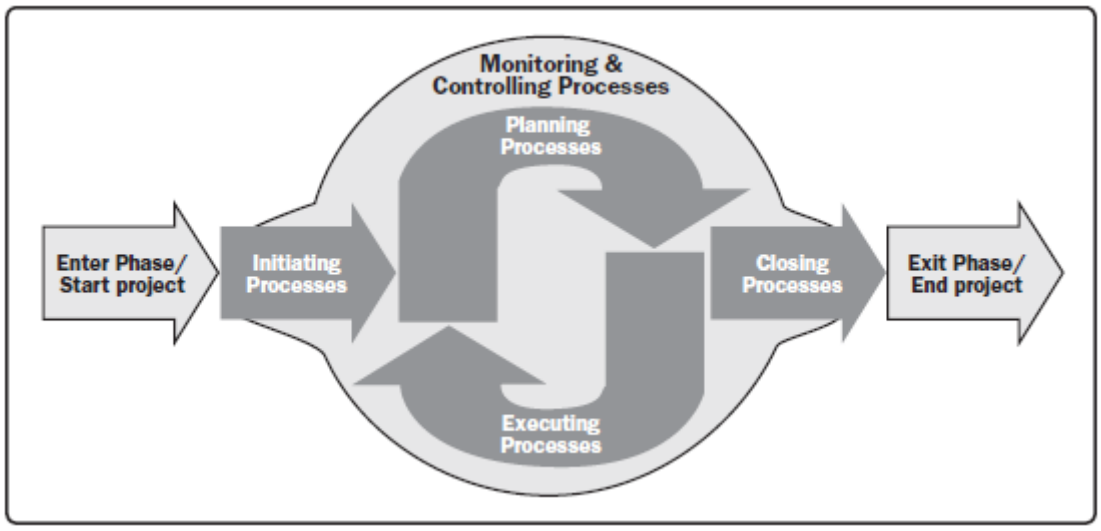

Figure 2.2: The Process Group interaction (Reproduced from PMBOK 5th Ed. p.50)

These Process Groups interact through the project management cycle as controlled by a Project Manager who will implement processes incorporating 10 Knowledge Areas of project management in the 5th and latest version of PMBOK:

Knowledge Area 1 – Project Integration

Knowledge Area 2 – Project Scope

Knowledge Area 3 – Project Time

Knowledge Area 4 – Cost Management

Knowledge Area 5 – Project Quality Management

Knowledge Area 6 – Project HR Management

Knowledge Area 7 – Project Communications Management

Knowledge Area 8 – Project Risk Management

Knowledge Area 9 – Project Procurement Management

Knowledge Area 10 – Project Stakeholder Management

Each of these 10 knowledge areas contains the sub-processes that need to be accomplished in to achieve good-practice project management. Each of these 47 sub-processes also falls into one of the five process groups, creating a matrix structure such that every process can be related to one knowledge area and one process group. "Good practice" means there is a general agreement that the application of the knowledge, skills, tools, and techniques can enhance the chance of success over many projects (Project Management Institute 2013). These sub-process will be used to a scale commiserate to the scale of the project. Previous to the 5th edition PMBOK consisted of 9 Knowledge Areas where Stakeholder Management was included within Communications Management (Project Management Institute 2008). Changes were also made to the number and positioning of process areas within these knowledge areas to present a more sophisticated PMBOK but the information contained within remains largely the same (Ajam 2013). Refer to Figure 2.3 for the division of new process areas.

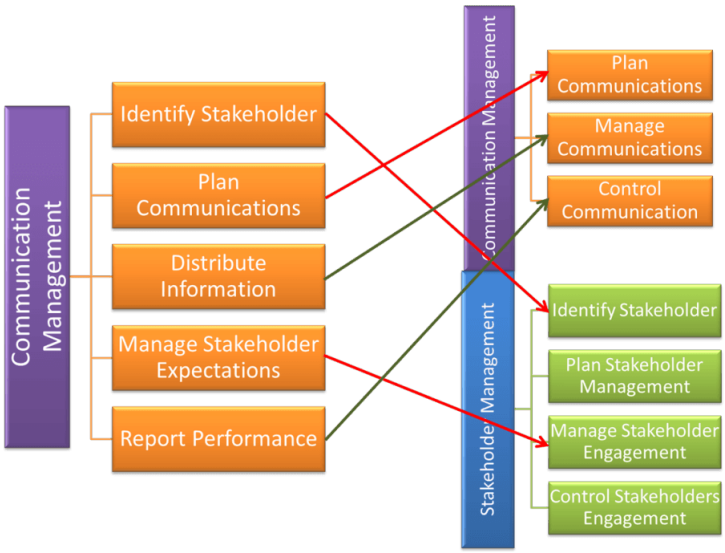

Figure 2.3: The process area redistribution from PMBOK4 to PMBOK5 (Reproduced from Sukad Blog (July 2013))

An alternative Project Management framework, known by the acronym PRINCE2 (Projects IN a Controlled Environment), is owned by AXELOSE Ltd, a joint venture of the United Kingdom Cabinet Office and Capita plc. PRINCE2 is now regarded as the leading method is project management with over 20,000 organisations utilising the method including many public sector organisation in the United Kingdom (Office of Government and Commerce 2009). PRINCE2 is organised around four elements:

The Principles – The application of the seven principles defines the project within the PRINCE2 framework

1. Continued Business Justification
2. Learn from Experience
3. Defined Roles and Responsibilities
4. Manage by Stages
5. Manage by Exception
6. Focus on Products
7. Tailor to Suit the Project Environment

The Themes – Themes explain the philosophy about various project aspects, why they are needed and how they can be used. This philosophy is implemented through the processes.

1. Business Case
2. Organisation
3. Plans
4. Progress
5. Risk
6. Quality
7. Change

The Processes – The standard processes of PRINCE2 will be tailored to the Environment and scale of the project and must all be implemented in the delivery of the project

SU – Starting Up a Project

IP – Initiating a Project

DP – Directing a Project

CS – Controlling a Stage

MP – Managing a Product Delivery

SB – Managing a Stage Boundary

CP – Closing a Project

The Project Environment – Tailoring the project delivery method (themes and processes) to the nature (risk scale, complexity) of the project aligning with the organisational objectives, value and culture while appraising existing systems, resources and capabilities and the influence of external factors on the project.

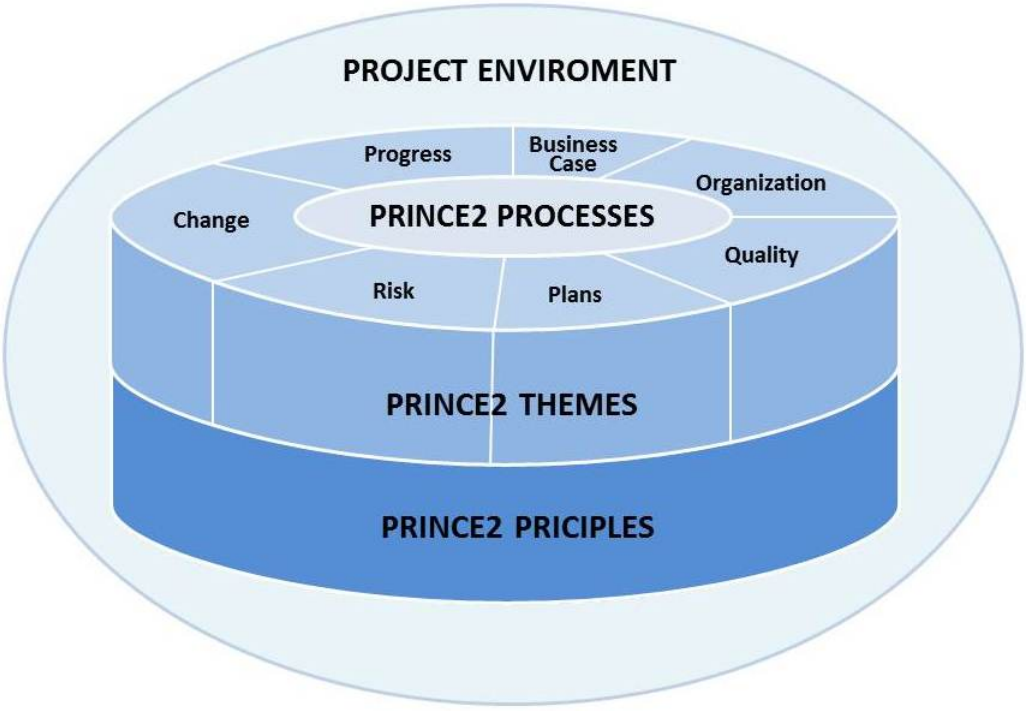

Figure 2.4: The PRINCE2 model (Reproduced from OGC 2009, p.6)

Both PMBOK and PRINCE2 are widely utilised frameworks in Project Management Offices internationally, while neither hold the authority on Project Management practice, there are many instances where the two may compliment one another (Ledoux 2014). Whereas PMBOK is a comprehensive register of knowledge and best practices for a Project Manager, PRINCE2 offers a prescriptive and process driven approach with templates, roles and responsibilities of multiple project actors (Ledoux 2014). The PMBOK Guide refers to itself as a standard and that it should be used a guide rather than a

methodology (Project Management Institute 2013). The major comparative points can be considered as follows:

Table 2.1: Major Comparative Points between PMBOK and PRINCE2

Major Points	**PMBOK Guide**	**PRINCE2**
Approach to PM	Largely Descriptive	Quite Prescriptive - especially for Process interactions, but scalable
Project Initiation	Customer Centric - Project Charter	Business Case driven
Empowerment for the Project Manager	Need to consider Sponsor/Key Stakeholders	Project Ownership and Control by Senior Management above PM (Project Board/Executive)
Adaption/Tailoring to Specific Projects	Is left to the PM- some processes can be left out if needed	All processes need to be considered - but can be scaled to meet Project Specific requirements
Controls/checkpoints	Are left to the PM to decide	Multi-level controls clearly laid out for progress reporting and tracking at various levels

The focus of this research is project management maturity in Local Government. However, it can be seen that the greatest effects of project delivery for any business of government organisation cannot be achieved without strategic alignment to the programs and portfolio objectives and priorities of the organisation. Project Management frameworks and their application to businesses must therefore be undertaken in the context of the strategic objectives of the organisation. The PRINCE2 methodology is about focusing the project delivery on the business case and continuing to justify the project delivery against business needs justification. The PRINCE2 processes complement the Process Groups of PMBOK to ensure effective control of the process however PMBOK details these Processes against the Knowledge Areas that project managers are expected to employ in their roles.

The adoption and implementation of these frameworks to Local Government in Australia

has not been researched to date. No prescribed framework is implemented by or from State Government to the Local Government level. The Tasmanian Department of Premier and Cabinet has however developed guidelines for use by Tasmanian Government Agencies from"ongoing research into better practice, insights gathered through formal review and contributions from current and former staff of the Office of eGovernment, Department of Premier and Cabinet, members of the former Inter Agency Steering Committee, the Project Management Advisory Committee and feedback from numerous project teams, project sponsors and project steering committees across all agencies" (Tasmanian Department of Premier and Cabinet 2011). These guidelines have expanded on the traditional PMBOK Knowledge Areas and Process Groups with a Government focus on 11 Key Elements:

Element 1 – Planning and Scoping

Element 2 – Governance

Element 3 – Outcome Realisation

Element 4 – Stakeholder Engagement

Element 5 – Risk Management

Element 6 – Issues Management

Element 7 – Resource Management

Element 8 – Quality Management

Element 9 – Status Reporting

Element 10 – Project Review and Evaluation

Element 11 – Project Closure

Notably the inclusion of Governance is an important, yet complex, element of service delivery for government organisations. PRINCE2 incorporates Governance in formulation and review of the business case, the assignment of Roles and Responsibilities within the project team and through the tailoring of project management to suit the environment of the organisation (Office of Government and Commerce 2009). PMBOK largely considers

Project governance as an oversight function that is aligned with the organisations governance model and that encompasses the project life cycle for the Project Manager to comply with in the delivery of the project (Project Management Institute 2013, sec. 2.2.2). PMBOK goes on to say that a projects governance is defined by and fits within the larger context of the portfolio, program, or organisation sponsoring it but is separate from organisational governance – there is no suggestion or guidance on the creation of a governance-specific management sub-plan.

An assessment of Local Government project management performance cannot be undertaken without a benchmark or framework against which maturity can be measured. With no prescribed or standardised model or framework across Local Government in Australia, the assessment will need to gauge key indicators or symptoms of Project Management practice and reviewing these indicators in context of the organisation's products and services and overall business capacity. It is hoped that, as the sector focuses on maturity, a refined, industry specific PMBOK for Local Government NSW can developed and standardised as attempted in the Tasmanian example.

2.3 Project Management Maturity Models

A Project Management Maturity Model (PMMM) is a standard against which businesses can understand organisational project management and to measure their maturity against a comprehensive and broad-based set of project management Best Practices (Project Management Institute 2003) with the premise that the quality of a system or product is highly influenced by the quality of the process used to develop and maintain it (Chrissis, Konrad & Shrum 2011). Following the standardisation of project management frameworks, maturity models in assessing the implementation of these standards first came to be popularised within software development organisations with the Capacity Maturity Model Integration (CMMI) produced by the Software Engineering Institute at Carnegie Mellon University to support Agile project management. The Portfolio, Programme and Project Management Maturity Model (P3M3) was developed by the Office of Government Commerce, UK and is now owned by Axelos. A derivative PRINCE2 Maturity Model (P2MM) is used to model the adoption and utilisation of PRINCE2. The Project Management Institute released the first edition of their Organisational Project Management Maturity Model (OPM3) in 2003 to support the ongoing implementation and improvement of PM-

BOK, which takes a similar approach to improving the domain of Project Management in concert with Programme and Portfolio Management considering the whole organisation (Project Management Institute 2003). PM Solutions have also developed a proprietary maturity model, based on PMBOK, curated by CEO Kent Crawford known simply as Project Management Maturity Model PMMM). Dr Harold Kerzner of the International Institute for Learning has taken an organisational focus to his model *Strategic Planning for Project Management using a Project Management Maturity Model* and explores the complexities and interconnected delivery of services across an organisation that may only perform projects as a sub-set of their functions (Kerzner 2001).

Each model aims to establish Levels of Maturity reflective of the extent adoption and utilisation of Organisational Project Management within a business unit or across an organisation. The differences between these models lay largely in the key performance indicators and measures used to monitor and rate Maturity, the areas or functions which are assessed and the definitions of the maturity levels themselves. The rest of this section will make comparisons of these existing models and recommendations as to which model or components might be appropriate to assess the Local Government sector that, to date, has no universally adopted Project Management framework or maturity model.

2.3.1 Capability Maturity Model Integration

The Capability Maturity Model Integration project was formed to resolve the problem of using multiple Maturity Models. The combination of selected models into a single improvement framework was intended for use by organisations in their pursuit of enterprise-wide process improvement (Chrissis et al. 2011, p. 10). The CMMI Framework is described as a"constellation" to accommodate multi-systems analysis across models for Acquisition, Development and Services. CMMI for Development aligns processes such as project management, process management, systems engineering, hardware engineering, software engineering, and other supporting processes used in development and maintenance (Chrissis et al. 2011, p. 10). The Model focuses on 22 core Process Areas that are grouped into three categories:

Required Components – are considered essential to achieving process improvement in a given Process Area and must be visibly implemented in an organisations processes. The CMMI required components are specific and generic goals - goal satisfaction is

used to appraise the Process Area.

Expected Components – guide those who implement improvements or perform appraisals. The expected components in CMMI are the specific and generic practices. Before goals can be considered to be satisfied, either their practices as described, or acceptable alternatives to them, must be present in the planned and implemented processes of the organisation.

Informative Components – can be sub-practices, notes, references, goal titles, practice titles, sources, example work products, and generic practice elaborations are informative model components. The informative material plays an important role in understanding the model. It is considered impossible to adequately describe the behavior required or expected of an organisation using only a single goal or practice statement. The model's informative material provides information necessary to achieve the correct understanding of goals and practices.

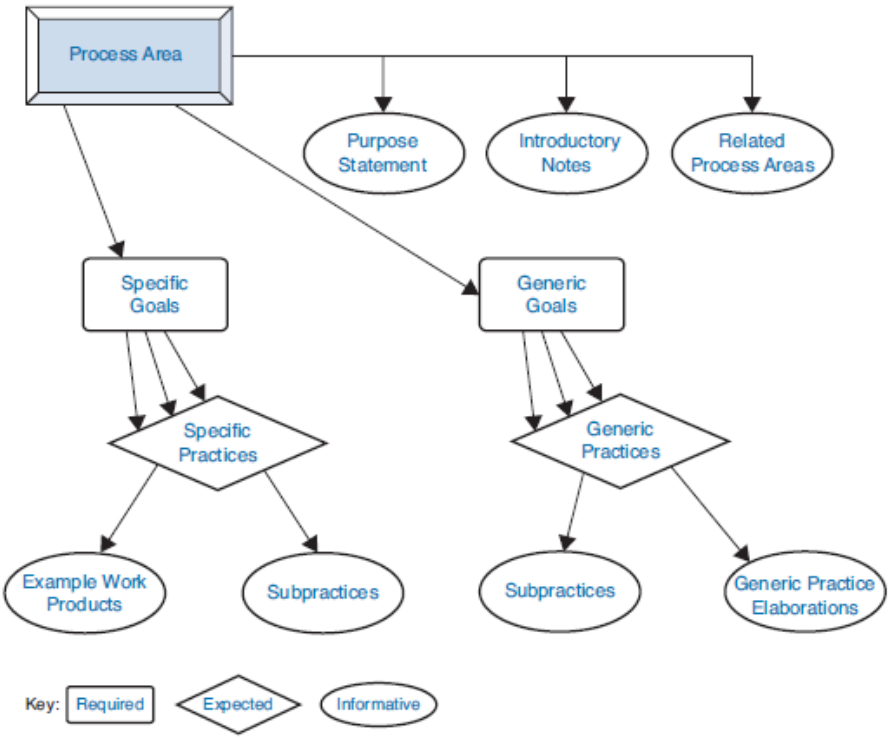

Figure 2.5: Visual representation of CMMI components (Reproduced from Chrissis et. al. p.22)

CMMI considers the growth of organisational maturity along a Staged Representation maturity path consisting of five Levels:

Level 1: Initial – processes are usually ad hoc and chaotic. The organisation usually does not provide a stable environment to support processes. Success in these organisations depends on the competence and heroics of the people in the organisation and not on the use of proven processes. Maturity level 1 organisations are characterised by a tendency to overcommit, abandon their processes in a time of crisis, and be unable to repeat their successes.

Level 2: Managed – processes and projects are planned and executed in accordance with policy; the projects employ skilled people who have adequate resources to produce controlled outputs. At maturity level 2, the status of the work products are visible to management at defined points.

Level 3: Defined – At maturity level 3, processes are well characterised and understood, and are described in standards, procedures, tools, and methods. Projects and processes are managed more proactively using an understanding of the interrelationships of process activities and detailed measures of the process, its work products, and its services.

Level 4: Quantitatively Managed – projects establish quantitative objectives for quality and process performance and use them as criteria in managing projects. At maturity level 4, the performance of projects and selected subprocesses is controlled using statistical and other quantitative techniques, and predictions are based, in part, on a statistical analysis of process data.

Level 5: Optimising – The organisations quality and process performance objectives are established, continually revised to reflect changing business objectives and organisational performance, and used as criteria in managing process improvement. At maturity level 5, the organisation is concerned with overall organisational performance using data collected from multiple projects. Analysis of the data identifies shortfalls or gaps in performance. These gaps are used to drive organisational process improvement that generates measurable improvement in performance.

By rating the organisation based on observable and measurable activities across the business functions the core Process Areas can be assigned a particular Maturity Level. The successful achievement of specific goals of the process area and presentation of information components therein can gain the organisation a step towards achieving maturity at that level. Rather than build improvement at each Process Area, the complete achieve-

ment of each Process Area is a measure of overall organisational Maturity. This is best demonstrated by Table 2.2 assigning Maturity Levels to each Process Area and Figure 2.6 which groups Processes together in the Staged Representation of maturity.

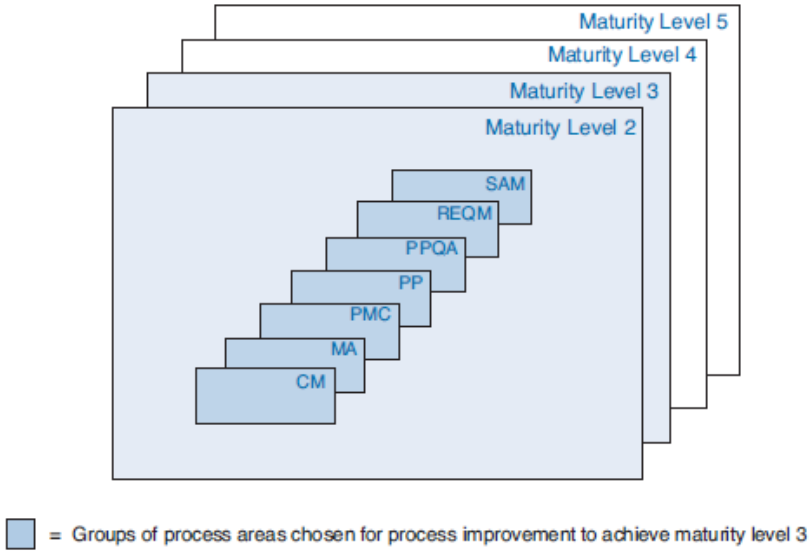

Figure 2.6: Visual representation of CMMI Process Area groupings (Reproduced from Chrissis et. al. p.47)

The CMMI model, while comprehensive, requires Process Areas to be well defined and structured before any measurement of capability or maturity can be assessed. CMMI's Continuous Representation approach allows for continuous cycles of incremental improvement, but to measure maturity on the 1-5 scale whole Process Areas must be achieved through measures. Without intimate knowledge of each LG business operation, compartmentalising discrete Process Areas to assess across a diverse portfolio of operations would be abortive. Furthermore, in the Staged Representation Maturity Level 1 - Initial, provides no indication of achievement toward a higher maturity target - there are no intermediaries in assessing fledgling organisations. With Local Government delivering a vast array of products and services without a common and formalised approach to project management or processes (beyond legislative requirements) the CMMI model can be deemed too complex to allow for initial benchmarking of Local Government Project Management Maturity.

Table 2.2: Process Area, Categories and Maturity Levels of CMMI (reproduced from Chrissis et. al. p.49)

Process Area	**Category**	**Maturity Level**
Causal Analysis and Resolution (CAR)	Support	5
Configuration Management (CM)	Support	2
Decision Analysis and Resolution (DAR)	Support	3
Integrated Project Management (IPM)	Project Management	3
Measurement and Analysis (MA)	Support	2
Organizational Process Definition (OPD)	Process Management	3
Organizational Process Focus (OPF)	Process Management	3
Organizational Performance Management (OPM)	Process Management	5
Organizational Process Performance (OPP)	Process Management	4
Organizational Training (OT)	Process Management	3
Product Integration (PI)	Engineering	3
Project Monitoring and Control (PMC)	Project Management	2
Project Planning (PP)	Project Management	2
Process and Product Quality Assurance (PPQA)	Support	2
Quantitative Project Management (QPM)	Project Management	4
Requirements Development (RD)	Engineering	3
Requirements Management (REQM)	Project Management	2
Risk Management (RSKM)	Project Management	3
Supplier Agreement Management (SAM)	Project Management	2
Technical Solution (TS)	Engineering	3
Validation (VAL)	Engineering	3
Verification (VER)	Engineering	3

2.3.2 Portfolio, Programme and Project Management Maturity Model

The P3M3 model developed by The United Kingdom Office of Government Commerce to achieve their "mission of driving up standards and capability in public sector portfolio, project and programme management, and in improving performance and quality in the wider business world" (Office of Government Commence 2010*a*). The P3M3 model was developed from the Software Engineering Institute's Capability Maturity Model (as did CMMI) and as such, it retains a five-level maturity framework. However, rather than integrate assessment of organisational capability, it provides the opportunity to separate Project Management from the assessment of Portfolio or Programme maturity (Office of Government Commence 2010*a*) as the three models have been developed to be connected but to operate without interdependencies. The intent of this is to enable assessment of specific disciplines. For example, an organisations programme management capabilities may be more evolved than its project management capabilities, so the project management model can be used as a stand-alone tool when looking to improve that area.

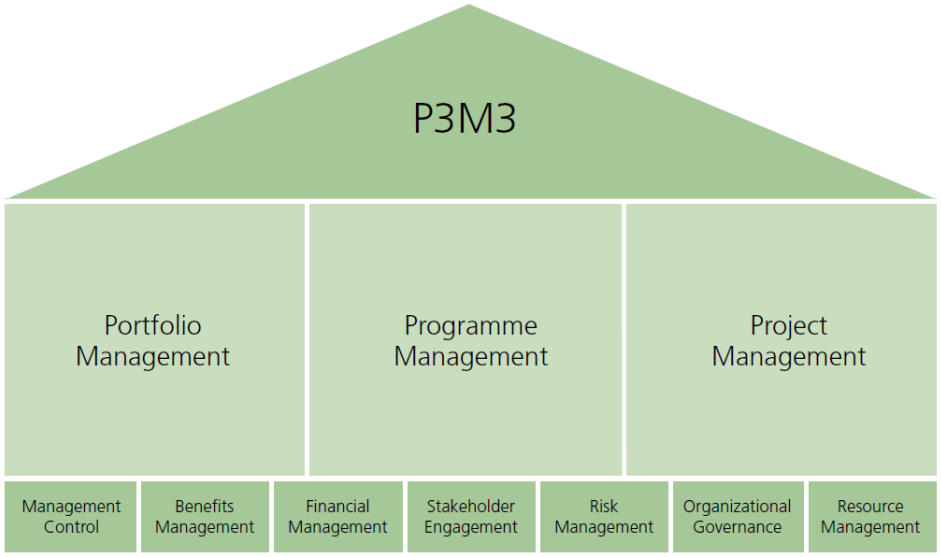

Figure 2.7: P3M3 structure (Reproduced from P3M3 v2.1 p.7)

Similar to CMMI, a five-level Maturity Scale exists with descriptors available for each of Project, Programme and Portfolio disciplines. The Project Management Maturity rating is as follows:

Level 1: Awareness of Process – Does the organisation recognise projects and run them differently from its ongoing business? (Projects may be run informally with no standard process or tracking system).

Level 2: Repeatable Process – Does the organisation ensure that each project is run with its own processes and procedures to a minimum specified standard? (There may be limited consistency or coordination between projects).

Level 3: Defined Process – Does the organisation have its own centrally controlled project processes and can individual projects flex within these processes to suit the particular project?

Level 4: Managed Process – Does the organisation obtain and retain specific measurements on its project management performance and run a quality management organisation to better predict future performance?

Level 5: Optimised Process – Does the organisation undertake continuous process improvement with proactive problem and technology management for projects in order to improve its ability to depict performance over time and optimise processes?

Compared to CMMI, the lower maturity levels are scaled down to a general awareness and ad-hoc adoption of tools, techniques and standards before progressing into broad standardisation, measurement and optimisation. P3M3 also differs from CMMI by reducing business operations to seven Process Perspectives which exist throughout and can be assessed across all three models. In this way there is flexibility in assessing Process Perspectives across Portfolio, Programme and Projects, or assessing one Model on all seven Processes depending on the maturity assessment required. Each Process Perspective has a number of specific and generic attributes assigned to detail the assessment. P3M3 asserts that most organisations have strengths in some areas but not in others and has been designed to acknowledge these strengths as well as highlighting weaknesses (Office of Government Commence 2010*a*). With an average of 10 attributes associated with each maturity level of each Process Perspective the model presents a detailed approach to identifying true/false responses to statements that are reflective of a maturity rating in each of these Processes. The seven Process Perspectives are identified in Figure 2.7 and are described as follows:

Management Control – Management control is characterised by clear evidence of leadership and direction, scope, stages, tranches and review processes during the course of the initiative. There will be regular checkpoints and clearly defined decision-making processes. There will be full and clear objectives and descriptions of what

the initiative will deliver. Initiatives should have clearly described outputs. Internal structures will be aligned to achieve these characteristics and the focus of control will be on achieving them within the tolerance and boundaries set by the controlling body and based on the broader organisational requirements. Issues will be identified and evaluated, and decisions on how to deal with them will be made using a structured process with appropriate impact assessments.

Benefits Management – Benefits management is the process that ensures that the desired project outcomes have been clearly defined, are measurable and are ultimately realised through a structured approach and with full organisational ownership.This process will identify opportunities that can be delivered by initiatives and also take ownership of the exploitation of capabilities delivered by projects. Change management, and the complexities this brings, will also be built into the organisations approach.

Financial Management – Finance is an essential resource that should be a key focus for initiating and controlling initiatives. Financial management ensures that the likely costs of the initiative are captured and evaluated within a formal business case and that costs are categorised and managed over the investment life cycle

Stakeholder Engagement – Stakeholder engagement includes communications planning, the effective identification and use of different communications channels, and techniques to enable objectives to be achieved. Stakeholder engagement should be seen as an ongoing process across all projects and one that is inherently linked to the project's life cycle and governance controls

Risk Management – Risk management maintains a balance of focus on threats and opportunities, with appropriate management actions to minimise or eliminate the likelihood of any identified threat occurring, or to minimise its impact if it does occur, and to maximise opportunities. It will look at a variety of risk types that affect the project, both internal and external, and will focus on tracking the triggers that create risks.

Organisational Governance – This looks at how the delivery of initiatives is aligned to the strategic direction of the organisation. It considers how start-up and closure controls are applied to projects and how alignment is maintained during an project's life cycle. This differs from management control, which views how control

of initiatives is maintained internally, as this perspective looks at how external factors that impact on projects are controlled and used to maximise the final result. Effective sponsorship should enable this. Organisational governance also looks at how a range of other organisational controls are deployed and standards achieved, including legislative and regulatory frameworks. It also considers the levels of analysis of stakeholder engagement and how their requirements are factored into the design and delivery of project outputs and outcomes.

Resource Management – These include human resources, buildings, equipment, supplies, information, tools and supporting teams. A key element of resource management is the process for acquiring resources and how supply chains are utilised to maximise effective use of resources.

The P3M3 model is presented with a self-assessment tool for each discipline. The Project Management Maturity self-assessment contains nine questions; seven for the Process Perspectives and two focused on the organisational perspective to align to Programme and Portfolio assessments (Office of Government Commence 2010*b*). The questions provide five broad statements about the observable attributes of the organisation with the assessor required to select one that best describes their observations.

For example, Question 4: Our Financial Management is Best Described by:

a – There is little or no financial control at project level. There is a lack of accountability and monitoring of project expenditure.

b – Project business cases are produced in various forms and the better and more formal cases will present the rationale on which to obtain organisational commitment to the project. Overall cost of the project is not monitored or fully accounted for.

c – There are centrally established standards for the preparation of business cases and processes for their management throughout the project life cycle. Project managers monitor costs and expenditure in accordance with organisational guidelines and procedures, with defined interfaces with other financial functions within the organisation.

d – The organisation is able to prioritise investment opportunities effectively in relation to the availability of funds and other resources. Project budgets are managed effectively and project performance against cost is monitored and compared.

e – Project financial controls are fully integrated with those of the organisation. Cost estimation techniques used at the project level are continually reviewed in terms of actual versus estimate comparisons to improve estimation throughout the organisation. There is evidence of continual improvement.

Should the assessor have difficultly in selecting a single response they would then be required to assess the generic and specific attributes that are assigned to that Maturity rating (Office of Government Commence 2010*c*). To continue the example, if the assessor was considering whether the organisation was indeed a Level 3 they would undertake a true/false analysis of the statements in Table 2.3. Only if all statements were considered true would the organisation be rated at Maturity Level 3 for this Process Perspective in Project Management. If some statements were considered not true the organisation would be rated at Level 2 and would have identified specific attribute gaps to achieving the next level of maturity. While this process is highly detailed the statements remain generic enough to be applied to both public and private business units (Office of Government Commence 2010*a*). An assessment using this tool also have the flexibility to be conducted to an appropriate level depending on the data sought. Should the questionaire provide enough data to suggest that a Process Perspective needs improvement, the business can investigate options to build its maturity across that Process. Alternatively, if the business was intend on discovering strengths and weaknesses on an attribute level, a deeper investigation can be undertaken within the model - this however would incur greater time and expense and would rely on more detailed metrics being available to the assessor.

Importantly, while P3M3 extols its benefit to business in providing a framework for improvement to remain competitive and optimise operations, it does not insist that businesses aim to achieve ultimate maturity at any cost. P3M3 states that "It is important for organisations to understand the optimal level of performance in their quest to maximise value for money from investment, and to have a realistic view of what they can achieve. Not all organisations will be able to reach the highest level and, for many, the middle levels may be adequate to meet their business needs and aspirations" (Office of Government Commence 2010*a*). Within the public sector there may exist limitations in achieving ultimate maturity and the maturity scale may have to be defined against levels commiserate with the expectations of the community and State agencies in line with available resources that might be applied to building project management capacity.

Table 2.3: Attributes for Maturity Level 3, Financial Management, (Office of Government Commerce (2010b))

Specific Attributes	Generic Attributes
1. Standardised approach to project business case development	1. Information has a refresh cycle or is regularly accessed
2. Business cases approved centrally, making budget limitations explicit	2. Organization-wide information standards on confidentiality, availability and integrity
3. Issues and risks assessed in financial terms	3. Formal information release management procedures
4. Guidelines exist on costs to be included in, and excluded from, budgets	4. Independent reviews take place
5. Projects have distinct budgets and expenditure against budget is tracked and reported on	5. Scrutiny largely for compliance reasons, identifying failures rather than opportunities for improvement
6. Clearly defined authorities for expenditure levels, with cost and expenditure reported on using	6. Plans developed to a central and consistent standard that is output- or goal-based agreed templates or pro-forma reports
7. Contract placement using professional procurement support to ensure best value for money	7. Plan development takes into account a range of relevant factors
8. Standard financial estimation and value for money techniques deployed consistently across projects	8. Evidence of effective estimating techniques
9. Business cases reviewed at explicit stages in project life cycle and actions taken to put projects back on track	9. Dependencies are identified, tracked and managed effectively
10. Evidence of operational sign-off for any additional costs imposed by project	10. Training is focused on the organisations approaches and raising competence of individuals in specific roles
11. Capital and revenue costs accounted for differently	11. Forums exist for sharing organisational experience to improve individual and organizational performance
12. Centrally agreed project budgets, making it clear when and where funding will be available	12. Centrally managed role definitions and sets of competencies defined and used to support appointments

The PjM3 sub-model of the P3M3 provides many benefits to conducting an assessment across an un-measured business sector such as Local Government. The measures are generic enough to be applied to different business models but grouped together in Processes Perspectives to enable low-cost, low detail initial benchmarking. The scale of maturity is also appropriate to a sector that has not adopted a universal project management framework with the lower ratings evolving from knowledge, to basic practices before standardisation is expected. These elements would be highly beneficial to establishing a benchmarking tool for LG project management practice.

2.3.3 Organisational Project Management Maturity Model

The Organisational Project Management Maturity Model (OPM3) is the maturity model developed by the Project Management Institute (PMI) in support of the PMBOK framework. Previous to the publication of OPM3 in 2003, PMI had released The Project Management Competency Development Framework for training and developing project managers. The development of OPM3 was the logical next step in developing"a standard applying project management principles at the organisational level" (Project Management Institute 2003). According to the model, OPM3 identifies and organises "a substantial number of generally accepted and proven project management practices, and providing a means to assess an organisations maturity against the Best Practices identified in this Standard (PMBOK)" (Project Management Institute 2003). Importantly, the model focuses on *Organisational* project management which is defined as"the systematic management of projects, programs, and portfolios in alignment with the achievement of strategic goals" (Project Management Institute 2003). By focusing on the organisational capacity the model elevates the focus from projects carried out by project teams and assesses the alignment of the organisation in delivering projects - this would be consistent with the Local Government capacity assessment in project management.

The OPM3 model is presented in three 'Elements' (Project Management Institute 2003):

Knowledge – OPM3 is the first iteration of a body of knowledge on the subject of organisational project management and a subset of the larger Project Management Body of Knowledge (PMBOK).

Assessment – The assessment process will help the organisation decide which Best Prac-

tices or groups of Best Practices to investigate further, either to confirm competency in an area or to identify constituent Capabilities of one or more Best Practices that need attention. OPM3 outlines how to conduct this detailed investigation in the most helpful way for the organisation, through the use of the Directories. Depending on the outcome of the Assessment, an organisation may choose to continue with a more in-depth investigation, proceed to plan for improvements, or exit the process.

Improvement – the results of the Assessment will include a list of Capabilities not yet fully developed in the organisation. OPM3 provides guidance in placing these in order of importance, and this sequence forms the basis for any subsequent plans for improvement. The actual process of implementing improvements in an organisation, which may involve organisational development, change management, restructuring, retraining, and other initiatives, is beyond the scope of this Standard.

For the purposes of analysing the OPM3 model for its applicability to assessing LG maturity, only the Assessment element of the model will be evaluated here.

The model is based on a large number of Best Practices which relate to the PMBOK process groups; Initiating, Planning, Executing, Controlling and Closing. The Best Practices are arranged on a best-fit basis within the "domains" of Portfolio (high-level), Programme (multi-project) and Project management tiers. An organisation may focus on improving one or more of these areas in achieving Best Practices (Schlicter 2001). An organisation's achievement of Best Practice is measured by Capability and Outcome. A Capability is a specific competency that must exist in an organisation in order for it to execute project management processes and deliver project management services and products. Capabilities are incremental steps, leading up to one or more Best Practices. Each Best Practice is made up of two or more Capabilities (Project Management Institute 2003). The existence of a Capability is demonstrated by the existence of one or more corresponding Outcomes. Outcomes are the tangible or intangible result of applying a Capability. In the OPM3 framework, a Capability may have multiple Outcomes (Project Management Institute 2003). An example of this assessment is given in the OPM3 model as follows:

Best Practice – "Establish Internal Project Management Communities"

Capability – (one of four for this Best Practice): "Facilitate Project Management Activities"

Outcome –"Local Initiatives: The organisation develops pockets of consensus around areas of special interest"

Key Performance Indicator – the existence of the Outcome "Local Initiatives" would be determined by whether or not communities within the organisation are actually focused on addressing issues of local interest with regard to project management.

Ultimately, the model relies on collecting KPIs as a means of assessing the deliver of Outcomes. As the model describes "When a Key Performance Indicator is quantitative, involving direct measurement, a form of metric is required. A metric is a measurement of something. Something tangible, such as an error count, can be measured directly and objectively. Something intangible, such as customer satisfaction, must first be made tangible – for example, through a survey resulting in ratings on a scale – before it can be measured. A metric can be binary (something exists or does not exist), it can be more complex (such as a scaled rating), or it can be monetary (such as financial return) (Project Management Institute 2003)". Collecting such KPIs external from the organisation, or expecting them to be provided for the purposes of initial benchmarking exercises, would be impractical for this research in LG maturity. Furthermore, with nearly 600 Best Practices listed in the OPM3 model the scale of such a study is not suited to undertaking high-level assessment of the sector's current maturity.

In comparison to CMMI and P3M3 which have five stages of maturity, OPM3 maturity rankings follow four stages:

1. Standardise
2. Measure
3. Control
4. Continuously Improve

Figure 2.8 presents the model as a integrated process of the three domains across the four maturity stages. This is a model that is similar to the work of W. Edwards Deming whereby systems are developed to be measurable such that incremental improvements can be made. Such an approach has been demonstrated to be highly effective in many areas of manufacture, administration and production where systems are high-volume and repeatable (Deming 2000). For the purposes of initial benchmarking however, this research will

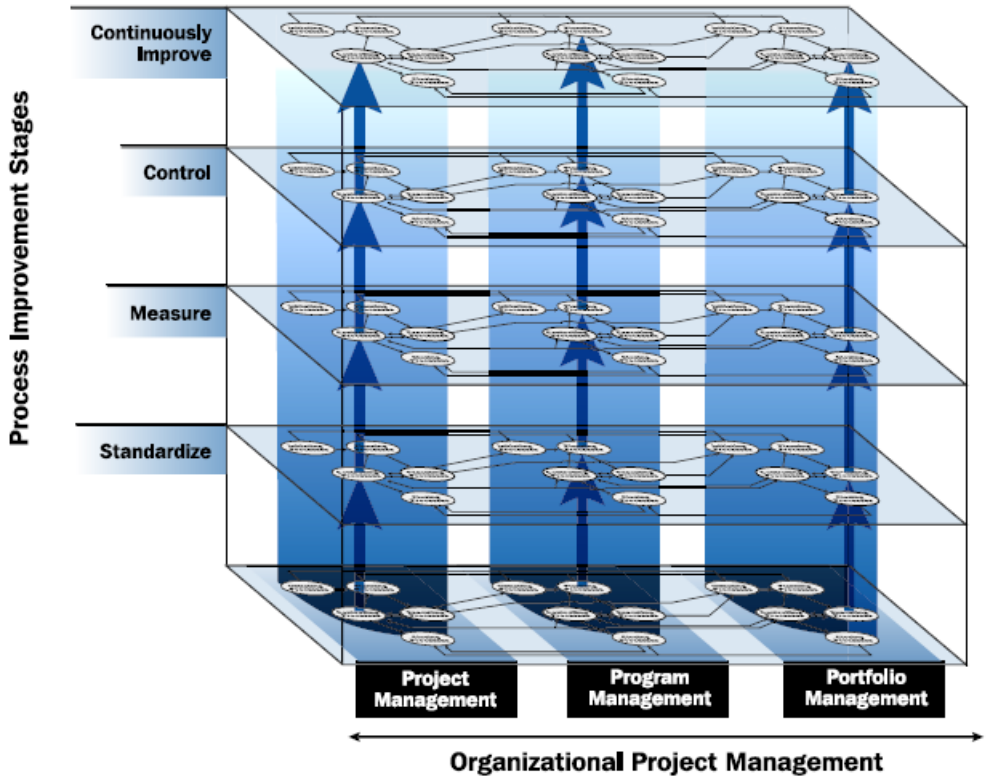

Figure 2.8: OPM3 structure (Reproduced from OPM3 p.28)

seek to understand if Local Governments have adopted any project management capabilities, requiring a more scalable maturity ranking. It would seem that scaling maturity in the OPM3 framework would exclude, or otherwise distort, the accurate assessment of less-mature Councils.

In summary, while the focus on integrated, organisational maturity assessment of project, programme and portfolio management provides a focus beyond project knowledge and skill that may highlight deficiencies in the Local Government model, the complexities of assessing multiple Capabilities and collecting KPIs to provide a benchmark for LG performance prohibit this model from being implemented for a study such as this. Further, the four-stage maturity model restricts those less mature Council's from providing an accurate response and would result in scaling-up the data misrepresenting actual maturity levels. With these deficiencies the OPM3 model will not be used in this research.

2.3.4 PM Solutions Project Management Maturity Model

The Project Management Maturity Model (PMMM), presented by Kent J. Crawford of Project Management Solutions, was developed for maturity assessment against the project management best practices of PMBOK. The second edition of the PMMM (Crawford 2006) correlates with PMBOK 4th Edition (Project Management Institute 2008) with the 3rd edition of PMMM (Crawford 2014) released to accommodate the changes made in PMBOK 5th edition (Project Management Institute 2013). As described in Section 2.2 the difference between PMBOK 4 and PMBOK 5 is largely in the placement of Processes within Knowledge Areas. PMBOK 4 has 9 Knowledge Areas and 42 Processes while PMBOK 5 has 10 Knowledge Areas and 47 Processes (Ajam 2013). The inclusion of Stakeholder Management as distinct from Communications Management has resulted in the redistribution of some process areas as shown in Figure 2.3. The changes have not dramatically effected the structure of PMMM which focuses focuses on measuring against the processes within each Knowledge Area of PMBOK. PMMM 2nd Edition will be reviewed here.

Like CMMI, PMMM presents a five stage maturity index patterned after SEI's Capability Maturity Models (Crawford 2006):

Level 1 - Initial Processes

- Ad hoc processes
- Management awareness

Level 2 - Structured Process and Standards

- Basic processes; not standard on all projects; used on large, highly visible projects
- Management supports and encourages use
- Mix of intermediate and summary-level information
- Estimates, schedules based on expert knowledge and generic tools
- Mostly a project-centric focus

Level 3 - Organisational Standards and Intitutionalised Processes

- All processes, standard for all projects, repeatable

- Management has institutionalised processes
- Summary and detailed information
- Baseline and informal collection of actuals
- Estimates, schedules may be based on industry standards and organizational specifics
- More of an organisational focus
- Informal analysis of project performance

Level 4 - Managed Process

- Processes integrated with corporate processes
- Management mandates compliance
- Management takes an organisational entity view
- Solid analysis of project performance
- Estimates, schedules are normally based on organisation specifics
- Management uses data to make decisions

Level 5 - Optimising Process

- Processes to measure project effectiveness and efficiency
- Processes in place to improve project performance
- Management focuses on continuous improvement

Each of these descriptors is a basic definition for maturity across the Processes within Knowledge Areas. They are supported in the model by a more detailed description of what evidence would constitute a certain level of maturity. Climbing maturity rankings is cumulative; Level 3 requires demonstration of Levels 1, 2 & 3. For example Level 3 Organisational Standards and Institutionalised Processes in 'Quality Control' in Knowledge Area 5 Project Quality Management would require:

Level 1: Initial Processes – Some project teams may develop high-level quality plans, but on an ad hoc basis, with each project manager doing as s/he sees fit.

Level 2: Structured Processes and Standards – The quality planning process has been enhanced to include such quality assurance processes as flowcharting and operational definitions (metrics) and quality control measures. Metrics include results

of reviews and tests against criteria, specifications, quality standards, and business requirements. Most people in the organisation consider the quality planning process as the standard way of ensuring quality is accounted for within the project products/services. Most of the projects, and all the large, highly visible projects, are actually using these quality planning processes, including the development of a quality management plan. Management signs off on the quality plans on these larger projects.

Level 3: Organisational Standards and Intitutionalised Processes –The quality planning process has been enhanced to include guidelines for design of experiments, emphasis on quality milestones, and has standardised checklists for the use of the project teams in creating their quality plans. The process prescribes a formal quality plan and has templates for the creation of such; it includes organisational management at key approval points. The quality planning process now includes the scope/perspective of other entities in the immediate domain of the products of the project. The organisation has identified one or two people whose focus is organisational project quality standards and assurance.

Using this cumulative approach the model acknowledges that "improving project management is a series of smaller steps, not giant leaps, and many organisations will never need to realize Level 5 in maturity. Many organisations will achieve significant benefit by reaching the repeatable process level area. In effect, a good model for the measurement of project management maturity creates a strategic plan for moving project management forward in an organisation" (Crawford 2006).

The simplicity of the model lends itself well to an initial benchmarking assessment of the Local Government sector. Assessment can be carried out across Knowledge Areas, using Processes to frame questions that can be answered from Level 1 to 5 based on the evidence available to substantiate the applicability of the descriptive statements. The model lacks robustness however as the assessment may be subjective by not requiring explicit KPIs. Additionally, such descriptors may be subject to bias, both positive and negative, if the maturity assessor feels the maturity descriptor is almost or not quite fulfilled by their organisation/function area. The model acknowledges that "determining the correct level of maturity in an organisation is something less than science but more than art" (Crawford 2006). By targeting experienced and professional representatives of each Local Government organisation and by explaining the assessment methodology,

it is felt that reasonable distinction can be made between ad-hoc, structured processes, organisational standards, managed processes and optimising processes limiting the effect of bias on results.

2.3.5 Kerzner Project Management Maturity Model

Harold Kerzner, of the International Institute of Learning has devised a similar five-stage structured maturity model, detailed in his book *Strategic Planning for Project Management Using a Project Management Maturity Model* (Kerzner 2001). The maturity Stages are as follows:

Level 1: Common Language – In this level, the organisation recognises the importance of project management and the need for a good understanding of the basic knowledge on project management and the accompanying language/terminology.

Level 2: Common Processes – In this level, the organisation recognises that common processes need to be defined and developed such that successes on one project can be repeated on other projects. Also included in this level is the recognition of the application and support of the project management principles to other methodologies employed by the company.

Level 3: Singular Methodology – In this level, the organisation recognises the synergistic effect of combining all corporate methodologies into a singular methodology, the center of which is project management. The synergistic effects also make process control easier with a single methodology than with multiple methodologies.

Level 4: Benchmarking – This level contains the recognition that process improvement is necessary to maintain a competitive advantage. Benchmarking must be performed on a continuous basis. The company must decide whom to benchmark and what to benchmark.

Level 5: Continuous Improvement – In this level, the organisation evaluates the information obtained through benchmarking and must then decide whether or not this information will enhance the singular methodology.

This framework is very similar to P3M3 in the stage descriptions. Kerzner describes overlap while advancing advancing through the model as some pockets of the organisation

will be developing common language and processes to deliver services. He notes that that Level 2 and Level 3 however cannot overlap as, by definition, a Singular Methodology requires the entire organisation to be in agreement and following the adopted project management practices (Kerzner 2001). Once the organisation has achieved a singular methodology, and established benchmarking metrics a focus on improvement and achievement of Level 5 maturity will necessitate cycling through the practices of Levels 3, 4 and 5.

The assessment component of the maturity model itself focuses on completing Assessment Instruments at each level. These instruments are:

Level 1 – is based upon gaining a knowledge of the fundamental principles of project management and its associated terminology. Testing on the PMBOK, on an individual or group basis, is used to indicate maturity at this level. The model provides a 80 question assessment and a score card against the Knowledge Areas of PMBOK. Scores of 60 points or higher across all knowledge areas will satisfy maturity at this level.

Level 2 – is based upon recognising the adoption and importance of processes in project management. Level 2 can overlap Level 1 as training people in knowledge may be assisted by the development of some basic processes. To assess the maturity of an organisation at Level 2 the model provides 20 questions and a response scale of minus three (-3) to plus three (+3) relating to Strongly Disagree through to Strongly Agree respectively. The results are distributed across the life cycle phases of Common Process development as displayed in Figure 2.9. Scores of +6 or greater indicate maturity, although their is no fixed minimum and differences may be witnessed across the phases.

Level 3 – is assessed by answering 42 multiple choice questions the results of which compare the organisation against others in regard to Level 3 to determine whether or not the threshold between Level 2 and 3 has been crossed.

Level 4 – is focused on creating measures and making comparisons of the organisation to other organisations. The assessment for maturity at this level relies on the same scaled scoring as Level 2 over 25 questions. Cumulative scores of 25 or greater in quantitative benchmarking and 12 or greater in Qualitative benchmarking are considered excellent.

Level 5 – is the most involved level for consideration of maturity. The focus of the assessment is limited to reviewing continuous improvement efforts within the organisation over the previous 12 months. The same scaled scoring system as Levels 2 and 4 is employed over 16 questions with scores of 20+ considered outstanding enough to warrant a maturity rating of Level 5.

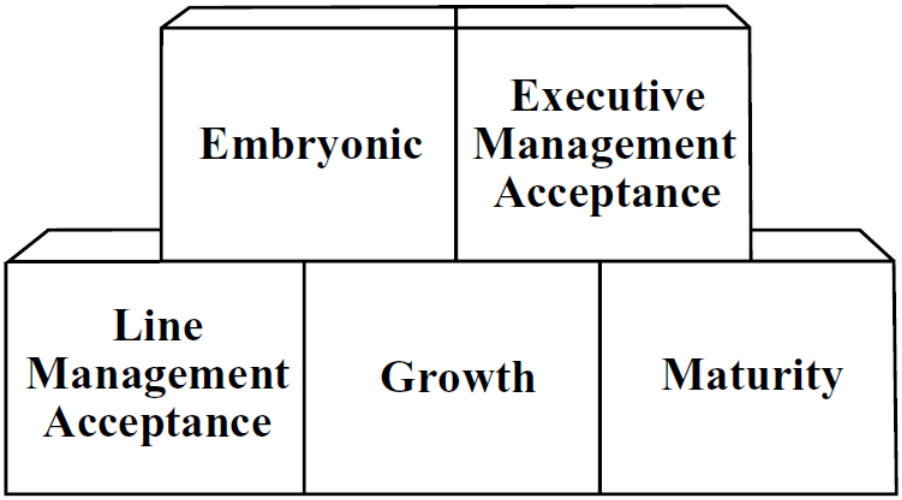

Figure 2.9: The Life Cycle phases of Level 2 project management maturity (Reproduced from Kerzner (2001) p.69)

While Kernzer's model is built around a strategic approach to organisational maturity integrated with Total Quality Management, cultural change, behavioural excellence and operational alignment, making it highly suitable to long-term maturity evaluation and business improvement, the level of detail required for assessment is not especially suited to assessing sector–wide performance. As it is assumed that most Councils are in the fledgling stages of developing project management frameworks the Kernzer model of individual assessments at each maturity level may scale all Council performance toward Level 1 while overlooking activities that hint at higher maturity activities in selected areas of project management practice. As such, while the observations and assessment of Kerzner's organisational model will be used to analyse the results of this research, the model's maturity questioning methods will not be used to survey the sector.

2.3.6 Previous Maturity Research on Project Management Maturity

Previous attempts to research project management maturity across multiple organisations have used tailored frameworks for information gathering externally. The Prado Project

Management Maturity Model has been collecting data since 2002 and from an internet survey since 2005. This model was developed by Dr Darci Prado and Dr Russell Archibald and is used frequently to benchmark project management maturity throughout Brazil in both government and business (Prado 2012*a*). The Prado Model uses a five-stage maturity scale similar to CMMI and aligns the assessment of maturity to seven Dimensions:

- Competence in Project and Program Management
- Competence in Technical and Contextual Aspects
- Behavioral Competence
- Methodology usage
- Computerisation
- Usage of the convenient Organisational Structure
- Strategic Alignment

These are envisioned as a structure as displayed in Figure 2.10. The structure is highly reliant on the competence of personnel and alignment of projects to organisational objectives and strategy.

The research tool itself is a questionnaire that frames sets of 10 questions under maturity levels 2 to 5 (40 questions total) requiring responses (a) to (e) which designates decreasing levels of maturity (Prado 2014). The participants of this survey are assigned a maturity score based on the answers provided which are published in annual reports by partners Archibald and Prado Research (Prado, Oliveira & Romano 2015). The research has a detailed component requiring the participant to provide details on the number of projects within an organisation's portfolio, the details of each of these projects (cost, success/partial success/failure, delay, duration, cost overrun and scope execution) such that the success of the organisation's projects may be compared against their maturity weighting. Undertaking such analysis is outside the scope of this research which is focused on benchmarking the sector, although equivalent data would be beneficial to future assessment of the success of project management maturity in improving Council's project outcomes.

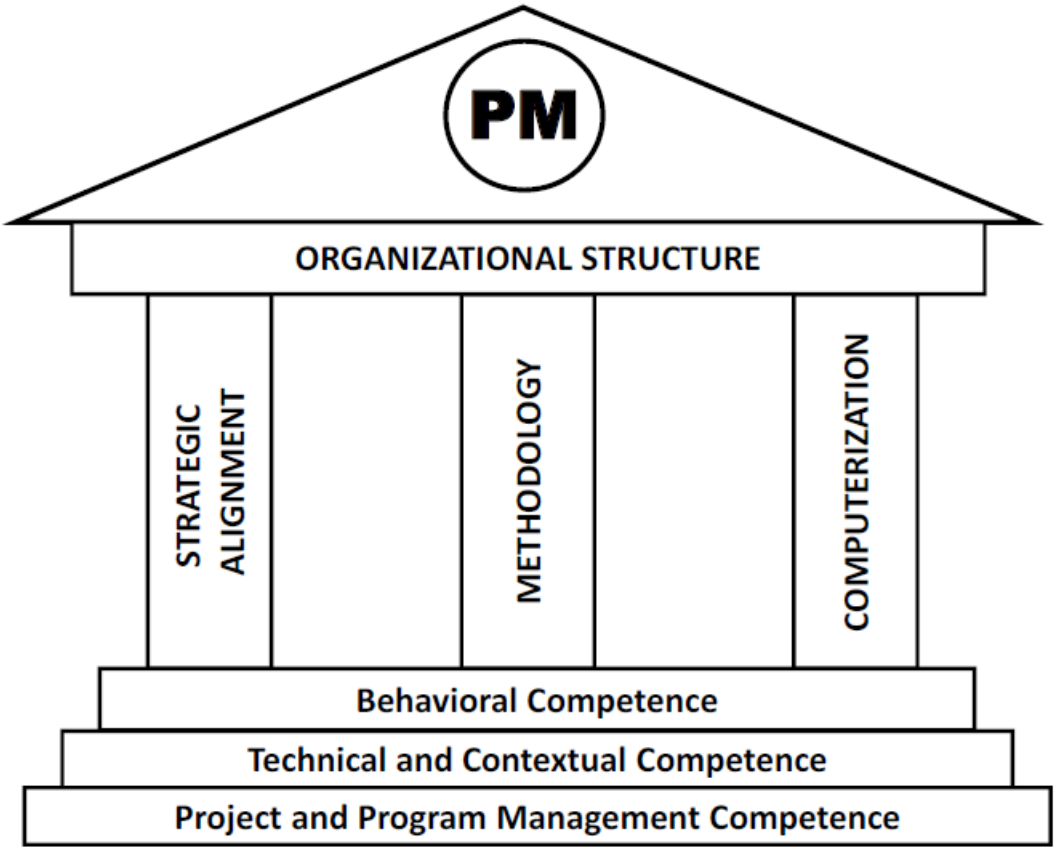

Figure 2.10: The Prado-PMMM (Reproduced from Foundations of Prado-PMMM (2012) p.9)

The Darci maturity is a mark of successful external maturity assessment as quantitative data is collected from participants via questionnaire and compiled numerically for comparative assessment.

Other modern research in the area of organisational project management maturity has been undertaken by Dr Stanislaw Gasik of Vistula University, Poland. His work on Public Project Management aims to "identify and systematise public projects management practices. A structured description of these practices creates a framework of public projects management" (Gasik 2014*b*). In support of this research Dr Gasik has pursued international data on public project management perceptions through the Project Management Institute Government Community of Practice (Gasik 2014*a*). The research questionnaire requires participants to initially answer 11 questions regarding their perception of public project management complexity in relation to private projects, using the 10 Knowledge Areas of PMBOK 5th edition. The respondents are asked to support statements that 'private projects are more complex", "public projects are more complex" or that "there is generally no difference". Participants are then asked to provide organisational data re-

lated to the agency they perform project management in, and what Project Management framework (PMF) the organisation has adopted. Importantly the survey also includes details on governance and the prevalence of regulations for procurement and project management that might bear upon public project management. Questions about the application of project management practices are framed around their influence on "an institution's success" on a 1 to 5 scale from 'none' to 'essential'. There are 54 questions in total.

The Gasik research focuses on the process of public project management and the importance of applying project management practice to the successful outcome of projects (Gasik 2014*b*). This is a different direction to this research which aims to benchmark performance only. The importance of including questions related to the organisation's adoption of a PMF or the installation of a project management office (PMO) are however interesting areas that would enable comparative assessment between research participants.

This research will follow the example of the Darci PMMM research and the Gasik research by:

- Using an electronic questionnaire for ease of data collection
- Standarise questions for a simple 1-5 rating response in escalating or decreasing maturity for simplicity
- Limit questions to less than 50 to reduce the burden on participants
- Keep descriptors of maturity succinct to reduce the burden on participants
- Provide a means of turning qualitative maturity descriptors into quantitative data for analysis
- Include questions to determine the participant organisation's adopted PMF (if any) and how well resourced the organisation may be in Project Management staff.

2.3.7 Summary of Project Management Maturity Models

The existing project management maturity models listed above have been briefly analysed for their pros and cons prior to the development of a maturity assessment tool for the

Local Government Sector. The following Table 2.4 summarises the applicability of these models to the research proposed.

Table 2.4: Summary of Existing Project Management Maturity Models against Objectives of Research

Model	**Suitability for external assessment**	**Provides opportunity for comparative assessment**	**Easily Modified for Baseline Assessment**
CMMI	Too complex, high reliance on evidence	No, bundles process areas in maturity ratings making direct comparison difficult	Difficult to make generic for baseline maturity assessment
P3M3	Highly suited	Yes, but deeper understanding of maturity in each Process Perspective required to directly compare	No, A two tiered question approach would need to be created to understand applicability of maturity rankings to any Process Perspective
OPM3	Not Suited, Requires KPIs	Yes, but many best practices make meaningful comparison impractical	Possible, by stripping out many Best Practices
PMMM	Highly suited	Yes, Knowledge Area and Process comparison possible	Yes, descriptors turned into questions
Kerzner	Better suited to integrated organisational assessment	Yes, model built for comparison purposes	Yes, all questions provided

The PMMM model is considered best suited for modification for the purpose of an initial benchmarking exercise, conducted external to the organisation (self assessment response to survey) and able to compare results across organisations. While superseeded by the 5th edition, PMBOK 4th Edition contains largely the same Processes in a reduced number of Knowledge Areas (nine rather than ten) and Processes (42 rather than 47) making assessment slightly less demanding of participants. Four of the five models have used a five-stage maturity scale which appears to allow a greater scope for determining the relative position of less-mature organisations than that of the OPM3 model. No more

than five-stages will be used to assess maturity (stage zero will not be used). While the Kerzner model is felt to provide the most detailed and applicable assessment method to benchmark individual Council's (which provide services including but not limited to project management), the detail required to complete the survey precludes its use as an initial benchmarking tool across the sector for the purposes of this research.

The formation of the research methodology and tools is present in Chapter 3.

2.4 Reasons for Project Failure

As demonstrated above, projects are implemented to deliver a product or service to meet the needs of a business or their clients. Projects are delivered by a standard methodology that may be linked to a best-practice model, and the capacity to deliver projects within an business portfolio can be assessed by collating and assessing KPIs. With such a structure, why then do projects fail with such frequency and what impact do failed projects have on the organisation? What does this mean for Government in delivering community services in a financially sustainable manner?

Many studies have been undertaken on the success or failure of projects in an attempt to uncover lessons to be used in improving future project delivery or justifying over-expenditure or delays in delivery. Many of these studies have been focused on the Information and Communications Technology sector. One-such ongoing study from the Standish Group has been assessing the leading causes of failure as described by Project Managers (The Standish Group International, Inc 2001). The Standish Group refer to projects that fail to meet all of their success criteria "failures" while those that meet a few of the success criteria are classified as "challenged". Success criteria for a project are generally held to be (Sommer 2004):

- Completed at or under budget
- Completed on schedule
- Meet Sponsor objectives
- Meets defined requirements of features and functions
- Customers score the product as satisfactory or better

Of the 280,000 projects assessed in the 2001 report only 28% were considered successful while 49% were challenged, leaving over 64,000 projects failing outright. Yet this was an improvement over the 1994 study reducing time overruns from 222% over the estimated time to 63% and cost overruns from 188% to 45% (The Standish Group International, Inc 2001). Moving into 2014 the Standish Group reported that over US$250billion is spent each year on IT application development over approximately 175,000 projects (The Standish Group International, Inc 2014). While recent research has seen further improvement in success rates (39% in 2012 (The Standish Group International, Inc 2013)) failures are costing businesses vast sums of money with poor customer satisfaction outcomes. The Standish Group"CHAOS 10" has been published following from this research detailing the top ten factors effecting project success or failure with the 2010 success factors reported as follows:

- User Involvement
- Executive Management Support
- Clear Statement of Requirements
- Proper Planning
- Realistic Expectations
- Smaller Project Milestones
- Competent Staff
- Clear Vision and Objectives
- Hard-Working, focused staff
- Other

The Project Management Institute also conducts an annual appraisal of project management in the publication *Pulse of the Profession* which, in 2015, surveyed 2800 project management practitioners internationally representing Information Technology to Manufacturing to Government (Project Management Institute, Inc. 2015). By comparison, the top ten causes of failure were noted as:

- Change in Organisation's Priorities

- Inaccurate Requirements gathering
- Change in Project Objectives
- Opportunities and Risks were not defined
- Inadequate/poor communication
- Inadequate Vision or goal for the project
- Inadequate Sponsor Support
- Inadequate Cost/Task Time estimates
- Poor Change Management
- Resource Dependency

The Office of Government Commerce, in developing their P3M3 model, assessed common causes of failure and produced a grouped list (Office of Government Commence 2010*a*):

- Design and definition failures, where the scope of the change and the required outcomes and/or outputs are not clearly defined
- Decision-making failures, where there are inadequate levels of sponsorship and commitment to the change i.e. there is no person in authority able to resolve issues
- Discipline failures, such as weak (or no) arrangements for risk management and an inability to manage changes in project requirements
- Supplier management failures, such as a lack of understanding of suppliers commercial imperatives, poor management and inappropriate contractual set-ups
- People failures, such as disconnection between the programme/project and stakeholders, lack of ownership, and cultural issues.

Many similarities exist between these two comprehensive surveys, namely a focus on scoping and defining project deliverables with customers/users, involvement by the project sponsor/executive management and undertaking adequate project controls for finance and time management against realistic targets. There is also a strong case for improved organisational/strategic alignment of the projects within the business portfolio which would

establish a vision and goal for the project within the context of overall business delivery. Commentary on such factors supports such analysis with other is presented in"Top Issues" papers touting the importance of strategic alignment, executive sponsorship, end-user/stakeholder involvement in decision making, scope, quality, risk and financial controls in a change management structure (Sommer 2004, Homer 2004). Homer (2004) suggests that success be redefined as:

- Accomplishment of the *results* sought
- Completion of the *Scope* necessary to accomplish the results
- *Performance* of the Project within the bounds established

By extending the measurement of success; greater emphasis is placed on establishing clear benchmarks in strategic alignment and project scope within business portfolios and scope control through the project in collaboration with customers. Project controls should be customised to be relevant to the realistic project targets in cost, time and quality and as a result will quantify an evaluation of feasibility, benchmark performance, measure interim performance and highlight needed improvements. This detailed approach to establishing benchmarks, agreeing on measures and reviewing them will provide a repeatable approach to assessing project success and also the maturity of an organisation who can undertake such an iterative assessment of performance.

An established approach to identifying project metrics in performance; not just against failure indicators, but based on objectives and scope tied to the business portfolio of the organisation, will enable initial performance measurement to set a benchmark for continuous improvement. Framing an assessment tool in consideration of these factors will enable the development of tailored maturity assessment for Local Government project management practices. Reviewing the significance of project failures however underscores the need to take stock of project performance and implement a targeted improvement strategy to avoid project failure and the financial implications that brings to the business. The goal therefore of improving project management maturity is to achieve project success. The method of improving maturity will be to assess current weaknesses, evaluate causes of failure and make targeted improvements. As the improvement cycle is developed, further maturity measures may be taken, targets set and benefits evaluated. On a superficial level, projects should be observed to fail with ever decreasing frequency and subsequently

reduced negative impact on business operations.

With successful and efficient Council service delivery paramount to ongoing performance of the sector, improving project management practice must be a focus in building service capacity. Councils' service delivery and the measurement of success are discussed in the following sections.

2.5 Local Government Project Delivery

While Local Government has and continues to deliver many projects to their communities, quantifying project success, or measuring the application of project management discipline within the sector has been largely absent. According to data collected by the NSW Office of Local Government (OLG) in 2013/14 financial year NSW Councils owned and controlled $139 billion in assets, $83.5 billion in infrastructure (NSW Office of Local Government 2015). Provision and maintenance of this infrastructure involves undertaking program and project work. Such infrastructure projects are but a subset of the services Councils provide. Within the 2013/14 year expenditure on projects and services totaled $10,075 million (NSW Office of Local Government 2015). OLG categorises projects and services across the following areas, averaged across all Councils:

- Governance and Administration (17%)
- Public Order, Safety and Health (4%)
- Water and Sewer (10%)
- Environment (16%)
- Community Services, Education, Housing and Amenities (11%)
- Recreation and Culture (16%)
- Roads, Bridges and Footpath (16%)
- Other Services (11%)

Variances among Councils need be considered when analysing the services provided. For example while water and sewer represents 10% of average expenditure, only 65% of councils provide these services. No metropolitan councils provide water and sewer and in

some regional and rural areas, the services are provided by county councils (NSW Office of Local Government 2015). Some Councils understand the need for implementing project management to improve service delivery given large capital expenditure and the need for improved Council capacity (Cochrane 2014). The extent of application of project management to LG service delivery is however not known.

With such large expenditure on services, with projects driving the delivery of such services, Councils must consider their service delivery against the expectations of the community and the capacity to deliver the most efficient projects possible. With the sector's net operating result trending downward since 2011/12 dropping from negative $252 million to negative $359 million between 2012/13 to 2013/14 (OLG 2013, 2014, 2015) many Council's longterm sustainability, without support from State or Federal funding revenue, is in doubt. Such worrying financial tends acted as the impetus for the Destination 2036 Discussion Paper (Elton Consulting 2011), Treasury Report (NSW Treasury Corporation 2013) and subsequent Local Government Reform (NSW Independent Local Government Review Panel 2013).

The following sections summarise the premise, purpose and components of the reform program and justify the need for Councils to improve their services delivery, partly through the adoption and improvement of project management discipline, to ultimately provide the services expected of their communities in a sustainable way and avoid the need for forced amalgamation or administration.

2.6 Local Government Review

When one considers the range of services and regulatory functions performed by local government, it is not surprising that issues concerned with this third tier of government are never far from the political agenda. These include concerns about governance and accountability, the delivery of infrastructure, revenue and funding arrangements and, at the top end of the debate there is the question of the constitutional recognition of local government at the Commonwealth level. – (Griffith 2013)

The beginning of the latest round of Local Government reform in NSW is hard to pinpoint. Review and reform act on a continuum making epochs of review difficult to define. A starting place to identify the latest initiatives in NSW might be the introduction in 2009

of the Integrated Planning and Reporting Framework in NSW to improve strategic, asset, financial and workforce planning (Griffith 2013) which was to ensure Councils:

- identified and planned for funding priorities, asset management and service levels following engagement with their communities, including on how these priorities are to be paid for
- developed a set of plans in consultation with their communities, including a Community Strategic Plan, a Long Term Financial Plan (both for at least a minimum of 10 years), and a 4-year Delivery Program and 1-year Operational Plan with accompanying budgets
- established a series of reporting processes

While Councils were not beholden to implement the IP&R framework until June 2012, the direction of Councils future was being challenged. The Destination 2036 Discussion Paper (Elton Consulting 2011) was borne from discussions regarding the change in role and function of Local Government and the need for improvement to deliver future success within the sector. The Discussion Paper highlighted challenges, and potentials for change aiming to define models that enabled the elements of Governance, Structure, Function, Financing and Capacity to come together for the benefit of different organisations with the LG sector (Elton Consulting 2011). Central to achieving this was the initiative to "Develop a consistent performance measurement approach for councils and a comprehensive program to support improvement" (see Section 2.7 below for more details). The IP&R Framework and the Destination 2036 paper set the scene for measurement and response from the governing State body (Division of Local Government, subsequently known as the Office of Local Government).

In August 2011, it was reported that the Government would encourage but not force council amalgamations, as well as more collaborative approaches to the delivery of services (Whitbourn 2011). The State Government established an Independent Local Government Review Panel (ILGRP). In its November 2012 discussion paper the Panel said that it "believes that the current system of local government looks superficially well enough, but is really in quite poor shape" (Independent Local Government Review Panel 2012). Such an assessment was based on Councils' capacity for strategic and financial management in a changing environment and the sustainability and viability of Council providing

services within that environment. In regards to infrastructure, the focus of the discussion was the infrastructure maintenance backlog. This was attributed to "inadequate council revenues; poor asset planning and management; over-investment in new assets without proper consideration of whole-of-life costs (often in response to availability of one-off grants); unmet needs for new assets in growth areas; and some councils having numerous assets, such as timber bridges, that are very costly to maintain and replace. In addition, councils generally lack opportunities or skills to bundle capital works contracts, establish public-private partnerships, or arrange lower-cost long-term financing" (Independent Local Government Review Panel 2012). The summary statements regarding this analysis of LG delivery highlights the lack of understanding between project management maturity and its impact on Council service provision:

"Local government is generally a capable and efficient deliverer of services, but it is evident that ongoing efficiency gains and productivity improvements will be essential in a climate of fiscal restraint and growing community needs and demands. There is presently a dearth of reliable information on the cost and quality of local government service delivery. The annual publication of Comparative Information on NSW Local Government Councils provides some data on costs and a number of councils undertake community satisfaction surveys, but without a standardised methodology. No work has been done to set efficiency benchmarks. The cost structure of council service delivery varies considerably across NSW. It is driven by such factors as a councils location, the size of the local government area, its capacity to access economies of scale and scope, and the costs of attracting and retaining suitably skilled staff or indeed whether it can attract such staff at all. Skills shortages are of growing concern throughout local government, but particularly in non-metropolitan areas and especially in more remote locations and amongst smaller councils. Inability to pay sufficiently attractive salaries, growing competition from the mining sector and absolute shortages in some trades and professions are cited as key factors. The need for regular reviews of the scope, quality and method of delivery of council services is also implicit in the IPR framework, but there is no explicit requirement for councils to undertake such reviews or to participate in quality improvement processes. A substantial number of councils do both of their own accord, but is there a case for mandatory processes?" –((Independent Local Government Review Panel 2012) p.21)

This research intends to provide a starting point for assessment of project management maturity across the LG sector and compare against such factors as location, size and

capacity to see what correlation might be present in determining Councils' future in effective service delivery. The research intends to present a gap analysis for councils to strive for improvements, while if not mandatory, still provide demonstrable benefits for the organisation and by extension the community they serve.

In parallel to the work of the Independent Local Government Review Panel, the NSW Treasury Corporation (TCorp) released the *Financial Sustainability of the New South Wales Local Government Sector* in April 2013. The report, commissioned by the Division of Local Government, focused on the financial sustainability of Councils with the following tasks:

- Creating a definition of sustainability
- Establishing a set of appropriate benchmark indicators
- Developing an assessment methodology including a rating scale and outlook that could be used to compare Councils against a sustainability definition
- Reviewing both historical financial results and the long term (10 year) financial forecasts of each Council

The resulting definition of 'sustainability' became:

"A local government will be financially sustainable over the long term when it is able to generate sufficient funds to provide the levels of service and infrastructure agreed with its community". The definition brings together what TCorp considers are the key elements of financial strength, service and infrastructure requirements, and needs of the community. (NSW Treasury Corporation 2013)

Against this definition, TCorp compiled a list of 10 benchmarks to use to measure performance on a common basis across all Councils, categorising the results into seven rating bands from Very Strong to Distressed and predicting the outlook (three years) into Positive, Neutral and Negative. This assessment and categorisation resulted in a number of key findings of which the following should be noted for context (NSW Treasury Corporation 2013):

- 102 of 152 Councils report an operating deficit with a negative trend

- Councils are at different maturity levels in implementing the Integrated Planning and Reporting framework, particularly in preparing asset management plans in consultation with the community
- Regional performance varies across the State which is attributed to population density (lower rate base, lower incomes)
- 22.4% of Councils were rated as Sound or stronger, with 52% Moderate and 25.7% Weak or lower
- Only five of 152 Councils had an outlook of Positive, with the remainder Neutral or Negative

The findings of this reporting, and the rating and outlooks presented for all Councils informed the next stage of the review with the publication of the Final Report of the NSW Independent Local Government Review Panel in October 2013. The report reiterated the factors of the initial discussion paper in–light of subsequent quantification of the issues surrounding Local Government performance. In conducting the review however, The Panel acknowledged that performance/productivity was difficult to measure. While the Report presented metrics around expenditure and revenue and long-term financial and asset management trends, it acknowledged that "a continued lack of consistent data collection and benchmarking across local government makes it very difficult for councillors, managers, communities and other stakeholders to gain a clear understanding of how a council is performing relative to its peers".

As such the ILGRP recommended strengthening the sector, by enabling benchmarking, measurement, review and performance improvement include the following:

- Adopt a uniform core set of performance indicators for councils, linked to IP&R requirements, and ensure ongoing performance monitoring is adequately resourced
- Commission IPART to undertake a whole-of-government review of the regulatory, compliance and reporting burden on councils
- Establish a new sector-wide program to promote, capture and disseminate innovation and best practice
- Amend IP&R Guidelines to require councils to incorporate regular service reviews in their Delivery Programs

- Strengthen requirements for internal performance auditing

In total the Report provided 65 recommendations that were unanimously agreed upon by the panel. The implications of the review for Councils however were the recommended options for amalgamation (in the short to medium term) or to form larger Rural Councils or Joint Organisations with shared service delivery. The discussion of such structural change, in many cases against public sentiment, provided the path for the NSW Government reform package known as Fit for the Future.

2.6.1 Fit For the Future

Following from the Final Report (NSW Independent Local Government Review Panel 2013) the NSW State Government responded to the recommendations supporting, part-supporting or supporting in–principle, 58 of the 65 recommendations (NSW Office of Local Government 2014*b*). The response was framed under the new banner for the reform program 'Fit for the Future' (FFTF). The focus of the reform process extends beyond the efficiency or effectiveness of current service levels by councils. It is an opportunity to improve the sustainability of the sector and build capacity into the system to enhance the range of services and functions councils are able to undertake. For example, the ability to manage major regional facilities and undertake or facilitate major economic and infrastructure development for the benefit of ratepayers in NSW and future generations to come (Independent Pricing & Regulatory Tribunal 2015*b*).

The four criteria established for Councils to be Fit for the Future are as follows:

- Scale and capacity to engage effectively across community, industry and governments
- Sustainability
- Effectively managing infrastructure and delivering services for communities, and
- Efficiency

The Government has established the scale and capacity criterion as the threshold criterion for councils. In making a Fit for the Future proposal, councils must first assess their scale

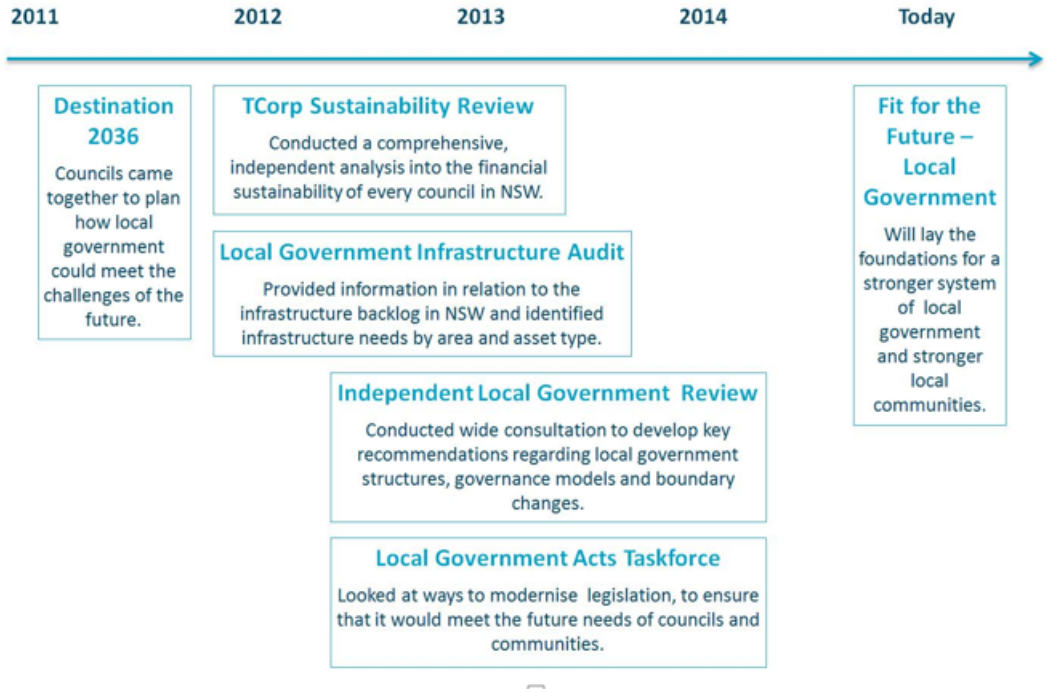

Figure 2.11: Timeline of Latest LG Review toward FFTF – Reproduced from `http://www.fitforthefuture.nsw.gov.au/`

and capacity against the Independent LG Review Panels recommendations, and submit one of three types of proposals:

Council Merger Proposals for councils that need to undertake structural change by merging with one or more other councils to achieve sufficient scale and capacity.

Council Improvement Proposals for councils that currently have sufficient scale and capacity without any structural change, or are proposing changes to achieve scale and capacity without merging with another council.

Rural Council Proposals for councils with Rural Council Characteristics, (eg, small, declining populations spread over a large area and where mergers may not be feasible), which need to demonstrate plans and strategies for real change in order to increase their capacity and improve performance against the Fit for the Future criteria.

The Office of Local Government (OLG) has developed templates for councils to use for each proposal type, in addition to other resources and guidance to assist councils in assessing their options and preparing their proposals (Independent Pricing & Regulatory Tribunal 2015*b*).

The assessment of Councils 'Fitness' falls to benchmark ratios such as *Operating Performance Ratio* (Greater or equal to break-even average over 3 years) and *Infrastructure Backlog Ratio* (Less than 2%). The Scale and capacity criterion remains the threshold and Councils must prove, by achieving benchmark ratios or providing sound alternative business cases, that improvements can be made to avoid recommended mergers. Those Council's that can realise the economic benefit of mergers with the support of their communities may submit a business case on how they and their amalgamation partners intend to come together.

Improvements in project management maturity may not be the panacea to Councils' operating performance but this paper attests that, by developing maturity in project management Councils can address some of the key elements identified by the Independent Local Government Review Panel (2013) such as:

1. Scale and capacity criterion
    - *Scope to undertake new functions and Major Projects* - by establishing project management frameworks, Council can better deliver new and unique services and projects
    - *Knowledge, creativity and innovation* - with improved maturity Councils can form a knowledge base for innovative projects to satisfy community needs
    - *Capable Partner for State and Federal Agencies* - in order to secure and deliver on State funded projects, Councils must prove their abilities in project management
2. Sustainability criterion
    - *Operating Performance Ratio* - while improved maturity may not be able to directly affect income, improved delivery can reduce operational expenditure waste
    - *Building and Infrastructure Asset Renewal Ratio* - critical for those rural and regional Councils that have large asset base but low own-revenue sources, improving project delivery can result in either; cost savings for delivering infrastructure projects or delivering more infrastructure for the same cost (reducing backlog)
3. Infrastructure and service management criterion

- *Infrastructure Backlog Ratio* - improving infrastructure service delivery can increase the amount of infrastructure built for the same cost reducing backlogs. For those Councils with no backlog, project management maturity can improve level of service of infrastructure that is built
- *Asset Maintenance Ratio* - if Council can improve quality in infrastructure project delivery, it would be expected that whole-of-life costs (including maintenance costs) can be reduced. Improved project management can directly affect capital infrastructure delivery and indirectly affect maintenance: if Councils can reduce expenditure through efficient project management, those operational funds can be used for improved asset level of service

4. Efficiency criterion

- *Real Operating Expenditure; indicating how well the council is utilising economies of scale and managing service levels to achieve efficiencies* - Mature project management practices can help align resourcing, scheduling and sequencing of projects and programs to more efficiently deliver projects and use Council's resources. In addition, improved focus in areas such as risk, quality and procurement management may effect the entire organisational operating efficiency

With the support for 'no forced amalgamations' pushed by organisations such as Local Government NSW (Local Government NSW 2015), it is assumed that Improvement model is the most desired of the three options for NSW Councils. The intentions of NSW Councils will be assessed within this research paper to determine the validity of this assumption. The conclusion of this research coincides with the timing of submissions for all Councils Fit for the Future proposals to the State Government. The future Councils choose for themselves will be considered against current attempts at building project management maturity.

2.7 Measuring Local Government Performance

2.7.1 Current Measures of Performance

As detailed in the previous sections, many attempts have been made to rationalise performance measures within the Local Government sector. As a result of the initiatives

proposed by the Destination 2036 discussion paper and recommendations of the Final Report of the Independent Local Government Review Panel, the Division of Local Government released a discussion paper titled "Building a New Framework for Measuring performance in Local Government". The purpose of this Paper was to present the need for performance measurement and for who and what purpose measurement would be taken.

The Principles of the proposed measurement framework are as follows (NSW Division of Local Government 2013):

- Build a meaningful, balanced picture of council performance
- Be understandable and accessible to the broader community
- Be comparable across like councils and over time
- Encourage continuous improvement rather than just compliance
- Drive positive behaviours, not create perverse incentives
- Be 'SMART'; that is: Specific, Measurable, Aligned to the project objectives, Relevant and Time-specific
- Be supported by benchmarks and targets, where achievable
- Evolve as better measures are identified and collected
- Align with Integrated Planning and Reporting
- Minimise the resource and reporting burden on councils
- Be enabled through legislation and supported through guidance and resources

These principles are proposed to be applied across four performance areas of: Financial Performance, Asset Management, Governance Performance and Service Delivery (NSW Division of Local Government 2013). Project Management performance will be an underlying factor to service delivery. The focus of the new framework is displayed in Figure 2.12 where it is pointed out that Councils need the most detailed information for their own benchmarking and improvement efforts. As discussed, to date there are no benchmarking measures within Local Government for Project Management practice.

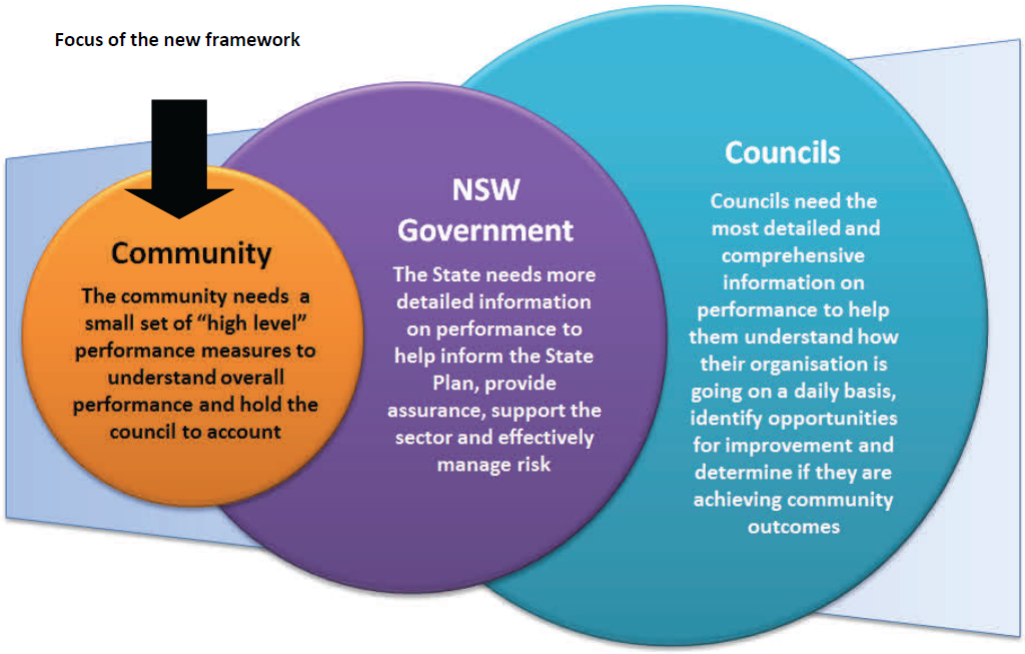

Figure 2.12: Stratified model of the proposed Performance Measurement Framework (from DLG 2013 Discussion Paper p.5)

The Discussion Paper framework relies on data produced by Councils in the annual 'Your Council' publications of the Office of Local Government and external audits by the likes of TCorp. Customer satisfaction surveys are also a proposed measurement mechanism. On the face of this approach, the framework is measuring symptoms, not performance; relying on financial records, asset condition assessment and the satisfaction of stakeholders to measure and compare Councils. This does not dig deep enough to assess Councils practices that contribute to resultant metrics. Any measure of Councils' project management performance needs to assess project management deliverables on a scale of maturity - results of this maturity assessment can be compared to measures of the 'symptoms' to draw correlations and conclusions. The principles presented in the Discussion Paper can still be factored into the measurement approach of Councils' project management maturity.

Outside of the latest inquiry into the LG sector, the Office of Local Government have been collecting data on Councils services and operating performance since 1989/90 publishing an annual report *The Comparative Publication on NSW Local Government*, known as *Your Council* since the 2015 publication of the 2013/14 financial year (NSW Office of Local Government 2015). The 2015 document builds on the work of the Discussion Paper by framing assessment in the areas of: Financial Performance, Asset Management, Commu-

nity Leadership and Service Delivery. These annual reports present performance trends of individual Councils and, by using consistent metrics, comparisons between Councils and classifications of Councils (Metro versus Rural) can be made. Consistent with all inquiries in NSW Local Government performance measures, the variability of Councils' size and services make drilling down into management disciplines (including project, program and portfolio management) difficult to undertake in a meaningful way. Pure data from the Australian Bureau of Statistics regarding population size, Council financial measures such as 'rate income', resource measures such as 'number of full-time employees' and asset measures such as 'number of kilometres of road maintained' are straightforward. Such measures require comparative analysis between Councils to provide meaningful conclusions. For example, measures of revenue may directly and consistently correlate with population size, but may not correlate with the value of the asset backlog as Councils with the same population in their Local Government Area may not have the same asset base, or more importantly, may not have the same maturity in asset management practice. Maturity in project management is similarly not apparent from these measures.

The measurement of maturity in Asset Management has specifically been supported by a national professional organisation; the Independent Public Works Engineers Australasia (IPWEA), in their framework NAMS.PLUS which is built from the International Standard ISO 55001 - Asset Management. NAMS.PLUS contains a model that determines a Councils maturity against the organisation's application of a number of management practices. The adoption and success of such a standard and maturity model in the Australian Local Government context suggests that a similar approach may be successful in benchmarking project management performance.

2.7.2 Applicability of Maturity Research to the Government Sector

While it is acknowledged that some Councils are undertaking improvements in service delivery through benchmarking and improving internal practices (NSW Independent Local Government Review Panel 2013) it is not currently mandatory to undertake such auditing processes in the endeavour of improving performance. While not limited to project management practice, the recommendations for improving sector performance in measuring, auditing, resourcing and facilitating improved service delivery are clear - Councils must be able to prove their performance to State Government and the community. Constant

scrutiny will always be apparent in the Australian government sector; demonstrating performance however will help stave off unwanted and potentially unnecessary, forced amalgamations.

The research undertaken in this study seeks to determine what, if any, attempts are being made in the improvement of project management practices, and how performance and improvement can be measured in Local Government. Using the push for reform as context, the research will benchmark current performance, highlight areas of weakness and provide a yardstick for future improvement endeavours. It may be that, in future, measures for project management maturity will be included in ongoing annual Local Government review.

Chapter 3

Methodology

In November 2013 the NSW Division of Local Government released a Discussion Paper *Building a New Framework for Measuring Performance in Local Government* which asked two key questions:

- What do councils and their communities need to know to determine if they are performing well and achieving their goals?
- How well does your council currently measure performance and how useful is your councils current performance measurement system?

The Discussion Paper sought to question the 'why measure', 'how to measure' and 'what to measure' questions relevant to the performance of the sector and individual Councils. It proposed a framework of a relatively small set of core measures of Council performance to achieve increased understanding for the local communities, assurance for State Government and to drive continuous improvement for Local Government themselves. This research aims to complement this inquiry by developing a benchmarking assessment tool tailored for Local Government sectors approach project management delivery.

3.1 Objectives and Activities

The relevant objectives of this research are:

Selection of an appropriate Benchmarking tool With a large range of existing project management methodologies, this paper seeks to assess the most appropriate tool for initial performance benchmarking.

Conduct meaningful benchmarking exercise The research intends to capture sufficient and useful data to establish the current state of project management maturity in the sector and to draw comparisons. 'Meaningful' being valid, sector-appropriate data that can facilitate quantitative analysis.

To achieve these objectives, the research activities for this dissertation are to:

- Select and modify an appropriate measurement tool and maturity index with which to assess performance;
- Prepare a suitable method by which to collect data;
- Consider the method of assessment and analysis of collected quantitative and qualitative data;
- Select a sample for assessment, determine methods to encourage participation, consider ethical constraints;
- Consider research limitations and the effects of bias;
- Prepare recommendations for improvement in research methods.

3.2 Model Selection

In order to accomplish these objectives a Project Management Maturity Model must first be utilised or developed to assess Council's on their current performance. As detailed in Section 2.3.7 the PMI model PMMM was deemed most suitable to high-level benchmarking due to the following attributes of its assessment:

- Structured around Knowledge Areas rather than Maturity Levels (unlike the Kerzner model)
- Consistent scale of measurement (1-5 rating scale converting qualitative data to quantitative data)

- Common language format (little specialist jargon is required to conduct as assessment)
- The number of questions is not considered burdensome (comparable to Prado (Prado 2014))
- Enables meaningful assessment of Council's comparative strengths and weaknesses across the knowledge areas of PMBOK which enables gap-analysis
- Easily modified into a questionaire

The PMMM framework, while structured for the purpose of internal organisational assessment is able to be simplified for remote self-assessment across the sector with minor modification. The maturity levels, the knowledge areas and their component Processes were first arranged in matrix form with Processes forming rows and Maturity indicators arranged in ascending order in columns. Nine matrices were formed for each of the nine Knowledge Areas of PMBOK4. Each row, of each matrix was then converted from a Process description statement to a question. For example, in Knowledge Area 4 - Cost Management, the Process 'Cost Estimating' was converted from the statement:

Cost estimating is an analytical process using factors, equations, relationships, and expert knowledge to develop the cost of a product, service, or process. If detailed resources are identified, cost estimating applies rates and factors to determine the cost. The main outcome is a project cost estimate and a cost management plan.

To the following question:

Are Projects Cost estimated? (Is there a formal analytical process to determine the cost of ALL resources to carry out project activities or products?)

The conversion from statement to question required simplification and elimination of most explanatory information. This was to reduce the reading burden on participants and to reduce instances of varied interpretation by participants. It is felt that, by asking a simple question, followed by an unambiguous, more defined question in parenthesis, the participants would be able to determine a suitable maturity rating based on their organisation's application of such a process. It also provided enough detail regarding 'proof' that the maturity of each process was being met through use of adjectives like 'formal' and'analytical' and emphasis on 'ALL' processes being met asked the participants to con-

sider the consistency by which the process was carried out. Thus it could be determined if such activities were ad-hoc (Level 1), formal, but inconsistent (Level 2) or formal processes, delivered consistently (Level 3). More mature organisations could respond that they were benchmarking such processes (Level 4) and improving them (Level 5). This pattern was repeated for all questions, throughout all knowledge areas for consistency.

Minor variations were incorporated into the column headings (scale ratings) of maturity between the different Knowledge Areas. For example, Level 2 response for Knowledge Area 2 - Project Cost is defined as *Basic processes for identifying generic resource costs, publishing reports and monitoring metrics*, whereas Level 2 response for Knowledge Area 7 - Project Communications Management is defined as *Basic processes for identifying stakeholder needs and frequent reporting on large projects.* Such tailored responses are included with the assumption that some Knowledge Areas have processes that are likely to be conducted for all projects, just at varied levels of sophistication (i.e. Cost Management), whereas other Knowledge Areas have processes that are likely to only be carried out on larger projects where organisations are less mature (i.e. Communications Management). Regardless, the 1-5 scale is consistent across all questions making for a simple questionaire tool for distribution.

Refer to the Appendix C for the survey instrument.

3.3 Research Participation

There are currently 152 Local Government bodies in NSW not including Joint Organisations or Water Councils (NSW Office of Local Government 2014*a*) and 565 Local Governments across Australia. While the immediate focus will be on NSW Councils facing the consequences of the Fit for the Future reforms, the assessment will encompass Australia to find examples of best practice or common weaknesses that might be addressed. Councils outside of NSW operate under different State Government legislation and governance which may affect their project management maturity in unpredicted ways.

The research will be conducted consistently across all Councils with the intention that data be collated an analysed in groups for comparison. Some proposed groupings include:

- Rural vs Metro Council's in NSW

- CENTROC vs the remainder of NSW
- Councils with a Project Management framework or PMO vs those without

In order to undertake meaningful analysis the following targets have been set for participant groups (participant groups not all mutually exclusive):

- Rural Council NSW: 25/109
- Metro Council NSW: 10/43
- CENTROC: 13/15
- Total Participants: 50/167

CENTROC (Central NSW Councils) is a voluntary organisation comprising of 15 rural member Councils that existing to 'Promote Regional Sustainability' and 'Develop Regional Cooperation and Resource Sharing' (CENTROC 2014). By assessing a majority of these member Councils there may be an opportunity to develop shared improvement initiatives in this cooperative. Metro Councils are those that fall within the Greater Sydney Metropolitan Area (defined as Metropolitan or Metropolitan Fringe (NSW Office of Local Government 2015)). Rural Council's make up the remaining 109 Local Government Areas of NSW. Additionally, 15 Councils outside of NSW were invited to participate to determine if there was a large disparitity for NSW responses, bringing the total invited participants to 167.

Why should Council's Participate? According to the P3M3 model there are a number of reasons why organisations might choose to use a maturity model to assess their current performance, such as:

- justifying investment in portfolio, programme or project management improvements
- gaining recognition of service quality in order to support proposals
- gaining a better understanding of their strengths and weaknesses in order to enable improvement to happen.

Organisations that have focused only on training, specific methods or tools, or a governance framework, often wonder why they have not seen the promised improvements

(Office of Government Commence 2010*a*). Participation will be encouraged with the offer of providing them with a summary report at the conclusion of the research. It will enable the participant to example the maturity of their organisation in comparison to the average results received and to identify gaps for improvement. This may be used to catalyse business improvement within the participating local government.

3.4 Research Methodology

The research will be conducted with the following factors considered:

- Participation will be voluntary, there will be no assumed assistance from regulatory authorities
- No financial or other material incentive will be offered to participants
- Research will be time-limited from May to July 2015
- Based upon existing models, a simplified research methodology will be produced to be most appropriate for initial benchmarking in the sector
- Ethical considerations will limit the data type and amount that can be acquired
- Geographical location of Councils is widely dispersed (across Australia) so on-site assessment will not be possible
- Data will need to be of a format to enable analysis (primarily quantitative, supported by qualitative)

Considering these factors the research will be conducted electronically via a self-assessment tool modeled on PMMM with Processes grouped in alignment to the PMBOK 4 Knowledge Areas. As detailed in Section 2.3.6 the following objectives will be used to guide the development of the self-assessment:

- Use an electronic questionnaire for ease of data collection
- Standarise questions for a simple 1-5 rating response in escalating or decreasing maturity for simplicity

- Limit questions to less than 50 to reduce the burden on participants
- Keep descriptors of maturity succinct to reduce the burden on participants
- Provide a means of turning qualitative maturity descriptors into quantitative data for analysis
- Include questions to determine the participant organisation's adopted PMF (if any) and how well resourced the organisation may be in Project Management staff.

The following timeline will enable the successful undertaking of this research:

15 Apr 2015 – Complete formulation of Survey Instrument

15 May 2015 – Receive clearance from University of Southern Queensland Human Research Ethics Committee

20 May 2015 – Commence research by contacting participating Councils across Australia and NSW Councils using publicly available email addresses

20 July 2015 – Close Survey Instrument

16 Sept 2015 – Complete Data Analysis and submit research

29 Oct 2015 – Submit completed Dissertation

15 Nov 2015 – Provide Summary Report of results and outcomes to participating Councils

Very few resources are required to carry out such research. The survey formatting, distribution and collating tools are available on the selected e-survey platform SurveyMonkey. All council email addresses are publicly available from State Government websites and emails can be addressed to ensure they are received by the staff most appropriate to conduct the self assessment (see section 3.4.1 for more details).

3.4.1 Research Considerations - Safety, Confidentiality and Reliability

Prior to commencing the research, the methodology must be considered in light of potential risks, ethical concerns and with an appreciation of the reliability of the study

results. As this research requires no physical activity or experiment, the element of physical and psychological risk is effectively removed. At a completion time of approximately 35mins for a one-time survey, it is not considered that there is a great time imposition on participants. Nor is there any perceived economic or legal risk to be considered. A risk assessment is however still appropriate in regards to potential effects on participants. It should be noted that participation is entirely voluntary and all information regarding the purpose and process of the study will be provided to the participant prior to any assessment taking place - refer to Appendix C for the survey instrument and participant information.

The first consideration will be the targeted participant. In reference to the *National Statement on Ethical Conduct in Human Research, 2007* special ethical consideration will be required when working with any of the following:

- Pregnant women and the foetus
- Children and young people
- People in dependent or unequal relationships
- People highly dependent on medical care
- People with cognitive impairment, intellectual disability, or mental illness
- People who may be involved in illegal activities
- Aboriginal and Torres Strait Islander peoples
- People in other countries
- Other cultural and ethnic groups

The targeted participant for this study has the following attributes:

- Practicing professional (post graduate)
- Over the age of 18
- Holds current employment within a Local Government Organisation
- Of sound mental health

- Of sound cognitive ability
- Knowledgeable in the area of Project Management
- A current resident of Australia

With these attributes, no special ethical consideration need to be undertaken. To ensure the target participants are reached, the researcher will send an email to the publicly available Council email address as the first point of contact. The subject line will read '*ATT: Director Engineering/Infrastructure - Industry Research Project - Project Management Maturity in LGs across NSW*' which will be passed through Council's internal record management system to the most appropriate person likely to be involved in public works projects. Any person in such a position is expected to meet the attributes listed as a minimum requirement of their employment. The email will be sent from the researcher's own business email from Parkes Shire Council which will provide verification of the researcher and provide contact details to any participant wishing to discuss the research further.

The risk inherent in this matter is the potential for the email to be misdirected or ignored. The likelihood of this is rated 'possible' with a consequence level of 'negligible'. While a large number of the emails are expected to be passed onto the correct people, the residual risk of ignoring the email remains. A private survey with little reward or consequence is likely to be rated low priority by busy employees who may not take part in the study. The consequence of this only extends to the researcher who will have a reduced amount of data to analyse. It is not considered likely that insufficient data will cause the failure of the research project.

The second consideration of importance is the potential social risk on the participant, as the survey requires the identification of the Council under evaluation. While no participant identification is required, there is still the low potential of tracing data to an individual within an organisation. The risk therefore is; if the organisation employing the participant has a negative reaction based on perception of the data provided, the result may mean disciplinary consequences for the participant. The following should be noted prior to evaluating residual risk:

- No names will be required from the participant
- Data sought requires no unique input, rather the selection on a rating system

- Data will be stored in a private, secured, password protected, digital storage system for the requisite five year period in accordance with section 601.2/C124 and 601.2/C125 of the Queensland State Archives University Sector Retention and Disposal Schedule
- The potential risk is made explicit for the participant prior to commencement of the study
- The participant has the freedom to withdraw from the study at any time prior to submitting data
- All contact details of the researcher and the USQ Ethics Committee are provided should concerns be had
- All research is conducted within the public sector, no commercial-in-confidence information is sought. The sector functions as a cooperative and confidential information need not be disclosed.

With this in mind the likelihood of the risk is rated 'rare' and the consequence 'minor'. It is unreasonable to expect any major negative impact on participants for disclosing public information from a public entity by a qualified and reasonable representative of his/her employer.

3.4.2 Limitations and Variables to Consider in Research

Given the original nature of this benchmarking exercise there are few guidelines in initiating such a study. Therefore, while best practice will be used in the formation, distribution, collection and analysis of the data, it is inevitable that shortfalls in the exercise will be discovered. These shortfalls can be built on for future research. Lessons learned from this research will be displayed in Section 4.13. This section will discuss the anticipated limitations and variables and attempts to minimise adverse impact on the study results.

Variables and limitations considered here are in regard to the analysis to be undertaken. As this study is based on the sector and not individual organisational units the analysis will focus on producing comparative averages between sample frames. The range and distribution of maturity ratings is not considered highly-relevant for the outcomes of the

study. With the maturity scale limited to a 1 to 5 integer scale, the spread of responses is controlled and the resulting averages are unlikely to be skewed by outliers.

Considering the validity of the analysis required, the first factor considered was the required sample size. The number of Local Governments across Australia and in NSW is readily quantified. The sample frame was chosen so that targeted analysis could be undertaken on NSW compared to an overall average and comparative analysis of metro and rural councils could be undertaken. The following sample targets were set:

- Rural Council NSW: 25/109 (or 23%) – given the variables of size and functions between organisations within this large sample frame, 23% is anticipated to provide a suitable coverage of representative respondents to categorise against metro councils
- Metro Council NSW: 10/43 (or 23%) – the percentage of respondents targeted to match rural councils as representative samples
- CENTROC: 13/15 (or 86%) – a strong sample of a sub-set group in rural Councils to provide validation of overall rural sample frame
- Total Participants: 50/167 (or 30%) – given the disparate nature of the organisations over Australia, this sample frame provides additional data to create a wide-reaching average. Additional sub-groups for each state are not considered necessary for this research. In–depth analysis of this sample frame will not be conducted given the unknown probability and distribution of respondents that will participate.

As participation in the survey is completely voluntary the sampling method cannot be controlled by the researcher. Throughout the research period, consistent follow-up and promotion of the questionnaire will be conducted in order to meet sampling targets.

The biggest limitation to valid data collection with this model and survey method is the susceptibility to individual respondent bias. As the survey is expected to be conducted by participants both optimism and negative bias impacts may result. Without specific KPIs and evidence collection to verify respondents' answers, the maturity level selected is reliant on the participant's experience, understanding of the rating scale and honesty. Further, conducted in isolation, the participating organisation is rated against a scale and description of the maturity indicators rather than against another organisation that

may have been independently verified at a certain maturity level. As such those respondents who believe their organisations are performing well can rate their maturity at 4 or 5 without comparison to the performance of a truly validated organisation operating at the same level of maturity. Kerzner's model expects comparison to the higher maturity levels (Kerzner 2001) whereas this study relies on the respondent acknowledging certain practices within their orgsanisation that would be evidenced to be considered a Managed (Level 4) or Optimised (Level 5) organisation (Crawford 2006). Conversely some respondents might undervalue their organisational maturity on the lower side of the scale by focusing on the examples were best practice was not carried out or by focusing on recent project failures rather than overall trends of the organisation. To combat both biases the questionnaire is framed into discrete Knowledge Areas whereby the maturity indicators/measures can be detailed enough for accurate response in acknowledging the participants' organisational practices. It is also expected that, by not requiring the name of the participant there is less incentive/disincentive to moderate the maturity scores given. There is negligible risk of identification that might result in disciplinary action taken against the participant by their employer for rating the Council one way or the other. Additionally, there are no other incentives or motives for rating the participant's organisation higher or lower. There are no rewards or prizes associated with scoring against other Councils. Finally, by targeting practicing professionals within the sector, it is expected that the participants are best placed to represent and appraise their organisational maturity in an objective manner.

Variables in responses will be limited by the nature of the maturity scale. Rather than ask participants to describe their Project Cost Management maturity for example, the research will present the process of Cost Management and the indicators of a level 1 to level 5 organisation and require the participant to to select that which best described their organisation. In this way less scope of interpretation is required in analysis which limits the impact of bias from the researcher. However, in order for participants to better describe some intricacies or examples of their processes, an optional comments field will be made available.

As described above, the research will be constructed in discrete Knowledge Areas. the nine Knowledge Areas will be displayed in the order of PMBOK4 although they are not necessarily sequential. The researcher has considered randomising these questions in the survey to avoid survey fatigue influencing the later sections of the survey. Considering

the relatively short nature of the survey the impact of such a risk was considered minor. To minimise the risk further, the survey instrument will include a 'percentage complete' progress bar to encourage completion of all sections. If fatigue impacts are realised in the results, the randomisation strategy should be implemented in future research.

3.5 The Survey Instrument

Given the geographical dispersion of the targeted participants, it was considered that the most appropriate data collection method be a virtual assessment tool. Many online survey tools were available and considered for the purpose of the study including SurveyMonkey, Zoomerang, SurveyGizmo and PollDaddy. The simple and consistent nature of the survey did not require any advanced features of the available services such as question logic or locking out questions based on participants' answers. SurveyMonkey was selected as the most user-friendly and cost effective for the purposes of creating the assessment, distributing the questionnaire and accumulating and exporting the data.

In building the electronic assessment, the Knowledge Area matrices were converted into matrix-based questions with checkbox fields in SurveyMonkey. Quality controls such as; excluding more than one maturity rating response per question, and making response fields mandatory, ensured that results remained consistent and complete. As each of the questions were consistently formatted, exporting the maturity ratings as quantitative responses was made simple. Acknowledging such simplicity, the option to add comments after each maturity score was introduced to enable more in-depth answers.

The matrices were preceded by a brief introduction to the maturity scale and the knowledge areas. An example matrix explaining how the survey ought to be completed was included to assist comprehension. All of this was for the benefit of the participant to avoid confusion, limit the burden of participation and introduce context to support the purpose and expected results of participation.

With the maturity instrument component complete, the participant detail fields required preparation. Such qualitative fields were intended to be as limited in number as possible. As such the following questions were included:

Please select your local government area drop-down including all NSW Council ar-

eas and an OTHER option for those outside NSW or who wished to remain anonymous

Has your council adopted an established PM framework multiple choice offering a number of existing frameworks as well as the options 'none', 'mixture' and 'other'.

Has your council adopted a business improvement framework multiple choice offering a number of existing frameworks as well as the options 'none', 'mixture' and 'other'. This question was introduced to assess the sector in regards to application of any other maturity-building efforts available email addresses

Does your organisation have a Project Management Office a multiple choice with options 'Yes', 'We have personnel that conduct such duties, not in a 'PMO' and 'No'.

How many staff in your organisation hold formal PM qualifications requiring a numerical entry

What is your Council's response to "Fit for the Future" A drop-down multiple choice for each of the three reform options and a fourth option for 'not at liberty to disclose/unsure at this stage/not applicable'.

It was considered appropriate to place this information at the beginning of the assessment tool in order to capture the right personnel for the maturity assessment. Should the participant not be able to answer these questions, they were encouraged to abandon the survey before investing time in the maturity assessment.

Prior to sending out the instrument, it was first validated with the University of Southern Queensland (USQ) Faculty of Health, Engineering and Sciences, the USQ Human Research Ethics Committee and professional associates of the researcher. The Instrument was prefaced with a participant information sheet outlining the risks and rewards of participation and provided contact details to both the researcher and the University. With such measures and controls in place, emails containing a link to the survey were distributed to all NSW Councils.

3.5.1 Evaluation of Survey Instrument

The survey instrument is considered appropriate for the task of conducting initial research across the sector at a high level. A Strengths/Weakness, Opportunities/Threats (SWOT)

analysis for the survey instrument is presented in Table 3.1.

Table 3.1: SWOT Analysis for the Survey Instrument

Strengths	**Weaknesses**
Simple questionnaire enabling simple rating results, consistent across all areas, grouped into knowledge areas for improved understanding, allows varied maturity scores across organisational efforts, can be distributed and completed electronically. Can be conducted in short time frame by anyone with basic understanding of industry practice. Generic enough to be applicable to all service areas across all Councils	Open to bias both +/-. Limited to superficial rating. No proof required to meet rating benchmarks. May be too generic to gain meaningful assessment of some low maturity Councils
Opportunities	**Threats**
Repeatable, data collected is quantitative allowing trend and statistical analysis	Not mandatory, may result in few results. Survey participation not limited to single respondent can create double-up responses from a single organisation, survey not password protected and open to sabotage, non-experts may skew results through misunderstanding

Upon review, the instrument is considered appropriate for the purpose of the study. Compared to other maturity research efforts using similar methods of data collection and assessment across an industry sector, the method and approach are deemed comparable and appropriate (Prado 2012*a*). While limitations and influence of bias are considerable concerns the data is still expected to yield reasonable results. The conclusion of this research will provide recommendations of improvement to the instrument and the method of assessment based on the quality of the results and assessment enabled by this seminal research.

Chapter 4

Research Results

This chapter presents the results of the survey instrument with a focus on the maturity indicators provided by the self-assessment. Refer to Appendix B for the tabulated average results.

4.1 Research Overview

The survey instrument was distributed via email to likely participating Councils upon receiving ethical clearance (No. H15REA105, 19 May 2015) from the University of Southern Queensland Human Research Ethics Committee. The survey was closed on Friday 3 July, 2015, as responses frequency had subsided and no further results were expected by leaving the survey open until 20th July as planned.

The survey attracted 78 individual responses of which 52 were unique and usable for analysis. Only 39 respondents completed the instrument in its entirety with some skipping the later questions. The participant spread closely matched the targets of the survey:

The data collected was deemed sufficient for meaningful analysis. While the number of Metro respondents was less than the target with nine respondents, this is equivalent to 20% of the NSW Metro Councils. This is relatively consistent with the 28% of Rural Councils responding, making for an acceptable comparative sample size for research of this nature. Achieving 13 of 15 CENTROC Council responses will form a suitable benchmark for this sub-set of Councils to focus on localised cooperative endeavours.

Table 4.1: Survey Participant Summary

Category	Expected Number	Actual Number
NSW Rural Council	25	31
NSW Metro Council	10	9
CENTROC	13	13
Total Participants	50	52

The data of those participants that did not complete sufficient content of the survey to enable analysis was discarded. Validation of the 78 submissions was carried out on the following conditions:

The participant did not advance from the 'participant consent' page If consent was not issued, no data was collected.

The participant did not advance from the 'introductory information' page If the introductory information was not submitted, the survey data had no context.

The participant completed maturity ratings of less than two Knowledge Areas The participant was assumed to have not been eager or knowledgeable enough to participate and therefore their small contribution should be disregarded.

The following sections display in detail the comparative results of the survey. The Knowledge Area maturity comparisons are undertaken by dividing respondents along two focuses of analysis and averaging their submitted maturity ratings:

Organisational Analysis Separating the respondents into:

- The average of all respondents
- The average of NSW Councils only
- The average of CENTROC member Councils only
- The average of Metro Councils only
- The average of Rural Councils only

Capacity Analysis Separating the respondents into:

- The average of those Councils with a Dedicated Project Management Office (PMO)
- The average of those Councils with assigned Project Managers (PMs)
- The average of Councils without PMs or a PMO
- The average of those Councils with or without adopted project management frameworks
- The average of those Councils with greater-than six qualified project staff
- The average of those Councils with less-than six qualified project staff

The data is best displayed as a maturity web with zero in the centre and five (or the highest average value) on the outer edge. With this display, the strengths, weaknesses and comparisons between the above criteria can easily be achieved. With the data compiled, averages from each of the Knowledge Areas has been determined and the following figures created. Figure 4.1 displays the average maturity ratings of All Councils and the comparative averages of NSW Metro and NSW Rural Councils.

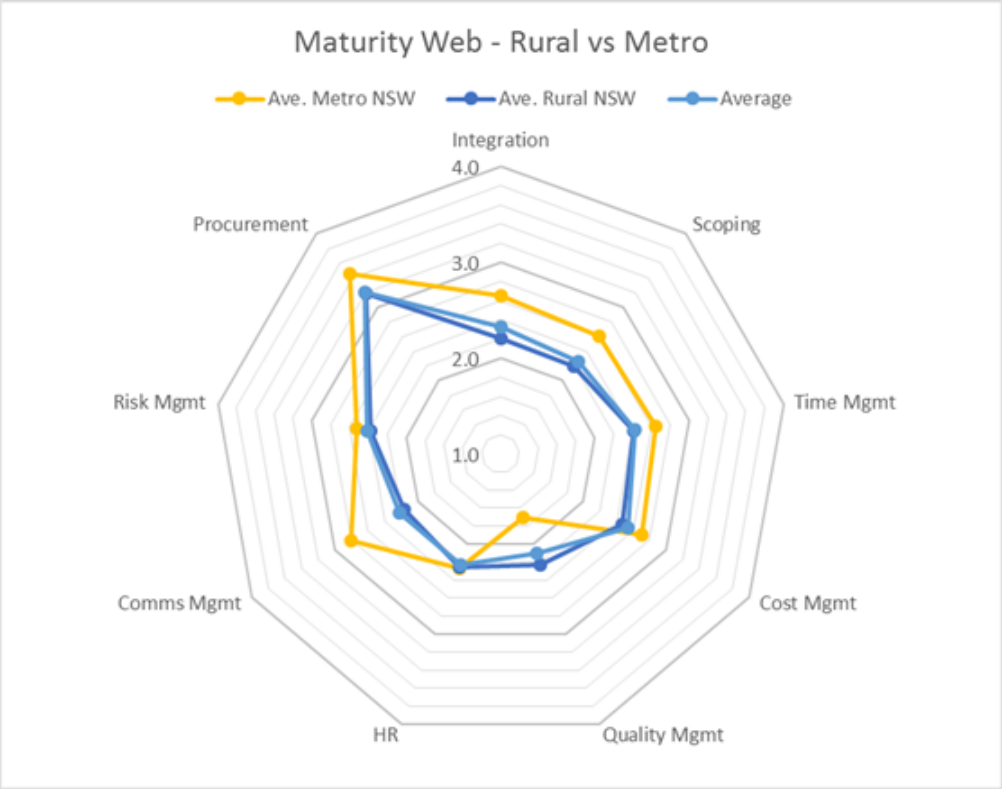

Figure 4.1: Organisational Results of Maturity in all Knowledge Areas (Metro vs Rural)

This comparison of organisations is very revealing. In seven of the Knowledge Areas Metro Councils exceed the average maturity rankings. In HR Management there is very little

difference between Rural and Metro Councils and in Quality Management Metro have self-rated their maturity below average. A more in-depth analysis of these findings will be undertaken in the respective Knowledge Areas of this chapter. The other comparison that can be undertaken with this data is that of capacity to resource PMs or a PMO. By arranging data by those Councils with or without PMOs or formal Project Managers (PMs), or arranging by those Councils with or without Project Management Frameworks (PMF), it is possible to see just what difference these practices make to the maturity of the organisation.

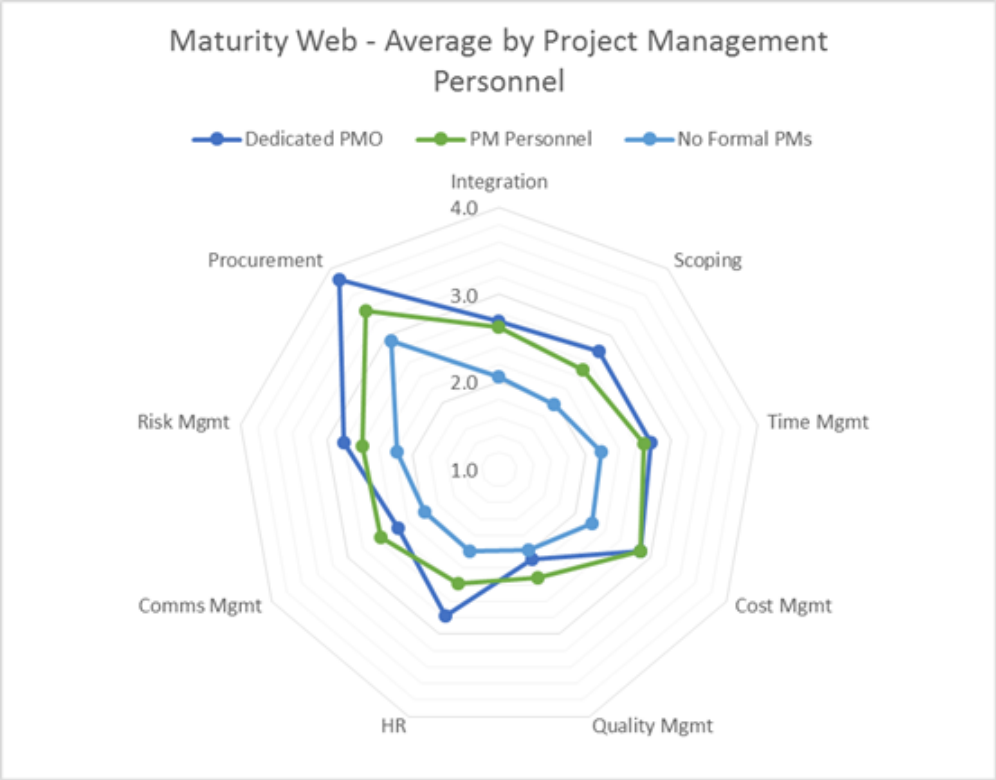

Figure 4.2: Capacity Results of Maturity in all Knowledge Areas (PMO verses non-PMO)

From Figure 4.2 it can be seen that the adoption of a Project Management Office correlates strongly with higher maturity in all areas when compared to Councils that have not installed a PMO (refer to the following section 4.2 for more details). Interestingly, those Councils who have indicated that they have formally appointed PMs not working within a PMO have indicated higher maturity in Knowledge Areas such as Communication Management and Quality Management. Having installed formal PMs these Councils have likewise indicated higher maturity than those who have not. Such results are to be expected and provide evidence for lower performing Councils to start focusing on their resourcing, training or formalising Project Managers within their organisations. This is further supported in Figure 4.3 which displays the maturity ratings of those Councils with

greater than the average six qualified personnel in their organisation.

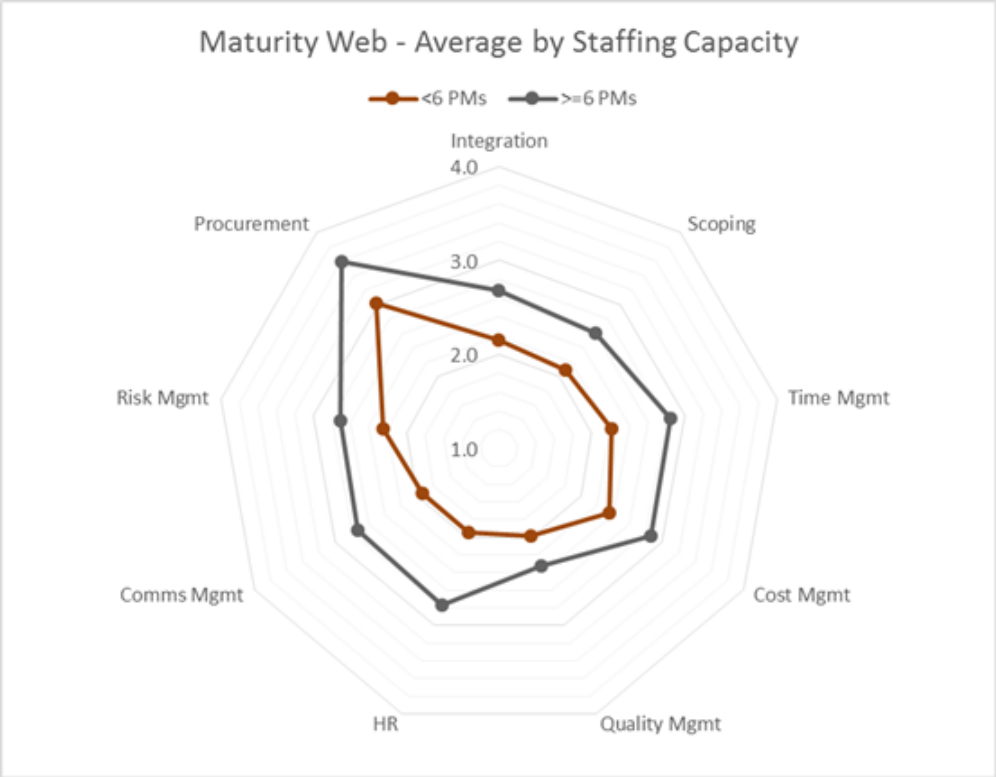

Figure 4.3: Capacity Results of Maturity in all Knowledge Areas (Number of Qualified Staff)

While it is acknowledged that, due to operational size, not all Councils can support a number of standing staff of PMs, the data does add weight to support Councils seeking additional resources for the discipline and activities of project management outside regular staff duties. Such roles may be filled contractually and paid for from the project budget. The argument may be made that without such resourcing of qualified PMs, funding projects becomes too risky as capacity for achieving expected deliverables is compromised.

Councils must also critically consider adopting a formal project management framework (PMF) if they wish to increase their maturity. Indeed, according to the model, an organisation could not properly rate themselves Level 3 or higher without having adopted a standard and continue to follow it across the organisation in all projects. Such results are borne-out by the comparison as displayed in Figure 4.4. Those organisations which have indicated that they have adopted a PMF, even if it is not an industry standard framework such as PRINCE2, consistently rate, on average, a whole maturity level higher than those organisations with no framework or an ad-hoc approach to projects.

Each of the following subsections will display the data and analysis within each Knowledge

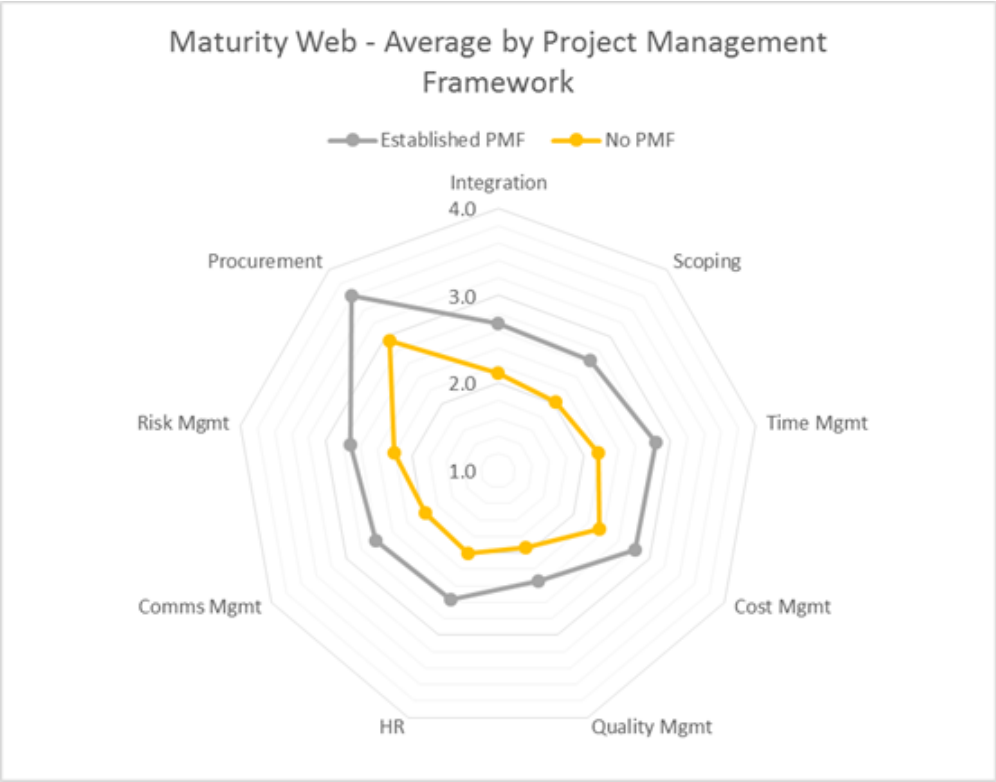

Figure 4.4: Capacity Results of Maturity in all Knowledge Areas (Project Management Framework)

Area in sequence, with conclusions compiled in the following chapter. Discussion on scale and capacity will be provided in each of the Knowledge Areas as a key indication for Councils to pursue business improvement for long-term sustainability as individual Local Governments.

4.2 The Project Office and Project Management Framework

The introductory information sought from participants was to determine current efforts undertaken in establishing a project management framework within Council where no standard model exists. The participants were asked to provide an indication on whether or not a industry framework had been adopted, whether Council had established a project management office (PMO) to oversee the project management discipline within the organisation and to provide a number of staff believed or known to hold qualifications in project management or equivalent.

Over 50% of respondents indicated that no Project Management Framework had been adopted within Council. Of the remaining 24 with a framework in place, 20 of those Councils indicated that they used a mixture of industry frameworks such as PMBOK and PRINCE2 or had otherwise developed their own standard for delivering projects (Refer to Figure 4.5).

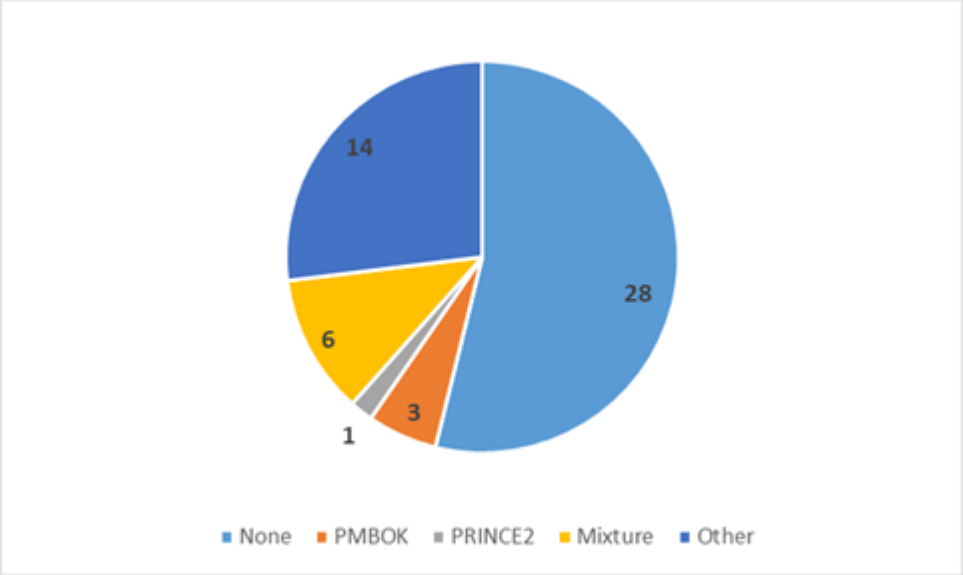

Figure 4.5: Results of Project Management Framework Adoption within Councils

The distribution of Councils with adopted project management frameworks was relatively balanced across metro and rural centers in NSW. The CENTROC respondents lagging behind with only 40% of member Councils operating with a framework in place (Refer to Figure 4.6).

Of the 52 respondents, eight indicated that they have an established PMO within the organisation, only four of which came from the 40 NSW respondents equating to 10% of NSW Councils. While two of the nine Metro Council's (22%) indicated that they had a PMO within their organisation, the sample size of nine is not considered substantial enough to draw conclusions between Metro and Rural councils within NSW data on this metric. What this does indicate however is that, with only 50% of Councils adopting a distinct framework for project management, the prevalence of dedicated PMOs is rare within Local Government.

Evidently, Local Government still manages to deliver projects despite the lack of a framework or PMO. Participants were asked to also provide an indication of whether staff in the organisation were identified as project managers or expected to report on project

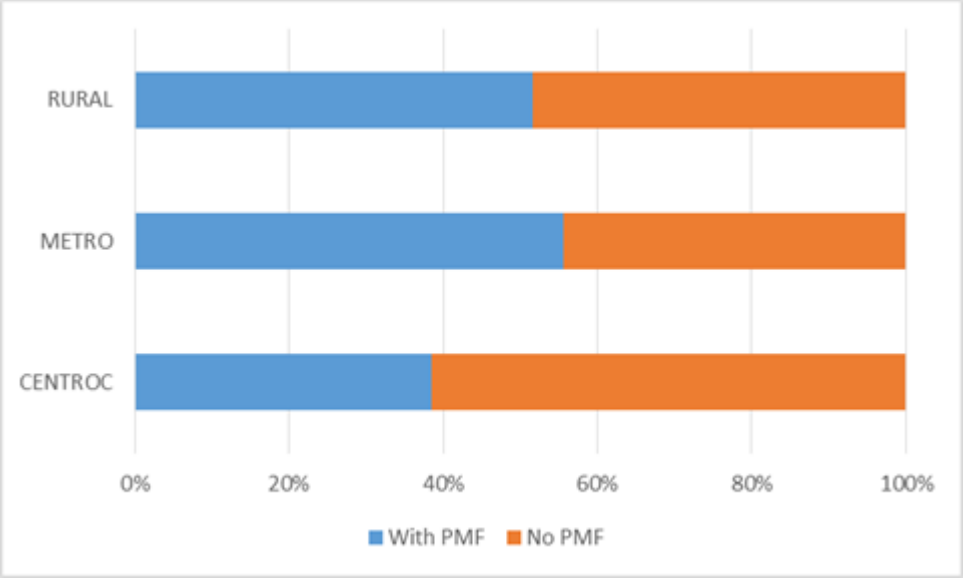

Figure 4.6: Distribution of PMF adoption between Metro and Rural centres

deliverables. Of the 44 Councils that had no PMO, 15 of those indicated that they indeed had staff appointed to carry out project management duties which still leaves more than half of Councils without staff specifically assigned to the discipline of formal project management.

The participants were also asked to provide a count of qualified personnel within their organisations assigned to the duties of delivering projects, either formally or informally. Such a question was designed to assess both capacity and indicate any skill shortages that might be apparent within the government sector. The responses to this question ranged from 50 to zero, averaging at 6 personnel. The split between greater or less than the average is presented in Figure 4.7.

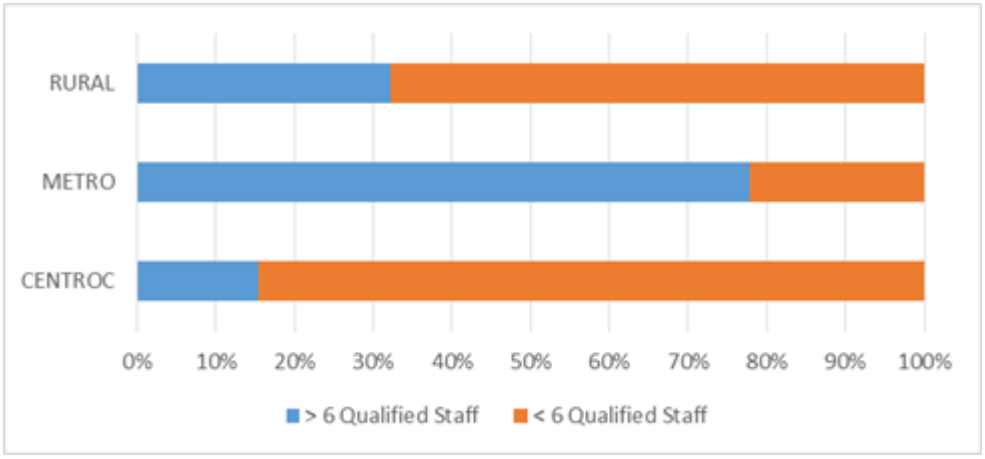

Figure 4.7: Distribution of Qualified Staff between Metro and Rural centres

The data provides a much clearer distinction between Metro and Rural NSW in staffing volumes and capacity. With a higher population and rate base Metro Councils appear to be better able to resource their organisations with sufficient qualified staff whereas in some Rural areas no qualified staff have been appointed. Considering the latest data from Office of Local Government the average full-time equivalent (FTE) staff across the Metro Council respondents is 608, while Rural respondents (ranging from Rural cities to sparsely populated LGAs of 2558 pop.) averaged at 227 FTEs. Maximum FTE from respondent Councils is 1773 and the minimum 53 (NSW Office of Local Government 2015). With such a large range, Council's service delivery is obviously effected by the number of population served and the capacity of the Council to meet their needs. An analysis of staffing impacts on total service delivery is outside the scope of this study however, it is highly likely that this capacity to resource has a marked impact on the project management maturity of the organisation. The attraction and retention of quality staff is a factor considered in the Local Government review (NSW Treasury Corporation 2013, Independent Local Government Review Panel 2012, NSW Independent Local Government Review Panel 2013). Links to the challenges define in the Review will be analysed in the Knowledge Area sections that follow.

The above information is limited to discrete metrics of the organisation which restricts analysis of the organisations structural impacts on project management and project delivery. Short of investigating individual Councils on a deeper level, the data received will only function to categorise Councils as with or without a PMO or dedicated/qualified Project personnel. Further research into the effectiveness of existing PMOs and the functions of PM personnel may be required to better understand the impact of Project Management maturity. Some further detail is however drawn out in 4.9 Project HR Management below.

4.3 Business Improvement

Participants of the survey were asked to select the intended Fit for the Future reform proposal that their respective Council was pursuing with the State Government. They were also asked to provide details on any business improvement framework in effect within their organisation. The intent of these questions was to provide a link between the need to improve project management to improve long-term sustainable outcomes for the Local Government sector, particularly in the current climate of reform and potential forced

amalgamations. Since the closure of the survey, the intentions of 144 NSW Councils have been published for public comment on the website of the NSW Independent Pricing and Regulatory Tribunal (IPART). The eight Far West councils were not required to submit proposals (none of which participated in this research).

As described in Section 2.6 three proposals for the future of Councils were available for submission to the State:

Council Improvement Proposal Council stands alone and proves its scale and capacity against key indicators

Council Merger Proposal Voluntary amalgamation for improved scale and capacity and plan for operation

Rural Council Proposal Alternative structure and joint functions between member Councils

The survey received 40 responses from NSW Councils with 23 respondents indicating 'Improve', four indicating 'Merger' and three indicating 'Rural Council'. The remaining 10 were unable or unwilling to respond. Upon the closure of the Fit for the Future submissions 115 Council's have officially proposed to 'Improve', nine Councils are proposing to amalgamate in four 'Merger' proposals and the remaining 20 are proposing to reform into the 'Rural Council' model (Independent Pricing & Regulatory Tribunal 2015*a*). This confirms the intent for Local Governments to remain and thrive as individual entities. To do so, improving project management will be one of many areas that Councils will be focused on. While such improvement is not an indicator for the purposes of reporting to State Government, the symptoms of poor project management will effect each Councils ability to prove scale and capacity and meet the ratios dictated by the performance framework. Continuing to benchmark performance in project management will assist in focusing on improving current systems.

Currently less than half of responding Councils can identify an organisational business improvement framework operating across their organisation. As shown in Figure 4.8 the Australian Business Excellence Framework (SAI Global 2011), Business Process Improvement (Harrington 1991) and 6Sigma are currently the only industry improvement frameworks adopted by NSW Local Government with others using a mix of other commercial frameworks.

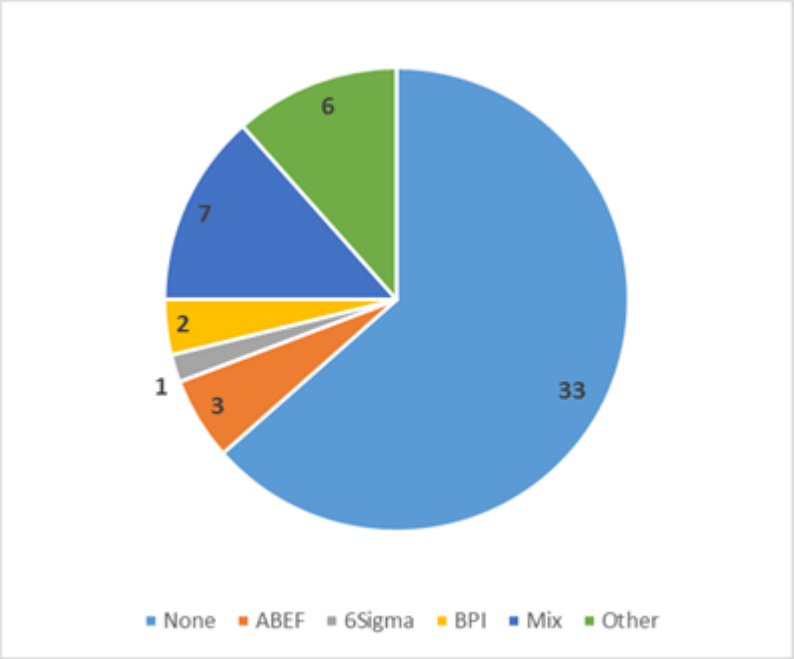

Figure 4.8: Existing Business Improvement Frameworks used in Survey Respondents' Councils

While pursuing Councils' business improvement objectives, corporate vision and governance may uncover more detailed reasons behind poor project management, a detailed study into individual Councils lays outside the scope of this research. The data provided here is simply to baseline the current Local Government response to reform in improving business functions. This might be considered an indication of maturing Portfolio Management within the P3M3 model (Office of Government Commence 2010*a*).

4.4 Knowledge Area 1 - Project Integration

According to the PMMM, Knowledge Area 1 - Project Integration focuses on the ability of project managers to produce a comprehensive project cycle from inception to closure (Refer back to Figure 2.2). This requires the following activities to be accomplished:

Initiation and Scope Definition Initiation and scope definition involves the processes in place for the formal authorisation of a project and the definition of project scope, assumptions, and constraints.

Deliverables Identification Deliverables identification is the process established to identify the resultant work products, or project deliverables, that the project is to have produced upon its successful completion. Stakeholder involvement is de-

scribed (client, management, etc.), and mapping to the original business request is covered.

Project Management Plan Development Project management plan development integrates planning information from the other knowledge areas to create a project management plan. The project management plan provides a roadmap for project execution and is the integration vehicle that ensures all project management areas are addressed, developed, and managed within the context of the project. The outcome of this component is a project management plan.

Project Management Plan Execution Project management plan execution is performing the work by carrying out the project management plan. During project execution, work progress is examined from the perspective of each knowledge area (i.e., scope, time, cost, quality, etc.). The status and performance of the project from the perspective of each knowledge area is consolidated and integrated into progress reports. The main product of this component is information on the work results, usually depicted in project status and performance reports.

Change Control Integrated change control includes implementing a change control system (to include configuration management), identifying and assessing changes to the baseline, coordinating the changes across the knowledge areas, managing the authorised changes, informing stakeholders, and identifying corrective actions.

Project Closure Project closure includes those processes associated with the orderly closure of a project, be the project completed or canceled. This process involves all activities to insure contractual obligations are met, requirements have been fulfilled, deliverables accepted by the client, and contractual and administrative closure procedures have been performed. Furthermore, organisational knowledge and project artifacts are collected and preserved for learning purposes and potential re-use in other projects.

Project Information System This component covers the project's information system that collects, integrates, and organises project-related information, tools, processes, and procedures across the knowledge areas. The main product of this component is information about the project that is readily accessible to all stakeholders. Note, this includes manual-based systems.

Respondents were asked to rate themselves against each of these activities using project management deliverables to measure Council's maturity in these areas. Respondents were grouped into their organisational categories and their responses averaged and compared in Figure 4.9.

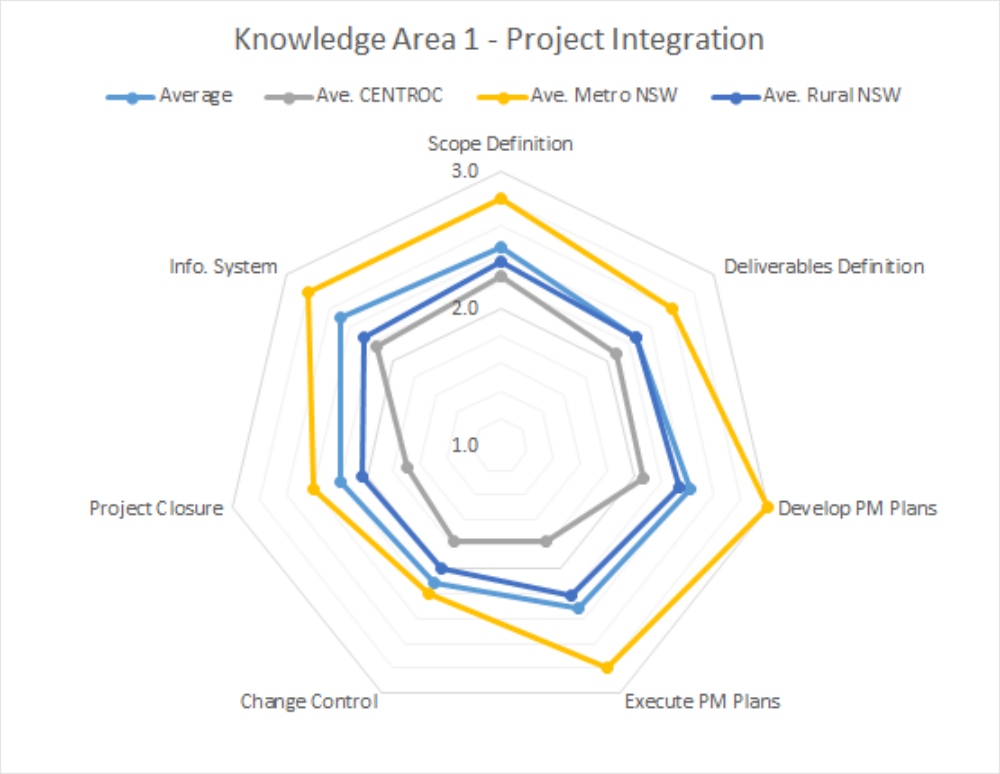

Figure 4.9: Organisational Results of Maturity in Knowledge Area 1 - Project Integration

As can be seen from Figure 4.9 the highest average maturity score was 3.0 given to Project Management Plan Development followed by 2.8 for Project Management Plan Execution. This would suggest a reasonably consistent standard of planning and delivering according to plans being established specifically for the project. This maturity may be explained by the need for councils to resource project activities through internal staff or external procured services and the need for effective planning to bring those resources to bear on the project regardless of adopted PMF. Unfortunately this is not as highly supported by the identification of deliverables within the scope of the project. This might be explained by the difficulty in identifying and solidifying stakeholder needs in the initiation of a Council project. It may also be a symptom of the organisational structure of Councils not aligning to project delivery accountability; limiting sign-off of project scoping documents. It may also be due to projects not being aligned to the organisation's objectives - this is difficult to determine without more detailed research. Change control is the weakest activity across the organisational spread. The reason for this could, again, be from any

number of reasons; contracts may be difficult to modify if change requests have not been detailed in the terms of engagement, communication challenges between project staff may inhibit formal change control processes, or it may be a result of deliverables not being defined, making change direction difficult to approve in terms of improving project success. Regardless, a marked gap in Change Control maturity is identified in this Knowledge Area.

Across all activities Metro Councils achieve higher than average maturity ratings while Rural Councils perform below average. CENTROC members as a sub-set are rated less mature than Rural Councils on average. The mode for all responses was 2.0.

Capacity comparisons in Project Integration reveal other other interesting results in this Knowledge Area. Figure 4.10 displays the average maturity ratings between Councils with a dedicated PMO to those with assigned PMs and those without. Likewise Figure 4.11 displays the difference between those Councils with and without established project management frameworks.

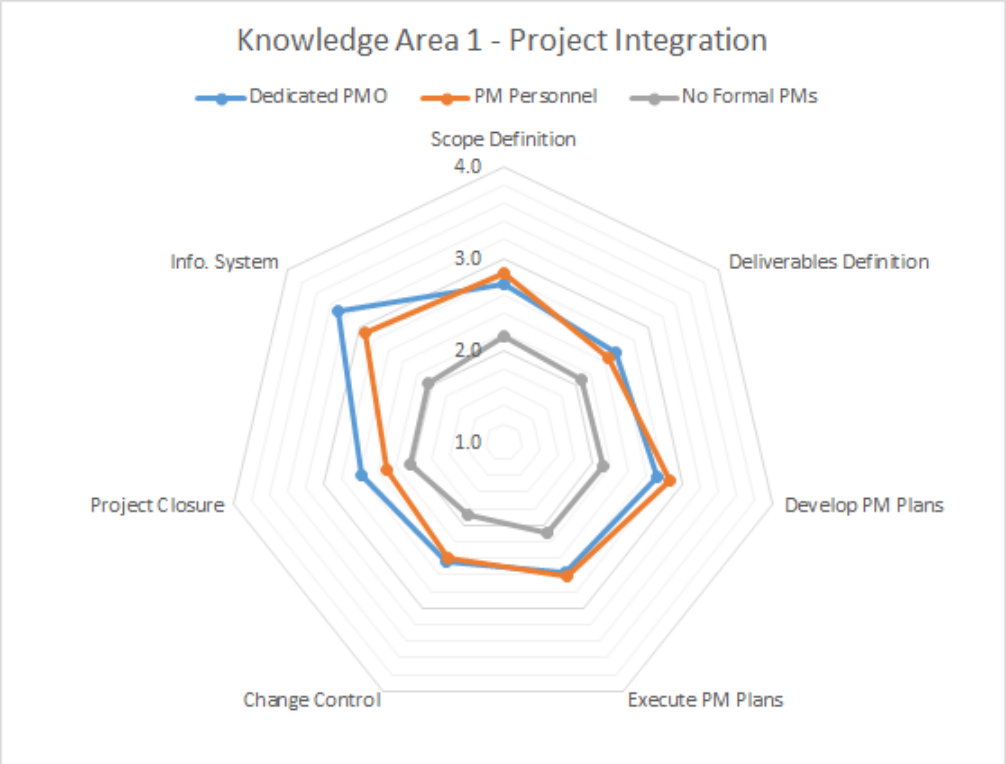

Figure 4.10: Capacity Results of Maturity in Knowledge Area 1 - Project Integration (Councils with PMOs and PMs)

The distinction between Councils with either a formal PMO or PMs versus those Councils without is stark. Across all activities in Knowledge Area 1, the average for each is ranked

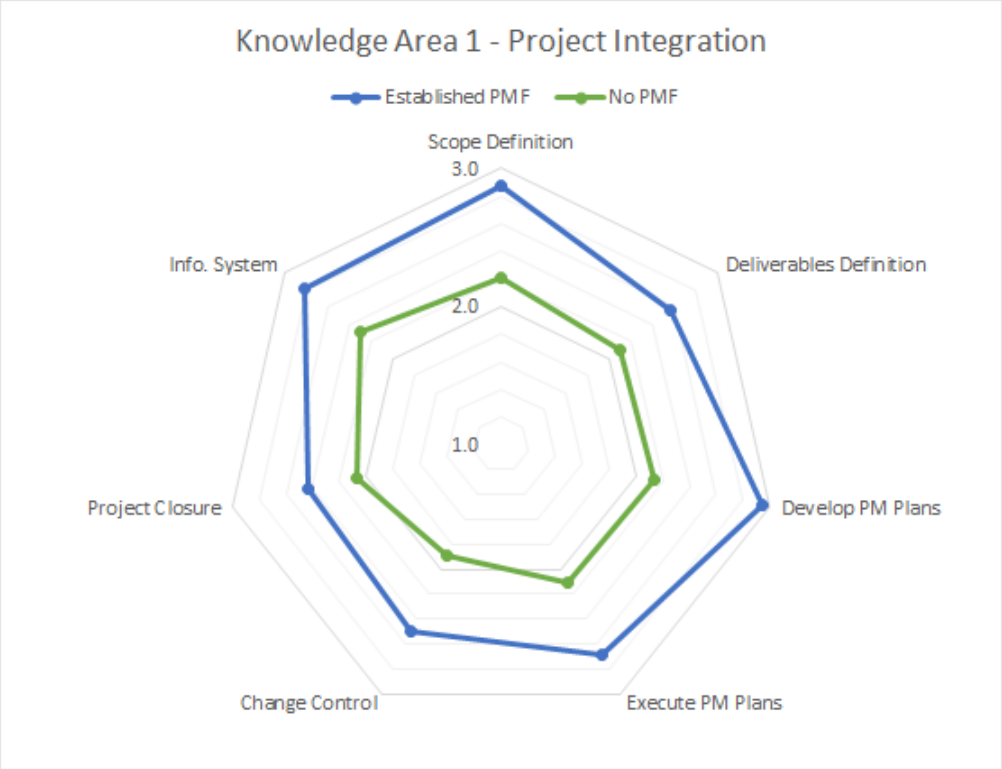

Figure 4.11: Capacity Results of Maturity in Knowledge Area 1 - Project Integration (Project Management Framework Adoption)

at least 0.5 higher for those with formal PMO/PMs than those without. This is to be expected. Councils that acknowledge and support the discipline of project management would be expected to be rated more mature than those who don't. Of special interest however is that those Councils with a PMO only noticeably exceed those with PMs in the activities of Information System and Project Closure. This may be explained by the PMO externalising IT systems from the control of PMs themselves and onto the personnel that support project management processes in the organisation. The same may be true of assisting to close projects; PMs may be required to be undertaking multiple projects simultaneously or back-to-back with the formal closure of projects being overlooked in favour of dedicating resources to the upcoming or ongoing activities of other projects. PMOs on the other hand, following more mature procedures, would be expected to achieve total sign-off to close a project before it could indeed be considered complete.

4.4.1 Respondents' Comments on Knowledge Area 1

The following are a sample of respondents' comments for additional insight into the application and maturity of the processes within Knowledge Area 1 - Project Integration.

Initiation and Scope Definition

- *Scopes not consistently required* – Responding with a Maturity Rating of 1, this respondent has identified that the approach to initiating a project is still ad-hoc.
- *Often projects progress from a good idea to submit for a funding proposal to suddenly being awarded funds and a rush to implement. There might be some basic processes in place as required for the funding proposal but these tend to vary and create inconsistency in project implementation* – Responding with a Maturity Rating of 2, this respondent has identified risks that are introduced in proceeding with projects that are not fully scoped. The inconsistency of approach is an indicator that Level 3 has not been achieved.
- *Scoping of externally funded projects is much more comprehensive than internal works* – Responding with a Maturity Rating of 2, this respondent acknowledges that processes exist but that more visible projects, or projects with greater stakeholder influence (externally funded) are afforded more effort in scoping activities.
- *Project Scope is a mandatory Document based on 20 fields of information* – Responding with a Maturity Rating of 3, this respondent has identified a common practice across all projects with a set template for capturing scope details.
- *Business Plans extend out multiple years and include programme and project scope, specification etc* – Responding with a Maturity Rating of 4, this respondent has demonstrated that Council has programme and project alignment to the Business Plan (Portfolio) and is in an advanced state of project scoping.

Deliverables Identification

- *Usually not measurable* – Responding with a Maturity Rating of 1, this respondent has stated that if deliverables are identified, they may not be measurable suggesting the process is still ad-hoc.
- *The deliverables tend to be the objective of a project and usually exist in name only. The complexities of the project are not captured* – Responding with a Maturity Rating of 2, this respondent has identified that deliverables may be specified but not always to sufficient detail for measurement a critical component to integrate project delivery.

- *The level of detail is determined by the level of complexity and materiality* – Responding with a Maturity Rating of 3, this respondent has identified a common practice with scalability of detail depending on project complexity.

- *Deliverables are defined by Business Plans, technical plans specifications, community input* – Responding with a Maturity Rating of 4, this respondent has demonstrated that Council has an integrated process of deliverable identification.

Project Management Plan Development

- *Occasionally PMP's are developed and not necessarily with a consistent template. It would seem to depend on what various officers have done in the past and what level of reporting might be required for a particular funding source.* – Responding with a Maturity Rating of 2, this respondent has identified that PMPs are a tool used within this Council but not for all projects and not always in a consistent format.

- *The Project Management Plan is a Mandatory Document for the Project Manager to complete (scaled to the project), it is utilised as a return brief to the client* – Responding with a Maturity Rating of 3, this respondent has identified a common practice with scalability of detail depending on project complexity.

- *Done well for larger projects where engineering staff generally have greater involvement, currently working with our delivery staff to improve consistent practice relating to the established integrated management system* – Responding with a Maturity Rating of 4, this respondent has demonstrated that Council is approaching an integrated process of developing Project Management Plans.

- *Our Management System is categorised into: Admin, Finance, Environment, WHS, Quality, Technical* – Responding with a Maturity Rating of 5, this respondent has demonstrated that Council has an integrated system for PMPs and is improving them according to user function.

Project Management Plan Execution

- *Some officers track costs and time better than others. there is certainly an ad-hoc approach to executing PMP's* – Responding with a Maturity Rating of 1, this

respondent has identified that the ability to execute PMPs is varied and relies on the skill of the individual PM.

- *All these metrics are identified in the PMP and are tracked throughout projects, smaller projects are not rigorously reported* – Responding with a Maturity Rating of 2, this respondent has identified that PMPs are executed and reported on, but not for all projects and not always in a consistent format.
- *We track cost and scope/program creep, these metrics assessed at a high level to determine affordability of bringing projects forward from next FY.* – Responding with a Maturity Rating of 2, this respondent has identified that only metrics that are considered important are tracked to determine impacts on the programme.
- *Progress reports reflect the Management System categories (Admin, Finance, Env, WHS, Quality, Technical)* – Responding with a Maturity Rating of 5, this respondent has demonstrated that Council has an integrated system for executing and reporting against PMPs and is improving them according to user function.

Change Control

- *Poor variation management and debrief processes. Occasionally done.* – Responding with a Maturity Rating of 1, this respondent has identified that Change Control is poorly undertaken.
- *Process has been developed and implemented, not fully embedded as yet but coming online quickly* – Responding with a Maturity Rating of 2, this respondent has identified a process for authorising change is needed but not consistently applied yet.
- *We do changes using: MProject, NCR's, CAR's etc* – Responding with a Maturity Rating of 5, this respondent has presented processes formed and used for the purpose of controlling change for project delivery. It is assumed these system are reviewed and improved consistently as per Level 5 definition.

Project Closure

- *This is an area that can be improved, there is a documented process within Councils Roadworks Procedures Manual and systems however is rarely being used* – Respond-

ing with a Maturity Rating of 1, this respondent has identified that the knowledge of Closure processes is available, but undertaken rarely.

- *Asset collection and capitalising happens at the end of the year (mostly) instead of at the project completion.* – Responding with a Maturity Rating of 1, this respondent has identified that Closures are not done formally with the project team, at the completion of the execution stage and lessons are not captured. Deliverables are measured at the end of the annual delivery cycle.

- *Asset condition and capitalisation process undertaken regularly, outcomes against project plan often not assessed.* – Responding with a Maturity Rating of 2, this respondent has identified that the physical deliverables and expenditure is captured but measures of success against objectives and lessons learnt are not captured.

- *These things are done, but there are still integration improvements being worked on* – Responding with a Maturity Rating of 4, this respondent has demonstrated that Council has an improving integrated system for conducting project closure processes.

Project Information System

- *Generally project information is captured in Council's records database. There isn't a standard form of what this might look like but mostly correspondence and other design information is available for review.* – Responding with a Maturity Rating of 2, this respondent has identified that the system exists but it not used consistently.

- *The Organisation has a Intranet based program that collects data on projects and is a reference for self help status checks etc* – Responding with a Maturity Rating of 3, this respondent has demonstrated that Council has a standard system that is accessible for users to review project data.

- *Document management and robust financial systems in place. Good ability to capture records.* – Responding with a Maturity Rating of 4, this respondent has demonstrated that Council has an integrated system for capturing project and financial data.

- *Project Data is captured on completion and then stored in TRIM electronically* – Responding with a Maturity Rating of 5, this respondent has demonstrated that

Council has an existing system for data capture. It is assumed that the system is constantly under review for improvement.

In summary, Councils' Project Integration is widely varied. Strengths lay in developing project management plans and using information systems but there is a distinct lack of scope control, a highly influential management process on resulting project success. Many Councils have identified and are utilising some form of these processes, however there are strong indicators that breaking the threshold into Level 3 and implementing a organisation-wide standard that is consistently utilised posses a challenge to most Councils. Without well-integrated project management processes, the other knowledge areas will suffer in isolation.

4.5 Knowledge Area 2 - Project Scope

According to the PMMM, Knowledge Area 2 - Project Scope ensures that the project includes all the work required, and only the work required, to complete the project successfully. Scope management has the components listed below:

Scope Planning and Management This covers the "how to" of defining the project scope. The Project Scope Management Plan is a planning tool describing how the project team will define project scope, develop a detailed project scope statement, develop a work breakdown structure, verify the scope, and control the scope.

Requirements Definition (Business) This is the assessment and development of processes, procedures, and standards relating to the collection of the business-related requirements of projects.

Requirements Definition (Technical) This is the assessment and development of processes, procedures, and standards relating to the collection of the technical requirements of projects. It has to do with how business requirements are translated into technical requirements.

Work Breakdown Structure This covers the process for the development of a work plan, the quality, quantity, and overall sophistication of the organisation's use of the WBS. Do they develop a WBS dictionary? Does the WBS form the basis for the automated plan? Is the WBS tied to the accounting system for reporting purposes?

Scope Change Control This section covers the change management processes as they relate to project scope. It covers the regularity of use and the overall evaluation of proposed changes. Are changes really evaluated/prioritised or are they merely listed? Is the change management process tied into the issues tracking system? Is there regular follow-up and reporting? Is the change management process closely tied to the organisational management process?

Respondents were asked to rate their organisational maturity in each of these processes. Respondents were grouped into their organisational categories and their responses averaged and compared in Figure 4.12.

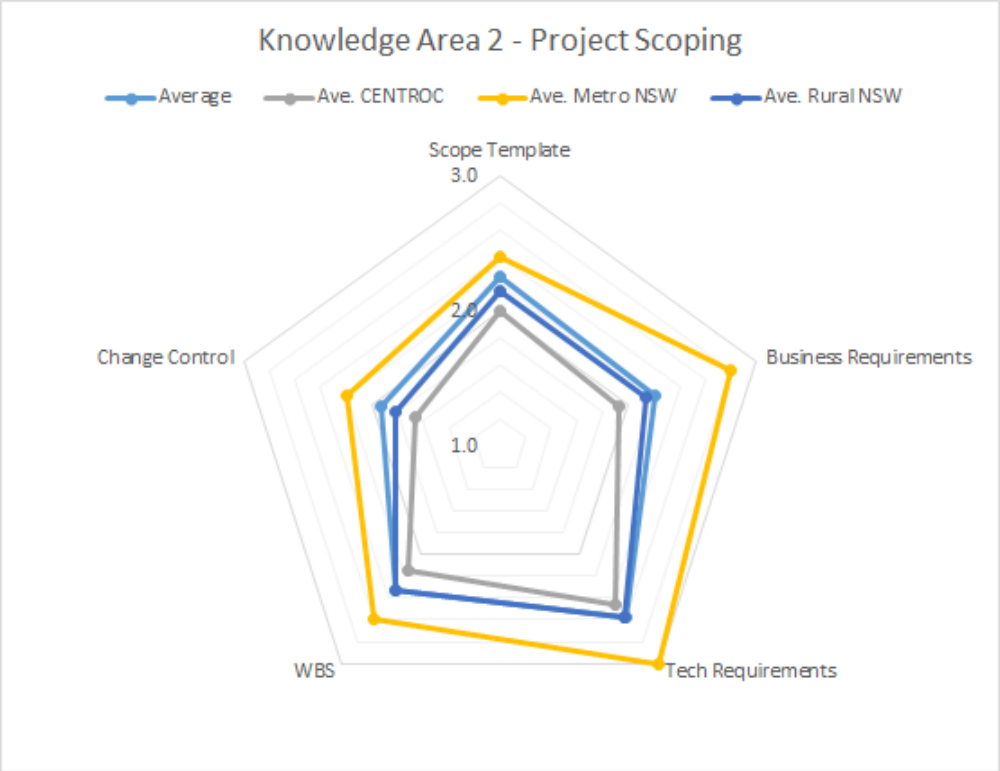

Figure 4.12: Organisational Results of Maturity in Knowledge Area 2 - Project Scope

Again Metro Councils achieved the highest average maturity scores across this Knowledge Area. As can be seen from Figure 4.12 the highest average maturity score was 3.0 given to Technical Requirements definition followed by 2.8 for Business Requirements. This would suggest that defining the requirements of the project is done rather consistently across the organisation, possibly against strategic or organisational requirements of the programme or portfolio/business unit. Interestingly though, the existence and use of a Scope Template or project charter is less common across all user groups. Such a revelation supports the equally low maturity scores of WBS and Change Control. Without a standard format

approach, requirements and technical standards may still be readily considered for all projects but other critical scoping measures will be routinely overlooked or inconsistently applied.

The scoping and authorising of Change Control in this knowledge area is the weakest activity across the organisational spread - just as integrated change control was the weakest in Knowledge Area 1. Scoping the process and prioritisation of change management in this Knowledge Area is likely to have implicit consequences for subsequent Knowledge Areas.

Across all processes Metro Councils achieve higher than average maturity ratings while Rural Councils perform below average. There is a particular gap in the identification of Business Requirements. The qualitative response of a high-maturity Metro Council expresses their approach to integrating business requirements in the project management process: "*Deliverables are defined by Business Plans, technical plans specifications, community input*". While all Councils are expected to produce organisational vision and strategy in-line with community expectations in the Integrated Planning and Reporting framework, more mature Councils are expressing specific objectives and deliverables in their project scoping. The mode for all responses was 2.0 again suggesting that systems are in development but not consistently applied in scoping projects.

Capacity comparisons in Project Scope reveal other other interesting results in this Knowledge Area. Figure 4.13 displays the average maturity ratings between Councils with a dedicated PMO to those with assigned PMs and those without. Likewise Figure 4.14 displays the difference between those Councils with and without established project management frameworks.

The biggest distinction between Councils with either a formal PMO or PMs versus those Councils without is identifying business requirements. Organisations with PM personnel appear to perform scoping process almost as well as a formal PMO and both types of organisations do so better than those without. Curiously though, the gap for scoping business and technical requirements is almost negligible between those organisations with PMs and those without. It is suggested that, harking back to Knowledge Area 1, those with more mature Integration processes are better able to align business requirements with project delivery. Comparing Figures 4.12 and 4.13 for Business Improvement, the breakaway organisation group is Metropolitan Councils and those with PMOs. As it

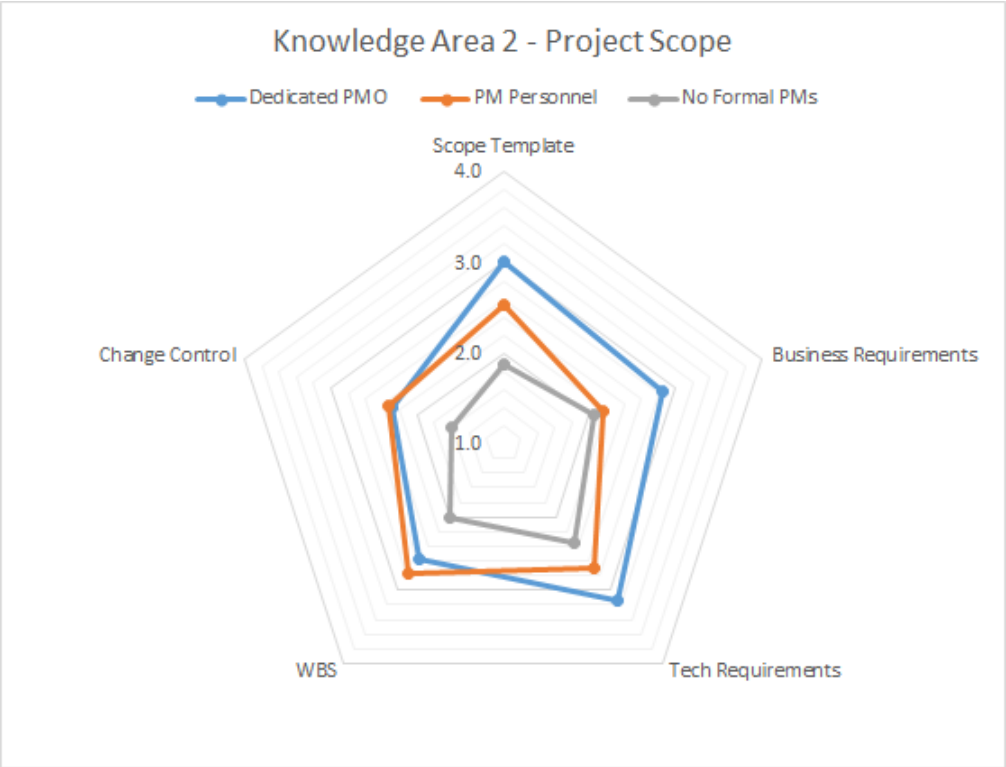

Figure 4.13: Capacity Results of Maturity in Knowledge Area 2 - Project Scope (Councils with PMOs and PMs)

was determined that neither Rural nor Metro Councils had the monopoly on PMOs the influence lies with the Metro Councils having better business needs alignment in scoping their projects. The explanation for this is not readily apparent: it may be that Metro Councils' governance structures are more mature and have better aligned their IP&R processes to project scoping, it may also be that the organisational structure is better suited for distilling business needs for strategy to programme to project. Validating such assumptions will require further research. As expected, those Councils without an adopted framework have been rated equal or less than 2.0 with marginal exceptions for WBS and technical requirements. The average for those Councils with a framework did not exceed 3.0 (see Figure 4.14).

While scoping may be a relative weakness overall, improvements in standardising scope templates and authorising change control mechanisms could turn the Knowledge Area into a strength.

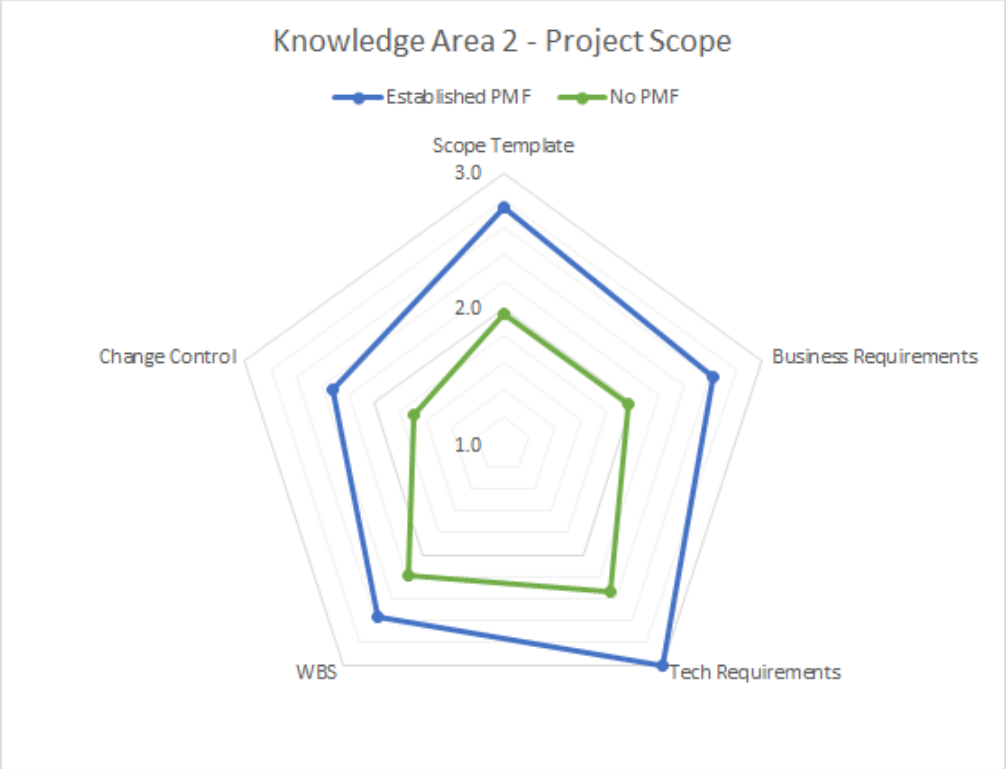

Figure 4.14: Capacity Results of Maturity in Knowledge Area 2 - Project Scope (Project Management Framework Adoption)

4.5.1 Respondents' Comments on Knowledge Area 2

The following are a sample of respondents' comments for additional insight into the application and maturity of the processes within Knowledge Area 2 - Project Scope.

Scope Planning and Management

- *Due to the huge range of projects there is not a standard template, a range of informal templates exist that are customised for individual projects* – Responding with a Maturity Rating of 2, this respondent has identified that one single template does not suit the range of projects delivered. There are a number of processes that are customisable by the PM. It is unknown if there is a mechanism or criteria that informs the selection of the appropriate template.

- *Used consistently for roads/stormwater projects. Projects in other areas not as advanced* – Responding with a Maturity Rating of 3, this respondent has identified a common practice across all projects of a given type, with a set template for capturing scope details.

- *Management System has these processed documented for staff to follow* – Responding with a Maturity Rating of 4, this respondent has described an integrated system to standardise scope.

Requirements Definition (Business)

- *All business and stakeholder requirements are assumed (on time, on budget, minimal disturbance, utilisation of internal resources where possible, etc.)* – Responding with a Maturity Rating of 1, this respondent has suggested that basic success criteria are implied for project delivery but the specific business objectives are absent.
- *The deliverables which are targeted to meet business needs are scoped and confirmed at project completion. The Business outcomes derived from those deliverables are measured and reported by the client if at all.* – Responding with a Maturity Rating of 2, this respondent has identified that business deliverables are retro-actively aligned with completed projects. This suggests that the needs of the business are implicitly understood but are only aligned with projects for the purpose of reporting at project closure.
- *Value is limited by skills of authors in understanding business impacts, particularly the second order impacts relating to systems and processes.* – Responding with a Maturity Rating of 3, this respondent has indicated that business requirements are detailed by the PM who may not always understand business impacts - suggesting that sponsor sign-off is not being conducted.

Requirements Definition (Technical)

- *Projects in roads/stormwater are well scoped in terms of technical requirements with full suite of designs and standard drawings. Projects in other areas less formal (often sketches).* – Responding with a Maturity Rating of 2, this respondent has demonstrated that investment in technical scoping is only carried out for those that have a larger engineering component.
- *Done well for larger jobs, some improvement to be made for smaller jobs such as completing inspection and testing procedures during delivery* – Responding with

a Maturity Rating of 3, this respondent has identified a common practice with scalability of detail depending on project complexity.

- *Management System has these processed documented for staff to follow* – Responding with a Maturity Rating of 4, this respondent has demonstrated that Council has an integrated system for Technical standards and is managing performance against these

Work Breakdown Structure

- *No formal processes on WBS* – Responding with a Maturity Rating of 1, this respondent has identified that formalising any breakdown activities is not occurring.
- *Still formalising WBS, projects are broken down to elements but those are not compiled into WBSs or work packages* – Responding with a Maturity Rating of 2, this respondent has identified that work scope is broken down for the purpose of planning but not into work packages.
- *Simple WBS is encouraged and is being integrated into our financial system's project ledger* – Responding with a Maturity Rating of 2, this respondent has identified processes exist but are not yet standard.
- *Work Breakdown Structure form part of the Gantt development.* – Responding with a Maturity Rating of 4, this respondent has demonstrated that Council has adopted and is using a WBS building tool; the Gantt chart.

Scope Change Control

- *Change requests are increasingly coming under greater scrutiny requiring increasing justification. Documented change processes have been implemented but is not yet embedded.* – Responding with a Maturity Rating of 2, this respondent has identified that scoping Change Control is a high-priority but not consistently applied
- *Mechanism is detailed, changes are assessed and evaluated. This process only works well on larger projects where a small team of engineering staff with a better understanding of Councils system are generally involved in contract management.* –

Responding with a Maturity Rating of 3, this respondent has identified that personnel make the difference in applying the standard. Contract management itself is pointed to as a delivery mechanism. It may be that contract delivery itself formalises change request processes by defining and limiting authority to make changes without formal sign–off.

- *Tracking Project Performance against the target objectives is the key management tool in Change Control (as may be required).* – Responding with a Maturity Rating of 4, this respondent has presented an integrated processes aligned with, and only possible by measuring against the identified objectives of the project.

In summary, Councils' Project Scoping is evident in all organisations. The maturity in project manager knowledge and the existence of standard templates makes a significant contribution to the completeness of scoping processes. Strengths lay in identifying technical requirements and, in some Councils, identifying business requirements. Without clear objectives, a WBS and a standard scoping template that ensures authorisation by the project sponsor, the completion of change control processes cannot occur. Many Councils have identified and are utilising some form of these processes, however there are strong indicators that breaking the threshold into Level 3 and implementing a organisation-wide standard that is consistently utilised posses a challenge to most Councils. Without well-scoped projects the ability to control change and measure success is limited. It is apparent that a one-size-fits-all standardisation cannot apply to the range of complexity in Councils' project delivery and any attempt to form Level 3 Institutionalised process will need to account for scalability in scoping.

4.6 Knowledge Area 3 - Project Time

According to the PMMM, the overall purpose of Knowledge Area 3 - Project Time is to develop the project schedule, manage to that schedule, and ensure the project completes within the approved time frame. Time management involves defining project activities, identifying required resources, sequencing the activities, developing the schedule, executing the schedule, and controlling the plans during project execution:

Activity and Resource Definition Activity definition involves identifying and docu-

menting project activities that must be accomplished to produce the product(s) or services identified in the work breakdown structure. Resource definition and planning includes identifying what resources and quantities are needed for the project. Resources can include labour category, hours, material, and equipment. The outcome of this component is a list of all activities with any supporting detail including activity definitions, a listing of the project resource requirements, constraints, and assumptions.

Activity Sequencing Activity sequencing involves sequencing project activities and depicting when each product or service must be accomplished relative to other activities. Activity sequencing also includes the development of dependencies between activities. The outcome of this component is a project network diagram or other tool to display the critical path.

Schedule Development Schedule development involves determining the duration and calculating the start and finish dates for each project activity. Using the project network diagram, activity durations are established, resource requirements are confirmed, a project schedule is created, and a baseline schedule is established. This component includes the development of a schedule management plan. The main products from schedule development include the project schedule and a schedule management plan.

Schedule Control Schedule control involves managing the schedule baseline to ensure the project completes within the approved time frame. Managing the schedule baseline involves implementing a schedule control system, publishing schedule status reports, analysing schedule performance metrics, determining changes to the schedule baseline, managing the authorised changes, informing stakeholders, and taking corrective action. The main products from this component include schedule reports, schedule performance analyses, and revised schedule baselines.

Schedule Integration Schedule integration involves the integration of major components of project schedules. Schedules are integrated throughout the organisation to accurately understand the impact of change. Program schedules reflect the integration of projects within a program to accurately understand the impact of project changes on the overall program. The main products of this component are integrated project, program, and organisational schedules.

Respondents were asked to rate themselves against each of these processes using project management deliverables to measure Council's maturity. Respondents were grouped into their organisational categories and their responses averaged and compared in Figure 4.15.

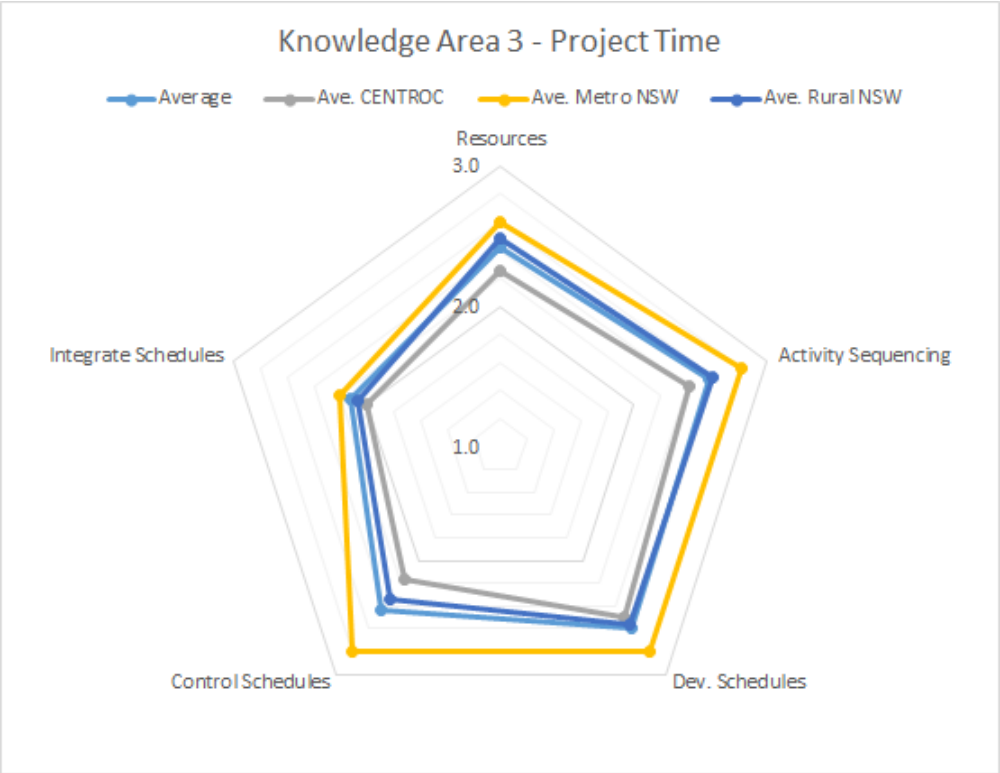

Figure 4.15: Organisational Results of Maturity in Knowledge Area 3 - Project Time

Comparative maturity across this Knowledge Area appears to be closer than those of other Knowledge Areas. As can be seen from Figure 4.15, except for Controlling Schedules, the difference between Metro Councils and the average maturity is negligible. This suggests that planning for project activities and resourcing is done rather consistently even though average maturity level is less than 3.0 (Standard Processes). It is assumed project managers are aware of the need to identify resourcing and activity sequences for the delivery of their projects but, without a standard process across the organisation the sophistication of such planning activities is limited to the skill and experience of the individual project manager. Such an assumption is supported by the comparatively weak average maturity of 2.1 in Integrating Schedules, the mode response is 1.0. Without integrating project schedules across the organisation or business unit, project managers are likely to produce timelines and resource utilisation that cannot be supported due to concurrent projects competing for resources. Project managers seeking permission for resources from line managers is considered a critical aspect of mature project planning (Kerzner 2001). It is expected that with poor integration, organisations would suffer from poor sequence

and resourcing control even if their processes for planning are conducted well for isolated projects. This expectation is realised with average for Schedule Control (2.4) being lower than Activity Sequencing (2.6) and Schedule Development (2.6). With poor integration and schedule control effecting the maturity of this Knowledge Area, it can be expected that resource deficiencies and delay will result in increase change requests effecting performance across Knowledge Areas such as Project Scope and Cost Management. Councils wishing to improve project success against schedule baselines would do well to focus on inter-project dependencies and resource availability.

Capacity comparisons in Project Time Management reveal other other interesting results in this Knowledge Area. Figure 4.16 displays the average maturity ratings between Councils with a dedicated PMO to those with assigned PMs and those without. Likewise Figure 4.17 displays the difference between those Councils with and without established project management frameworks.

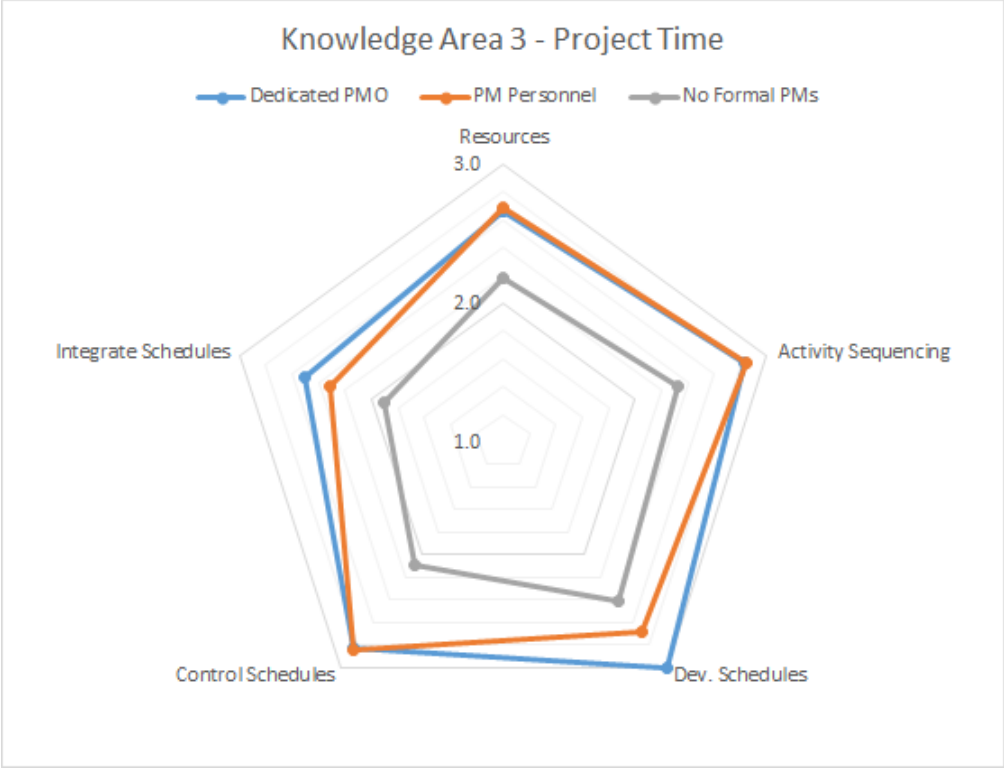

Figure 4.16: Capacity Results of Maturity in Knowledge Area 3 - Project Time (Councils with PMOs and PMs)

The distinction between Councils with either a formal PMO or PMs versus those Councils without is consistent with assumptions regarding individual project manager skill effecting the average maturity of project scheduling. Organisations that have identified PMs

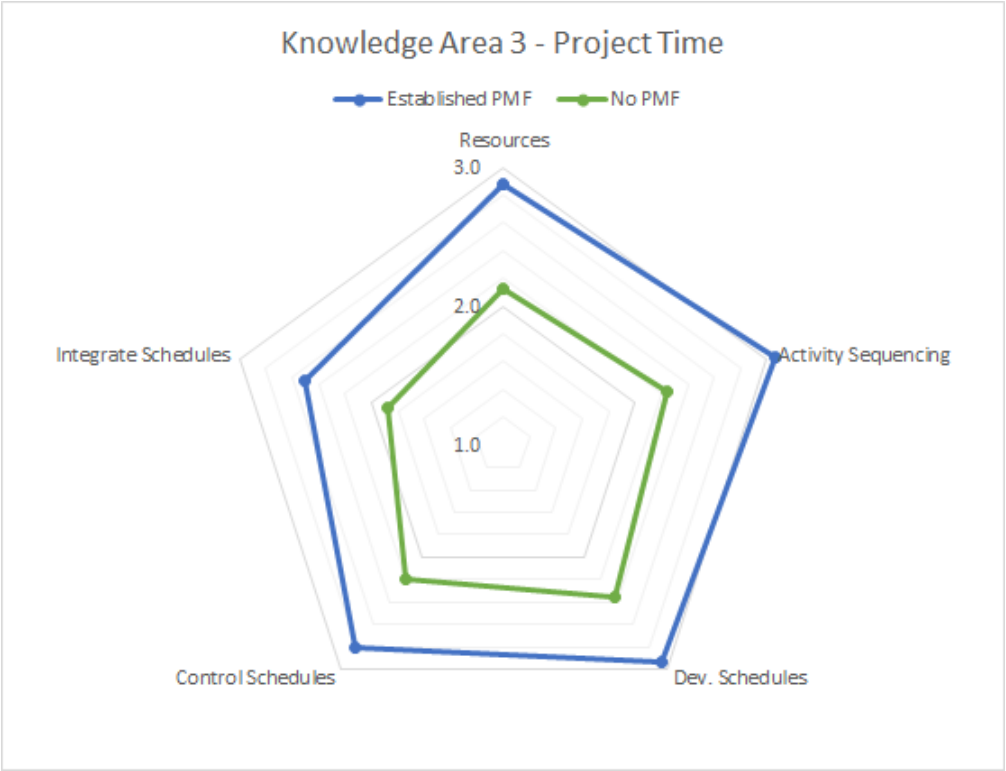

Figure 4.17: Capacity Results of Maturity in Knowledge Area 3 - Project Time (Project Management Framework Adoption)

have likely provided the basis for the use of scheduling tools such as Critical Path Analysis (CPA) or perhaps Program Evaluation and Review Technique (PERT) (Crawford 2014). Those organisations conducting project management informally are likely to have personnel in the role of project manager and line manager roles simultaneously or otherwise fail to plan resources in concert with the workload commitments of the line manager. Such an approach relies on the individual experience and influence of the PM to secure and manage resources for project delivery. As described by H. Kerzner, 2001; *Most project managers working in organisations that are only partially project-driven realise that line managers in their organisations are committed to providing continuous support to the companys regular functional work. Satisfying the needs of time-limited projects may only be secondary. Project managers are expected to keep the welfare of their whole companies in mind when they make project decisions.* This is a highly complex issue in integrating project team structure and resourcing within an existing organisational framework such as found within Council - it is therefore critical that the allocation of authority and responsibility for project deliverables be assigned through a consistent framework for project management - a issue further highlighted by Figure 4.17 where, without such a framework, successful planning cannot be considered more mature than level 2.

While it is acknowledged that project time management in schedule creation and control should be scalable to the complexity of the project, Councils need to acknowledge that a consistent process and an integrated approach to time and resource forecasting can make all the difference in the success of, not only individual projects, but of organisational programs. The appointment of formal project managers with authority and responsibility distinct from line managers and the adoption of forecasting tools will create the basis for Councils seeking to climb to Maturity level 3.

4.6.1 Respondents' Comments on Knowledge Area 3

The following are a sample of respondents' comments for additional insight into the application and maturity of the processes within Knowledge Area 3 - Project Time.

Activity and Resource Definition

- *Immature system for activity/resource requirements, often reactive. Culture change process underway with a focus on planning and scheduling. Non existence in non-roads/stormwater projects* – Responding with a Maturity Rating of 2, this respondent has identified resources are allocated when needed, rather than at a time planned for. Planning for resources is inconsistent across different functional areas.
- *Majority of Road projects are completed on a regular basis and for the construction team activities and plant are second nature, practically habitual. Other projects are a different kettle of fish.* – Responding with a Maturity Rating of 2, this respondent confirms the assumption that routine projects delivered by experienced project teams are typically well resourced but, without a consistent framework, other functional areas suffer from poor performance.
- *Comprehensive in house estimating system using excel plus MProject Gantt* – Responding with a Maturity Rating of 5, this respondent has described the consistent and successful use of activity definition and resource allocation tools

Activity Sequencing

- *Rough sequencing occurs and is usually planned out with minimum detail and filled*

in as the project progresses. Although that said, major works are nearly always Gantt diagrammed by contractors to show reportable project progress – Responding with a Maturity Rating of 2, this respondent has identified that some sequencing is conducted but there is a reliance on industry (contractor) expertise in the successful sequencing of activities for major projects. The influence of contract work will be explored in the review of Knowledge Area 5.

- *MS Project is utilised as a programming tool* – Responding with a Maturity Rating of 3, this respondent has identified the use of an industry tool for sequencing of activity dependencies

Schedule Development

- *Schedules as per Gantt chart. Resources manipulated to maintain timeframes (minimise disturbance to residents) rather than allow project slippage. Only affects Road/Stormwater projects* – Responding with a Maturity Rating of 2, this respondent has demonstrated that by use of a schedule decisions can be made regarding resourcing for the benefit of stakeholder requirements.

- *Usually a time baseline is projected although this is not always coordinated with a cost baseline. Finish dates for road projects are planned to ensure that the road is constructed in time to meet the seal date deadline which can be weather dependent or miss the contractor available window.* – Responding with a Maturity Rating of 2, this respondent has identified the importance of resource allocation in meeting fixed deadlines and resource availability. The identification of roads projects suggests that, once again, project scheduling maturity lays within areas of experience rather than across the organisation.

Schedule Control

- *For external providers yes, internally we are starting to review planned against actual though this is still inconsistently done* – Responding with a Maturity Rating of 2, this respondent has identified inconsistency exists for internally resourced activities. Contract (external providers) management however appears to function as a means of controlling project schedules.

- *Schedule drives resourcing for the most part, status reports informal, budgetary impacts of meeting timeframes assessed across entire program of works and approved by management staff* – Responding with a Maturity Rating of 2, this respondent describes a control process that is not yet formal. The importance of control is however recognised and supported by management.

- *Schedules are monitored and there is a formal Extension of Time process, weekly status updates are posted on the Intranet in the Organisation's Project Reporting Program. Options are assessed but time is usually the most affordable.* – Responding with a Maturity Rating of 3, this respondent has identified a consistent adopted approach to control but acknowledges that time scope changes are more frequent that changes to resourcing to meet timeline forecasts, etc.

- *Continually monitored and systematically report to Council as status report updates tri-weekly meetings* – Responding with a Maturity Rating of 4, this respondent has identified processes for monitoring and controlling against schedules is advanced.

- *Project status is monitored and adjusted without formal authorisation, by the Project Manager and reported at programming meetings held fortnightly* – Responding with a Maturity Rating of 4, this respondent has demonstrated that control is the responsibility of the PM and control decisions and progress is reported frequently.

Schedule Integration

- *Project Delivery Programs are produced and summary tasks (WBS) such as internal design, procurement, are extracted and separately programmed to enable coordination between project management, design management, and procurement. We are still developing that coordination and learning to deal with the knock-on effects of change in any one discipline* – Responding with a Maturity Rating of 2, this respondent has identified that integration of disciplines is improving across work groups but that inter-project scheduling of resources is not a focus of the organisation.

- *Programmes of works generally act independently of one another. To the point where lack of communication often creates situations whereby operational divisions must act reactively to ensure positive outcomes for projects (eg water main identified for replacement after roadworks have already begun.) There are processes underway to formalise reporting relationships such that this does not occur in the future.* –

Responding with a Maturity Rating of 2, this respondent highlights known issues of poor integration and the consequences to scope change. A more mature organisation who can formalise an approach to inter-departmental scheduling may avoid such issues.

- *Programme Coordination Meetings are held to optimise internal resources to fit time schedules, and Road Openings Conferences are held to liaise with external parties who may be wishing to do works in the City* – Responding with a Maturity Rating of 4, this respondent has presented a mature process of organisational and stakeholder coordination across projects. The focus on optimisation indicates the move from standardisation of processes to realisation of benefits from scheduling.

In summary, Councils' ability to undertake scheduling and resource planning and control is fairly consistent across both metro and rural organisations. It is evident from the responses that experienced project managers are delivering regular projects through the use of proven sequencing and resourcing approaches. Such projects tend to be within the domain of expertise of the particular project manager (e.g. roads) suggesting that they have direct or sole control of resources and can sequence project activities independently to meet forecast deadlines. Maturity in this Knowledge Area is reduced by virtue of poor integration of resources as project management and line management duties conflict with resource availability and expected timelines across the organisation. Such conflicts can be avoided in some circumstances through the acquisition and management of external resources (by contract). Organisations that establish a formal framework and tools for scheduling, together with appointing PMs, will see greater maturity in planning and implementing project schedules.

4.7 Knowledge Area 4 - Cost Management

According to the PMMM, the overall purpose of Knowledge Area 4 - Cost Management is to determine the total costs of the project, manage to those costs, and ensure the project completes within the approved budget. Cost management involves estimating the cost of identified resources, developing a project baseline, comparing progress against the baseline, and controlling costs:

Cost Estimating factors, equations, relationships, and expert knowledge to develop the cost of a product, service, or process. If detailed resources are identified, cost estimating applies rates and factors to determine the cost. The main outcome is a project cost estimate and a cost management plan.

Cost Budgeting Cost budgeting involves developing a project cost baseline by allocating the cost estimate to individual elements in the work breakdown structure. Cost budgeting includes timephasing the cost estimate to develop the baseline. The main product of this component is a project cost baseline.

Performance Measurement Earned value involves measuring the project performance to determine whether work has been accomplished in accordance with plans. Earned value uses the cost baseline and compares actual performance against the baseline plan. The main products are a comparison of actuals to the baseline and earned value metrics.

Cost Control Cost control involves managing the cost baseline to ensure the project completes within the approved budget. Managing the cost baseline involves implementing a cost control system, publishing cost status reports, analysing cost performance metrics, determining changes to the cost baseline, managing the authorised changes, informing stakeholders, and taking corrective action. The main products from this component include cost reports, cost performance analyses, revised project cost baseline, and lessons learned.

Respondents were asked to rate themselves against each of these activities using project management deliverables to measure Council's maturity in these areas. Respondents were grouped into their organisational categories and their responses averaged and compared in Figure 4.18.

Like Project Time Management, Cost Management fails to achieve an average maturity greater than 3. Comparative maturity across this Knowledge Area, as seen from Figure 4.18 shows relative consistency except in Performance Management where metro Councils exceed the average. The complexities of cost estimating across many and varied projects that Councils deliver introduces difficulty in assessing this Knowledge Area from the data collected. As the model's description of Cost Estimating explains, the "factors, equations, relationships, and expert knowledge" required for producing an estimate will be variable across different projects. The respondents' indication of their maturity in process may

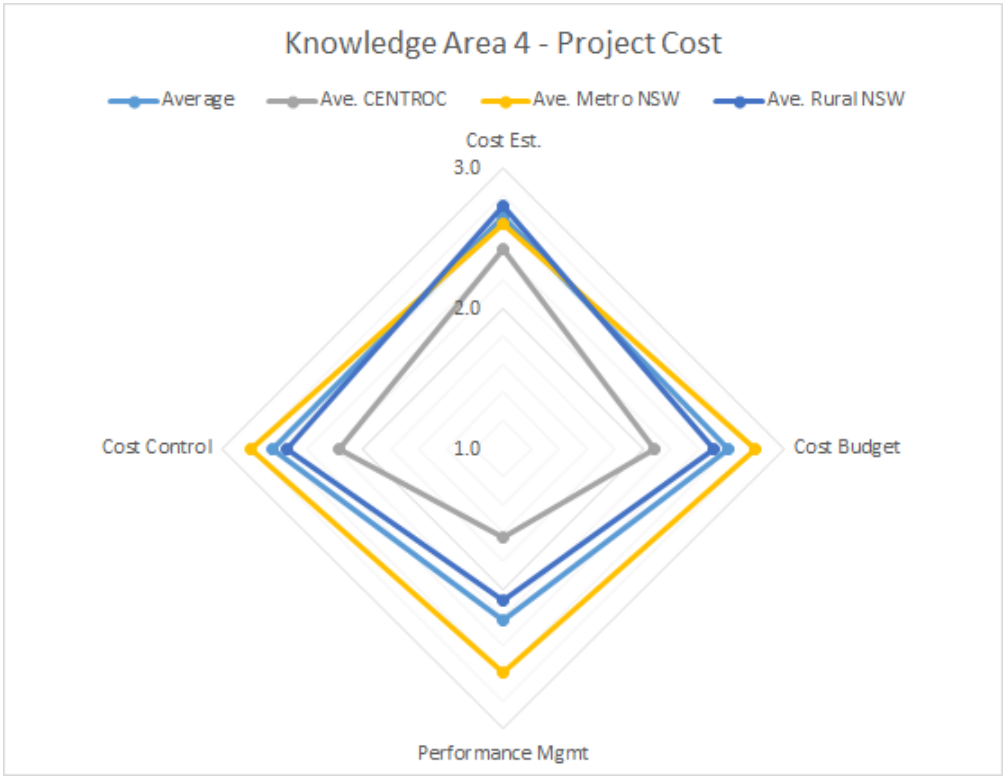

Figure 4.18: Organisational Results of Maturity in Knowledge Area 4 - Cost Management

be highly reliant on previous experience in similar project delivery - a factor not assessed in this research. Regardless, the results demonstrate that respondents on average are exceeding level 2 maturity but not consistently breaking into level 3 by virtue of lack of organisational standards. This would be consistent with the level 2 description available in the PMMM: *A basic cost-estimating template is established (may include things such as description of item, WBS element, work hours estimate, number of resources, equipment, material, travel, risk factors, source of estimate, and key assumptions). Average resource billing rates are developed for generic resources. A cost-estimating historical database exists to develop cost standards and factors. A cost management plan and process is developed, documented, and is standard practice on large, visible projects* (Crawford 2014). The weakness of Performance Management displayed in Figure 4.18 can be likened to Knowledge Area 3; planning, scheduling and forecasting may be done relatively well but controlling against the forecasts is considered less mature. Like Time Management, Cost Management maybe subject to the individual skill and experience of the PM in lieu of a consistent approach supported across Council.

Such an assumption can be assessed in reference to Council capacity. Figure 4.19 displays the average maturity ratings between Councils with a dedicated PMO to those with

assigned PMs and those without. Likewise Figure 4.20 displays the difference between those Councils with and without established project management frameworks.

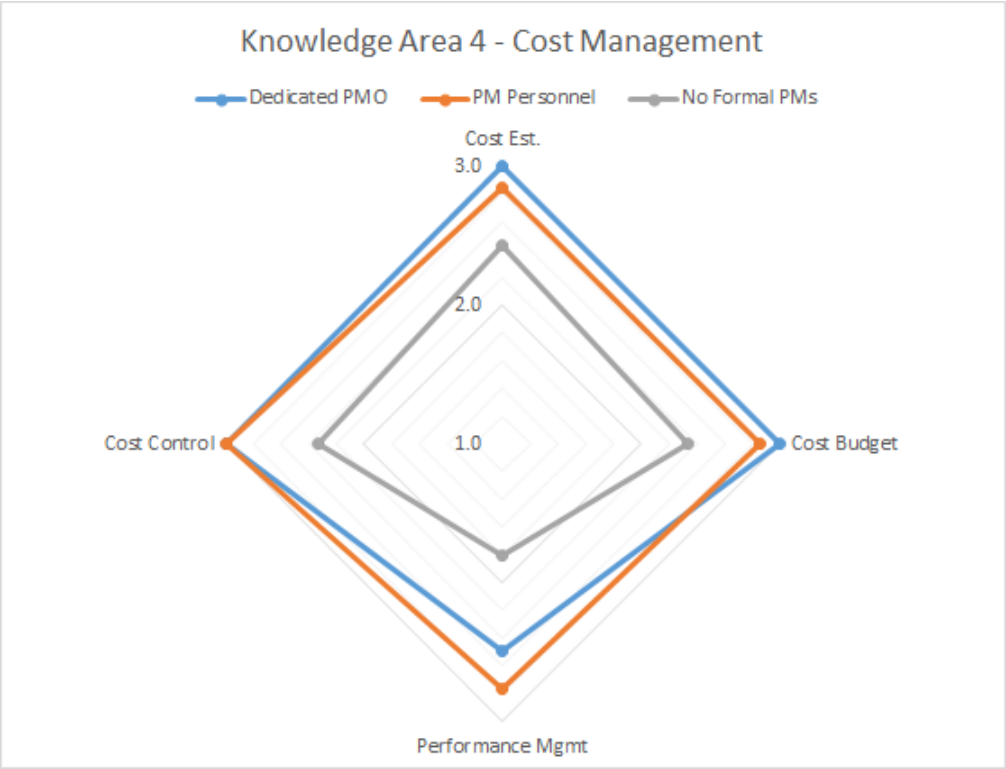

Figure 4.19: Capacity Results of Maturity in Knowledge Area 4 - Cost Management (Councils with PMOs and PMs)

The distinction between Councils with either a formal PMO or PMs versus those Councils without is consistent with assumptions regarding individual project manager skill effecting the average maturity of project cost management. Organisations that have identified PMs have likely provided the basis for the use of cost estimating through the use of manifests of unit rates for internal resources and industry price-guides for purchasing and procurement (Crawford 2014). Those organisations conducting project management informally are unlikely to have control mechanisms in place, or even measurement structures to track progress versus expenditure (this may be evidenced in Figure 4.20). If maturity is lacking in preparing a work breakdown structure and schedule, the measurement against baseline estimates is impossible and thus cost control is merely a means of reporting actual expenditure. Slightly more mature organisations may place simple milestones for reporting work package completion against forecast costs. The very poor rating of Performance Measurement of those Council's with no formal PMs or PMO (average maturity of 1.8) displayed in Figure 4.19 suggests that such Councils have not considered a standard approach to identifying measuring budget performance on 'earned value' from

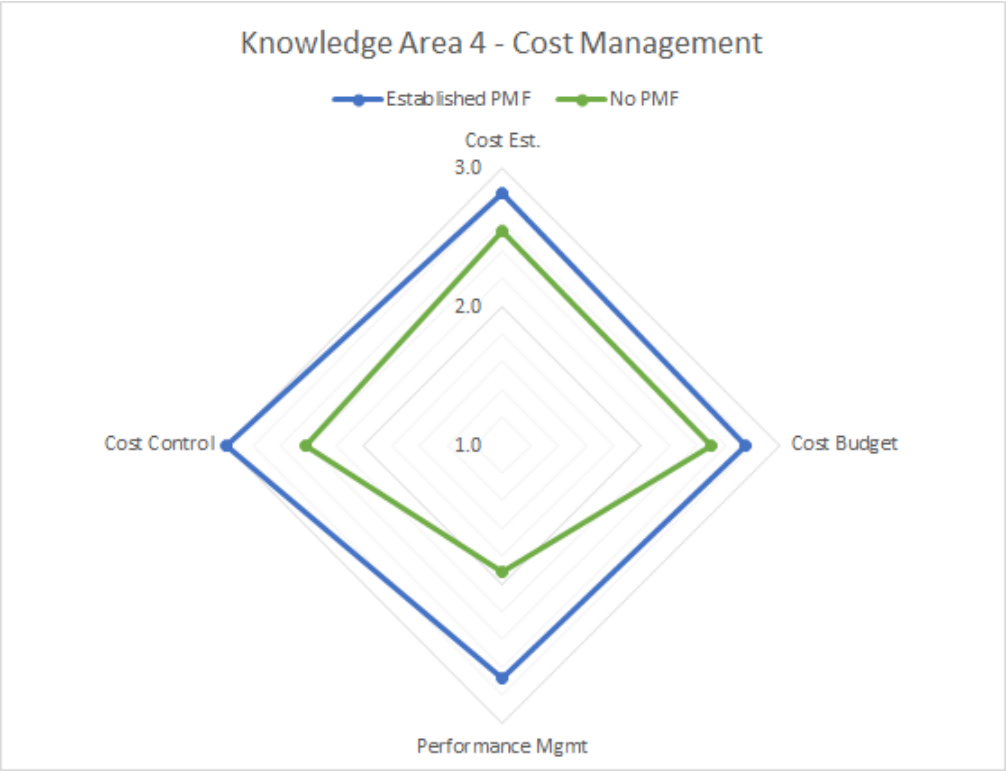

Figure 4.20: Capacity Results of Maturity in Knowledge Area 4 - Cost Management (Project Management Framework Adoption)

project deliverables - without this standard an ad-hoc approach provides little validity to the process. Unless such practices are standardised across the organisation and PMs are given responsibility and accountability of budgets, monitoring and controlling costs will reduce the overall maturity of this Knowledge Area.

4.7.1 Respondents' Comments on Knowledge Area 4

The following are a sample of respondents' comments for additional insight into the application and maturity of the processes within Knowledge Area 4 - Cost Management

Cost Estimating

- *Have recently reviewed this area and are up-skilling supervisors to use a template to complete estimates* – Responding with a Maturity Rating of 2, this respondent has described an identified gap and is conducting training for select staff to establish initial form of consistency.
- *Standard estimating tools in place across all areas. Improvement needed in assess-*

ing accuracy of unit rates due to limitations of Enterprise management (financial) systems.. – Responding with a Maturity Rating of 4, this respondent confirms that a standard estimating tool is used across the organisation but optimisation work is yet to commence in integrating project and financial IT systems.

- *Comprehensive internal resource based estimating system using excel* – Responding with a Maturity Rating of 4, this respondent has identified a database system for consistent estimating.

Cost Budgeting

- *Project Management activities do not estimate at WBS level at the moment, Construction Arms of Council do elemental estimates* – Responding with a Maturity Rating of 2, this respondent has identified the varied approach to estimates across branches and the lack of coordination between schedules and estimates.
- *Project estimates and outcomes submitted to council for approval through budget bid process. Rudimentary budget phasing undertaken.* – Responding with a Maturity Rating of 3, this respondent has identified an organisation wide approach to budget allocation but acknowledges a lack of timephasing to project budgeted work packages
- *Only for large projects. It is a waste of time for small ones* – Responding with a Maturity Rating of 3, this respondent has identified the use of this process for large projects. It is perceived that, for small projects, where it is assumed timeframes are short and fit within reporting cycles, budgeting against milestones adds no benefit to project deliverables. An agreed approach can be standardised across the organisation once 'small projects' are defined.

Performance Measurement

- *Projects only informally measured against budget and time constraints* – Responding with a Maturity Rating of 1, this respondent has acknowledged an ad-hoc approach to measurement - responsibility remains with the PM in such instances where reported progress may not be valid or useful.
- *Basic process in place. Did we deliver on time/on budget?* – Responding with a Maturity Rating of 2, this respondent has identified a reactive approach to perfor-

mance reporting that lacks performance management. Unless conducted at regular intervals or at milestones the project performance is not being measured, it is being reviewed.

Cost Control

- *Monthly reporting on costs but not on time or scope* – Responding with a Maturity Rating of 2, this respondent acknowledges a poor linkage between expenditure, schedule and scope delivery.
- *Budgets managed, changes reported as per Council policy* – Responding with a Maturity Rating of 3, this respondent points to a Council policy for regular financial reporting, not necessarily against project work packages.
- *Yes cost control is monitored weekly expenditure is closely examined for movements against the baseline.* – Responding with a Maturity Rating of 4, this respondent describes a control process that is formal and regular and reflects achievement against a forecast baseline.

In summary, Councils' ability to undertake cost estimate and management control is fairly consistent across both metro and rural organisations. It is evident from the responses that existing financial reporting mechanisms exists within Councils but may not be integrated with project management systems. Additionally, while estimates may be established for projects, they are not consistently aligned with project milestones. One respondent suggested that this may be perfectly acceptable for small projects that budget and time can be controlled in an informal manner where risk of over-expenditure is low. Without expenditure reporting against forecast estimates by 'earned value' the opportunity to identify improvements to deliverables or efficiency in project delivery may be lost, lessons learned may not be captured for updating cost-estimating systems and the organisation maybe repeating mistakes or failing to gain the best return on investment - critical to organisational competitive success (Kerzner 2001).

4.8 Knowledge Area 5 - Project Quality Management

According to the PMMM, the overall purpose of Knowledge Area 5 - Quality Management is to satisfy the customer, to conform to requirements, to ensure fitness for purpose, and to ensure the product is fit for use. It is that set of activities/tasks that are required to ensure the project satisfies all the needs for which it was undertaken (and which are documented in the statement of work), and includes a focus on quality management from the perspective of product, processes, and the people needed to make quality an effective and efficient aspect of successful project completion:

Quality Planing Quality planning involves identifying quality standards, practices, and associated quality activities. Planning for quality should be done in parallel with other project planning processes. The main product from quality planning is the quality management plan, which identifies the specific quality practices, resources, and activities relevant to the project and its deliverables. It includes strategies for implementing quality assurance and control.

Quality Control Quality control involves monitoring actual project results to see if they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory results. Quality control activities are the procedures necessary to ensure the project deliverables meet the quality objectives and attributes defined in the team's quality management plan.

Respondents were asked to rate themselves against each of these activities using project management deliverables to measure Council's maturity in these areas. Respondents were grouped into their organisational categories and their responses averaged and compared in Figure 4.21.

The data presented in Figure 4.21 is remarkable in that the pattern of Metro Councils' higher maturity is broken for Quality Management. In fact, Rural Councils report higher than average maturity in both planning for and executing quality management practices. Such a reversal of results demands deeper analysis of the differing factors between metro and rural core service delivery as quality control and assurance measures will be specific to the nature of the project.

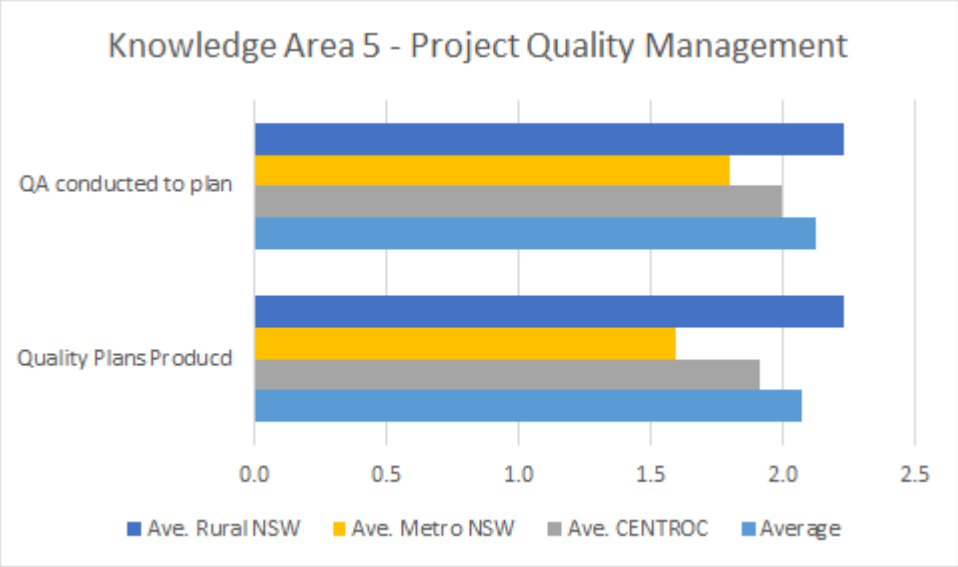

Figure 4.21: Organisational Results of Maturity in Knowledge Area 5 - Quality Management

A vast array of data is captured in the annual Office of Local Government report 'Your Council' which provides metrics regarding the scale of operation and asset expenses of each Council (NSW Office of Local Government 2015). Such data is publicly available for analysis and, while it does not specify directly the projects undertaken by Councils it does provide indications of the nature of service delivery ranging from capital infrastructure delivery to hosting festivals to implementing waste programs (NSW Independent Local Government Review Panel 2013). The Report classifies Councils into 11 distinct groups whereas this research simplifies the groups into Rural (all rural and regional Councils) and Metro (all metropolitan and metropolitan fringe). Assessing and comparing the results of the NSW survey respondents presents the comparisons shown in Table 4.2.

The purpose of presenting this example data is to help elucidate the different requirements of project quality and a Council's subsequent maturity in preparing and applying Quality Assurance and Control processes. This averaged data is not exhaustive and its usefulness is limited to providing an example of the ranging nature of Council's Service delivery from respondent Councils' data. Gathering greater insight into the volume of differing projects and the split between metro and rural Council will require further research. While respondents from metro Councils may indicate more mature processes in other Knowledge Areas it may be that, on average, the projects that are delivered have lower quality control requirements and as such, quality control processes have lagged behind Councils' push toward maturity. Conversely, Rural Councils that deal heavily in infrastructure delivery may have had to develop necessary engineering quality control process that are in advance

Table 4.2: Example Comparison between Metro and Rural Council Project and Quality Controls

Metric	Metro	Rural	Notes on Quality
Total Length of Road	Ave. = 687km. Min. = 152km	Ave. = 1,282km. Max. = 3,981km	Rural Councils, with vastly longer road networks, will have a greater focus on road project delivery. Road infrastructure will have specific design and construction QA
Asset expenditure as a percentage of Total Operating Expense 2013/14	Ave. = 11 percent	Ave. = 14 percent	Rural Councils spend a slightly greater amount of operating expense on physical asset-based service delivery.
Percentage of Grants revenue 2013/14	Ave. = 24 percent	Ave. = 30 percent	Rural Council respondents have slightly higher reliance on outside revenue sources requiring stricter compliance with funding agreements and contractual deeds (which can include quality deliverables)

of their strict application to project management and assurance of deliverables. Such inquiry into differing quality control requirements is beyond the scope of this work and the assumption is presented here for further investigation and verification.

An alternate theory; the workforce and service delivery structure of Rural and Metro Councils may be the differing factor at play. Most rural Councils have a self-contained project delivery workforce that undertake road construction and maintenance, etc. Many Metro Councils, with greater access to higher supplier availability, conduct their infrastructure delivery and asset management predominantly by contract management or 'outsourcing' (Walker & Gray 2012). Procurement matters are discussed further in Section 4.12 of this paper.

With contracted project delivery, the quality plans, if they exist, should be determined in the contract agreement. Councils that outsource much of their project delivery might be

suffering from quality planning and control if their contract preparation and management processes aren't suitable. When outsourcing "Councils may request that a successful tenderer meet a recognised Quality Control system that requires the successful tenderer meet specified quality standards before the service or product is accepted by council. Under such an approach, council needs to ensure that the required quality standards are clearly set out in the tender documents and contract and that the process for assessment of quality, including steps available for corrective action, is clearly defined" (NSW Division of Local Government 2009). Lacking maturity in preparing quality plans will reduce the benefits and deliverables for outsourced projects.

Figure 4.22 displays the average maturity ratings between Councils with a dedicated PMO to those with assigned PMs and those without. Likewise Figure 4.20 displays the difference between those Councils with and without established project management frameworks.

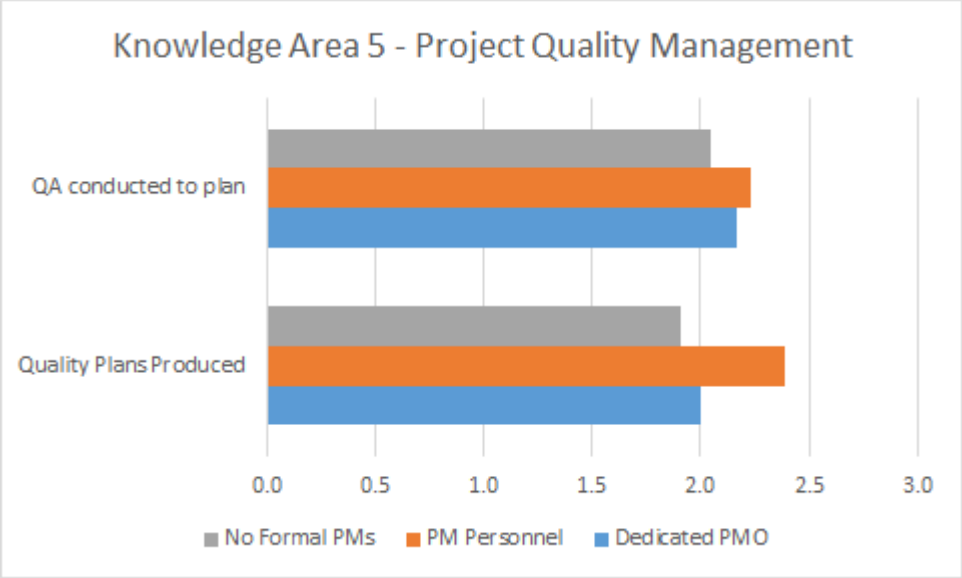

Figure 4.22: Capacity Results of Maturity in Knowledge Area 5 - Quality Management (Councils with PMOs and PMs)

There is little distinction in maturity measures between organisations with/without a PMO or PMs in Figure 4.22 which is also surprising. An established project office should be required to develop quality standards and processes and be involved in regular quality walkthroughs and checks throughout the project lifecycle (Crawford 2006). PMs should also be focused on quality management in project delivery.

With a sustained push for Asset Management practice from the Office of Local Government (Elton Consulting 2011, Independent Local Government Review Panel 2012) and

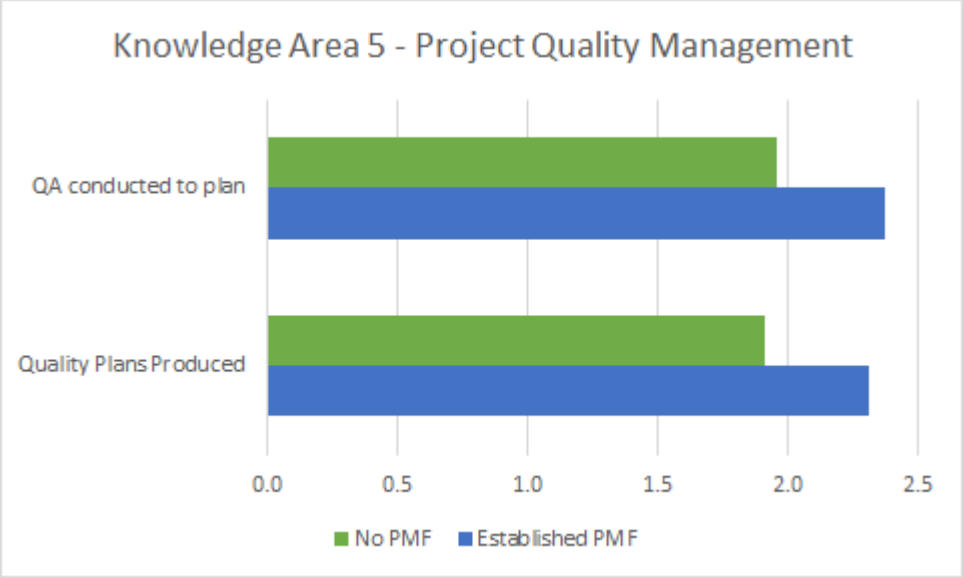

Figure 4.23: Capacity Results of Maturity in Knowledge Area 5 - Quality Management (Project Management Framework Adoption)

improving whole-of-life engineering practices, it is surprising that quality planning and control are so poor across all respondent Council categories. As to be expected however Figure 4.23 displays the comparative improved maturity ranking of Councils with an adopted project management framework.

The different pattern in maturity ratings across this Knowledge Area when compared to other areas may be considered anomalous. While the average maturity responses are not drastically different than those of other Knowledge Areas, the change in pattern of relative maturity between Rural and Metro councils justifies further investigation. There may be deeper reasons to the resulting maturity ratings or the questionnaire may not have proved adequate to assess the complexities of quality planning and control in Local Government project management.

4.8.1 Respondents' Comments on Knowledge Area 5

The following are a sample of respondents' comments for additional insight into the application and maturity of the processes within Knowledge Area 5 - Quality Management:

Quality Planning

- *No formal quality assessment against standards or inspection and testing procedures.*

Focus has always been on financial bottom line. This is an evolving area of our business. – Responding with a Maturity Rating of 1, the respondent explains that quality is considered secondary to cost. That suggests that integration and scoping is also not mature as quality of deliverables in not considered in objectives and planning for the project.

- *Quality is monitored by project managers, more formal quality processes such as formal and documented inspection and testing is currently being implemented* – Responding with a Maturity Rating of 1, the respondent acknowledges that quality process must be detailed in project planning for the process to be considered anything but ad-hoc.

- *Generally not. Most road projects are completed without design plans, a basic centreline survey is conducted to determine 10m offset pegs* – Responding with a Maturity Rating of 2, the respondent provides an example of rudimentary quality planning for a specific project type (roads).

- *Yes for larger projects, Inspection Testing Plans for smaller and routine projects* – Responding with a Maturity Rating of 3, this respondent confirms that a standard quality planning process is followed for both large and small projects although using different approaches for each.

Quality Control

- *Projects delivered to designs, however informal quality processes need work* – Responding with a Maturity Rating of 1, this respondent has identified that design plans are adhered to, but quality control (such as sampling, testing, recording) may be deficient

- *Undertaken via experience rather than planned method* – Responding with a Maturity Rating of 1, this respondent has noted that experienced personnel undertaken quality control measures but that no planned method instructs or demands them to do so.

- *Tests and inspections are undertaken however such are not undertaken in a formal QA Framework. This aspect is currently being introduced* – Responding with a Maturity Rating of 1, this respondent has identified that some control measures are

taken, likely by an experienced PM or project officer, but that such quality control is not standard.

- *Occasionally QA processes are completed, ie compaction tests for roads projects. Basic slumps are completed for most concrete projects and on large scale water and sewer projects testing cylinders are usually poured as part of the QA on concrete component. Commissioning for water and sewer projects is an integral part of the project and usually completed to a high standard.* – Responding with a Maturity Rating of 2, this respondent has identified that differing projects have different levels of quality control requirements. Public health projects (sewerage and water supply) are afforded a greater focus on quality measures and control.

- *Done well for larger project (particularly state highway projects), however QA performance is heavily dependent on one or two resources, we need to improve our supervisors understanding of the requirements in this area* – Responding with a Maturity Rating of 4, this respondent has identified that externally resourced projects (State Highways) provide greater influence on quality control processes. Meeting quality targets and signing-off deliverables to quality testing plans is more likely to be linked to payment for the project milestones under a contractual funding deed.

In summary, Councils appear to be foregoing quality planning and control in favour of project cost-saving or simply because there is no organisational mandate for quality checks. Externally funded works (usually granted from the State Government) comes with planned quality control requirements that must be, and can be, met by Council, but there appears to be some impediment to developing standards for quality in Council projects. The difference between metro and rural councils remains unexplained and warrants further inquiry.

4.9 Knowledge Area 6 - Project HR Management

According to the PMMM, the overall purpose of Knowledge Area 6 - Human Resource Management is to identify the requisite skill sets required for specific project activities, to identify individuals who have those skill sets, and to assign roles and responsibilities for the project, managing and ensuring high productivity of those resources, and forecasting future resource needs:

Human Resource Planning This refers to the activities of identifying, documenting, and assigning project roles, responsibilities, and reporting relationships for the project.

Staff Acquisition This covers identifying, soliciting, and acquiring the necessary resources for the project.

Develop and Manage Project Team Team development is the act of creating synergy between project team members to enhance productivity, efficiency, and overall project success. Are there guidelines and standards in place to promote team buy-in to the project? They should feel a part of the process of requirements analysis, scope development, etc. The project management team also tracks team member performance, provides feedback, and resolves issues.

In addition professional project management development is required to develop a level of professionalism within the organisation's project manager and project team member resource pool, as well as to develop how the organisation supports and views the professional requirements for project management. This is viewed by the following subcomponents:

Project Management Knowledge refers to the knowledge acquired by the individual in project management a degree, a certificate, an awareness of the need for project management education.

Project Management Experience/Competence refers to the individual's actual experience in working on or leading projects. Examples of project experience include working as a project controller, planner/scheduler, estimator, project management process expert, methodologist, project administrative support (change control, action item, contract compliance, reporting, etc.) or mentor. Competency is measured by determining the effectiveness of an individual's work efforts, or an individual's ability to successfully lead the delivery of projects of varying size and complexity.

Corporate Initiative for Project Management Development If the corporation acknowledges project management as a cornerstone for building corporate success, then they will incorporate environmental success factors, such as formalised professional developmental programs or project management career path (including training, compensation, motivation, etc.) for their project managers and project team members.

Across these six process areas respondents were asked to rate themselves to measure Council's maturity. Respondents were grouped into their organisational categories and their responses averaged and compared in Figure 4.24.

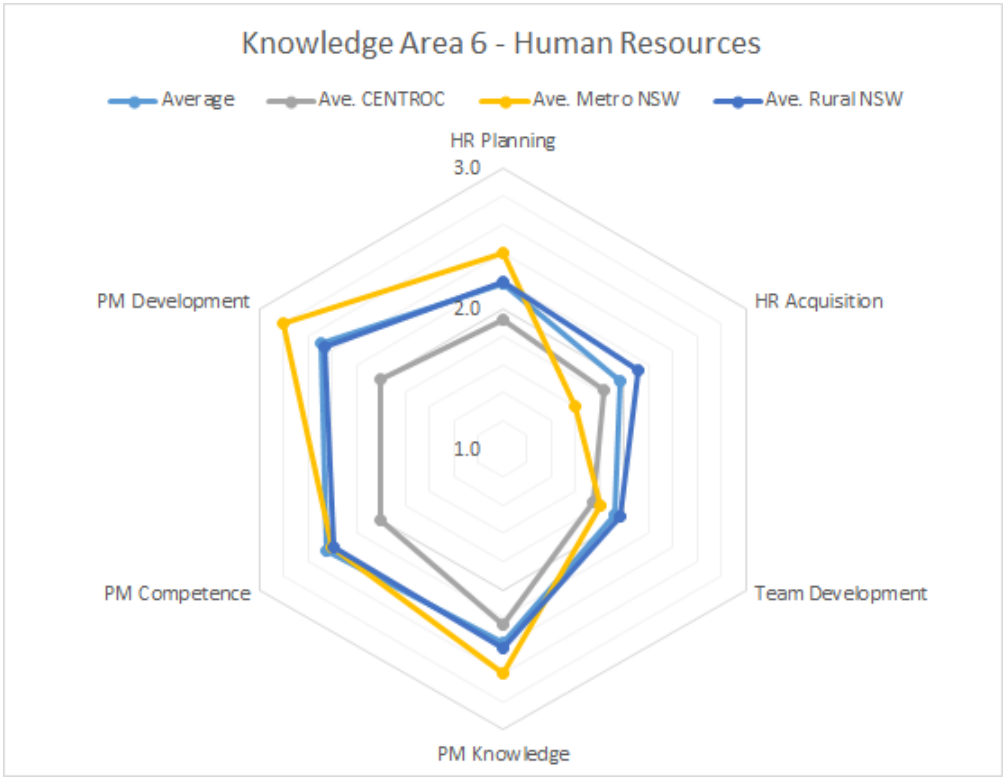

Figure 4.24: Organisational Results of Maturity in Knowledge Area 6 - Project HR Management

The most notable factor of the maturity web for HR management is the difference between the first three processes and the later three. Lower maturity scores were awarded to those processes within projects which include identifying and acquiring personnel and managing team performance whereas Project Manager development process of; PM knowledge and competence and corporate initiatives for development, are consistently higher. The simple explanation may be that the two groups of processes were assessed individually in the questionnaire which allowed for an assessment of the processes and then the people. The first three questions require an appraisal of the processes the organisation has in place for formally requesting and authorising project team member participation and team building; the average maturity scores reveal that standard approaches to forming project teams separate from the organisation structure are lacking. In contrast, the later three processes focus on people, potentially eliciting bias from a more personal assessment. The questions for this section were formed in the following manner (see Appendix C for full questionnaire):

How would you rate Project Management Knowledge across the organisation?
That is knowledge or qualifications owned by individuals regarding project management.

How would you rate Project Management Competence by staff in your organisation?
How mature are staff in facilitating or participating in project teams?

How would you rate your Council's initiative in Project Management development?
Is there an understanding of the benefits of project management as a skill and resource? Is Council encouraging professional development in PM practice?

And the descriptors for maturity levels as follows:

Level 1 Some people have skills to lead a project outside regular duties, no formal career path

Level 2 Some staff are seen to lead projects with high success, some project related roles developed

Level 3 Project management integral to Council, project roles expected to develop by training/experience

Level 4 Individuals hired or developed based on PM knowledge/skill, incorporated into organisational structure

Level 5 Projects given high value in Council, formal PO processes to enhance PM capacity, provide training and advancement

With such descriptors, considering an organisation with the longevity of Local Government that may have many existing personnel development programs and processes already in place, it may be expected that higher scores result in these three indicators. Furthermore, due to the experience of delivering projects with or without a formal framework many long-serving Council staff may be seen by their peers as having rather mature knowledge and competence. The analysis of these results is not to doubt the respondents' assessment of their own and their peers' maturity but rather explain the relatively high maturity ratings compared the the other half of this Knowledge Area's maturity scores.

Capacity comparisons in Project HR Management show a more distinct difference between organisations that have a PMO versus formal PMs. In reference to Figure 4.25

one can see the additional maturity rating applied to all processes but distinctly those of PM knowledge, competence and development. This may be explained by the importance placed on project management discipline by the organisation: those Councils that acknowledge project management as a core discipline are more likely to invest in establishing and developing a Project Management Office with the consequence of greater focus on personnel development and career progression in project management practice. Respondents from such Councils will acknowledge this with higher maturity scores. The other process that PMO councils excel in project team development. Processes developed in the PMO for building, managing and performance assessing project team members are predictably more mature than those Councils who assign personnel to tasks without considering team work implications.

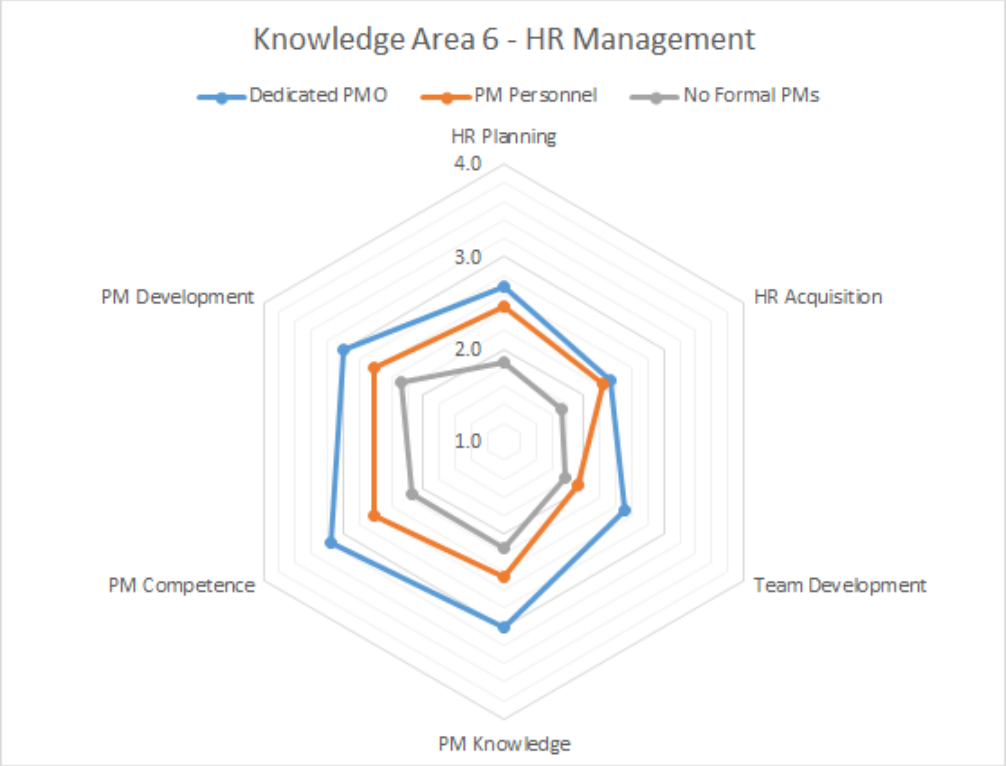

Figure 4.25: Capacity Results of Maturity in Knowledge Area 6 - Project HR Management (Councils with PMOs and PMs)

Even PMO councils struggle however in the areas of HR planning and acquisition. Likewise Figure 4.26 displays that their is little difference between those Councils with and without established project management frameworks for these two processes, both of which scored the lowest averages in this Knowledge Area. It is assumed that this is heavily impacted upon by the interaction between organisational structure and the need for projects to combine resources from many areas of expertise across the organisation.

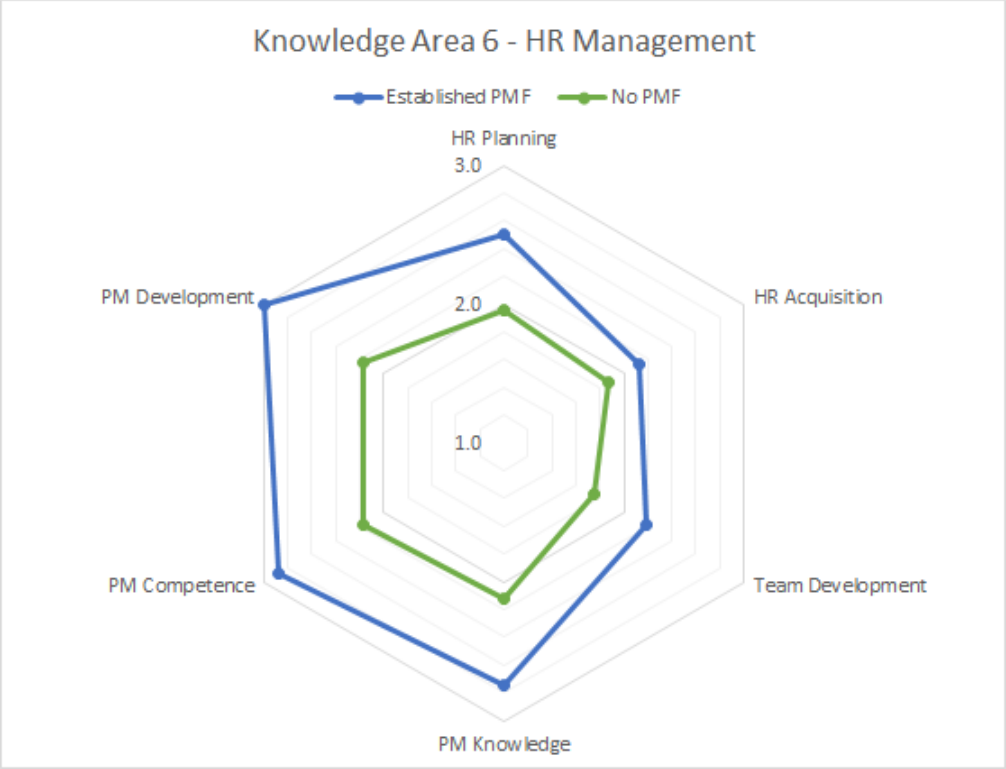

Figure 4.26: Capacity Results of Maturity in Knowledge Area 6 - Project HR Management (Project Management Framework Adoption)

The Local Government structure that produces function area silos hampers cooperation, innovation and team-based productivity (Robinson 2013). In describing organisational factors to maturity success the Kerzner model explains a 'three-legged bar-stool'; requiring cooperation between project manager line managers (in control of human resources) and the project sponsor, to remain upright; *Although line managers are the key to successful project management, they will have a lot of trouble performing their functions without effective interplay with the projects manager and corporate sponsor. In unsuccessful projects, the project manager has often been vested with power (authority) over the line managers involved. In successful projects, project and line managers are more likely to have shared authority. The project manager will have negotiated the line managers commitment to the project and worked through them, not around them. The project manager probably provided recommendations regarding employee performance. And leadership was centered around the whole project team, not just the project manager* (Kerzner 2001). It is suggested that less mature organisations, even with a PMO and formal PM framework, struggle to breakdown the barriers of organisational hierarchy in selecting and acquiring project personnel. Without a focused effort on standardising project HR management it is likely that these process will remain an overall weakness in Councils' maturity-building

efforts.

4.9.1 Respondents' Comments on Knowledge Area 6

The following are a sample of respondents' comments for additional insight into the application and maturity of the processes within Knowledge Area 6 - Project HR Management.

Human Resource Planning

- *All stages, except operational, have small teams; limited to who's available. Operations undertakes more planning, cost and time monitoring* – Responding with a Maturity Rating of 2, this respondent identifies that the pool of project officers exists within work groups and is based on availability rather than priority of project expertise.
- *The Project Team is the PM, a Project Director is appointed, and the PM engages internal/extrernal consultants as required. There is no definable administrative support.* – Responding with a Maturity Rating of 2, this respondent outlines a standard project team but suggests that integration within the organisational HR functions is not complete.
- *Formal split of skills based on activity. Gantt charts developed based on historical knowledge of the skills and abilities of day labour workforce.* – Responding with a Maturity Rating of 3, this respondent has described project planning on the basis on expertise rather than availability of any staff member.

Staff Acquisition

- *We don't employ internal costing between teams for project work as a general rule except in certain circumstances for capital works which is a fully integrated system with our finance modules* – Responding with a Maturity Rating of 1, this respondent has focused on the financing of human resource as a means of acquisition. While internal human resource sharing may not be contributive to project expenditure, the authorisation of human resource usage should be formalised with the line manager.

- *The PM sources services based on availability, internal design persons are allocated upon activation of the project within the various disciplines* – Responding with a Maturity Rating of 1, this respondent concludes that availability, rather than project prioritising, affects human resourcing.

- *Works generally delivered internally with dedicated capital construction team fully resourced from capital budget. Responsibility, accountability and authority assigned through project documentation* – Responding with a Maturity Rating of 3, this respondent has identified the three components of assigning responsibility, accountability and authority in a formal manner to ensure team member cooperation.

- *Management System defines these things formally. Timesheets allocate as per activity from estimate* – Responding with a Maturity Rating of 5, this respondent is confident in the supposedly integrated system of managing human resources and the payment of said resources from project budgets based on activity.

Develop and Manage Project Team

- *The teams are too small, an individual engineer, draftsman, or landscape architect works with the PM.* – Responding with a Maturity Rating of 1, this respondent may be indicating that team building activities are not conducted due to the close working nature of common resources.

- *Teams actively encouraged to innovate, improve processes. Limited interest in this.* – Responding with a Maturity Rating of 2, this respondent suggests that team development is encouraged but does not specify who builds and manages the team.

- *Our projects are typically "beyond" Council HR limits* – Responding with a Maturity Rating of 2, this respondent highlights that a human resource department may exit within Council but does not get involved in the development of project teams.

- *Toolbox meetings, staff info sessions* – Responding with a Maturity Rating of 4, this respondent is confident in the established procedures used to share project info and build team cooperation.

Individual Project Management Knowledge

- *One major projects project manager. Bulk of the capital programs project management tasks are delivered through management teams of operational units in addition to their day-to-day works.* – Responding with a Maturity Rating of 2, this respondent has described project delivery via operational units except for major projects. It is assumed that, through experience, regular projects are delivered through tailored service delivery groups. Those works defined as projects are delivered through the same mechanisms as non-project work.

- *We have established a specific project management team (9 personnel) to manage the capital works program and major projects - outside of this group, project management is part of role - some significant projects will have a staff member seconded into a project manager role for a period of time* – Responding with a Maturity Rating of 2, this respondent highlights that the role of project manager is separate for day-to-day service delivery and a team of project managers can be employed based on their knowledge.

- *Limited resources, with the skills, experience and "buy-in"* – Responding with a Maturity Rating of 2, this respondent identifies resource limitations and motivation as limiting factor for their organisation.

- *Works Services Branch specialises in PM other parts of Council have less emphasis or need for PM* – Responding with a Maturity Rating of 3, this respondent describes varying reliance on project management expertise across functional areas but that some areas have a specialty in PM knowledge.

- *Most PMs evolved into the roles, have had Dip Project Management Training but still practicing skills. Strengths and weaknesses vary across PMs* – Responding with a Maturity Rating of 3, this respondent has acknowledged that some staff have entry-level PM qualifications. Knowledge and experience is developing through project managers in the course of their service delivery functions. The knowledge is variable across staff.

- *On large projects (e.g. $2m), a project manager has been contracted to specifically look after the project. but generally most staff complete projects as part of their normal role and generally staff have high success.* – Responding with a Maturity Rating of 4, this respondent has identified the experience of staff contributes to the success of project delivery with exceptional projects afforded greater project management resourcing.

Individual Project Management Experience/Competence

- *Lower competency as we travel down to the overseer / supervisor level* – Responding with a Maturity Rating of 2, this respondent describes stratified competency within the organisational structure of council.
- *Council has funded diploma / certificates in project management for a number of staff* – Responding with a Maturity Rating of 2, this respondent acknowledges Council's investment in training staff and providing qualifications
- *Being a small Rural Council I have noted since being with [Council] for just on 6-months that they have a fair amount of deficiencies with staff in PM - Currently on a corrective path and implementing SWP's for Major Projects* – Responding with a Maturity Rating of 2, this respondent suggests that small councils may lack competent staff and improvements should be focused on the major projects.
- *Works Services: very high, other Council Departments less so, but improving* – Responding with a Maturity Rating of 3, this respondent highlights pockets of competence across Council
- *PM's are quite skilled but not yet practicing formal and corporately adopted processes automatically. Council's projects are very varied and complex, PMs are often involved in what is for them 1st time projects* – Responding with a Maturity Rating of 3, this respondent has described competent staff that are not practicing in a formal manner throughout the organisation. This may be due to lack of organisational focus on developing a standard framework or position description within the organisational structure for these competent staff to operate in their best capacity.

Corporate Initiative for Project Management Development

- *This is an evolving area of this organisation which has been identified as a weakness. Currently there is not a great deal of emphasis on formal project management, however this is beginning to change.* – Responding with a Maturity Rating of 2, this respondent has acknowledged that Council is in the early stages of human resource alignment with formal project management practice.

- *PM System adopted but not being effectively implemented due to lack of ongoing executive sponsorship* – Responding with a Maturity Rating of 2, this respondent highlights executive sponsorship as a limiting factor for ongoing success.

- *Formal Project Management processes and appropriately skilled PMs are Council's objective. Investment in professional development could improve* – Responding with a Maturity Rating of 3, this respondent suggests project management is an objective of the organisation but that professional development would assist in realising the business goals.

- *Currently have 22 staff completing a diploma in Project Management. 60 staff will complete a Project Management awareness course (one day) before implementing new project management process.* – Responding with a Maturity Rating of 4, this respondent has presented an organisational focus on education for project staff.

In summary, Councils' appear to be hampered by rigid organisational structures that form silos of functional areas. While these areas may develop experienced and knowledgeable staff in the delivery of regular projects, there appears to be frustration in acquiring the best resources for project delivery where the project is forced to accept any staff who happen to be available. This approach forms pockets of competence where project management skill may be more highly valued than in other departments. Additionally, for many Councils, project work appears to be conducted in tandem with day-to-day service delivery without clear distinction. This may be a contributing factor in identifying and acquiring the appropriate human resources for effective project delivery. The sector appears to be supportive of professional development and that, if the organisation is focused on project management, investment will be made in training and qualifications for staff. Ongoing executive and human resource department support, and a focus on integrating project management competency in aligning the organisational structure, may be the critical factors for improved maturity in this Knowledge Area.

4.10 Knowledge Area 7 - Project Communications Management

According to the PMMM, the overall purpose of Knowledge Area 7 - Communications Management is to manage the project data process from collection to categorisation to

dissemination to utilisation and decision-making. As described briefly in Section 2.3.4, PMBOK4 and PMBOK5 differ with the inclusion of the Stakeholder Management Knowledge Area which splits off from Communications Management in more detailed processes (Ajam 2013). With the adoption of the PMMM 2nd Edition model for this research the simpler assessment process of PMBOK4 was considered. The processes in this Knowledge Area are:

Communications Planning The purpose of communications planning is to determine the information and communications needs of all the project stakeholders, such as who, what, when, where, and how.

Information Distribution This refers to the method or means of making information available to the project stakeholders, including retrieval and distribution systems.

Performance Reporting Distributed during project execution and control and includes status reporting, progress measurement, and forecasting data, which are consolidated and analysed reports received from project integration.

Issues Tracking and Management What kind of issues-tracking and management processes are in place? Are they regularly used? Are issues really evaluated/prioritised or are they merely listed? Is there regular follow-up and reporting?

Across these four process areas respondents were asked to rate themselves to measure Council's maturity. Respondents were grouped into their organisational categories and their responses averaged and compared in Figure 4.27.

Average maturity scores across this Knowledge Area are fairly consistent across each organisational type. Metro Councils came out above average with maturity scores of 2.8 across each of the four processes where Rural Councils came under average with maturity scores of 2.0 to 2.3. As displayed in Figure 4.1 Communications Management is a strong area for Metro Councils overall. This may be explained by virtue of greater population bases, higher media influence, greater political engagement or in response to more diverse stakeholder groups when compared to rural areas. Maturity in this area may have been borne of necessity in Council's standard service delivery and has been successfully transferred into project communications management.

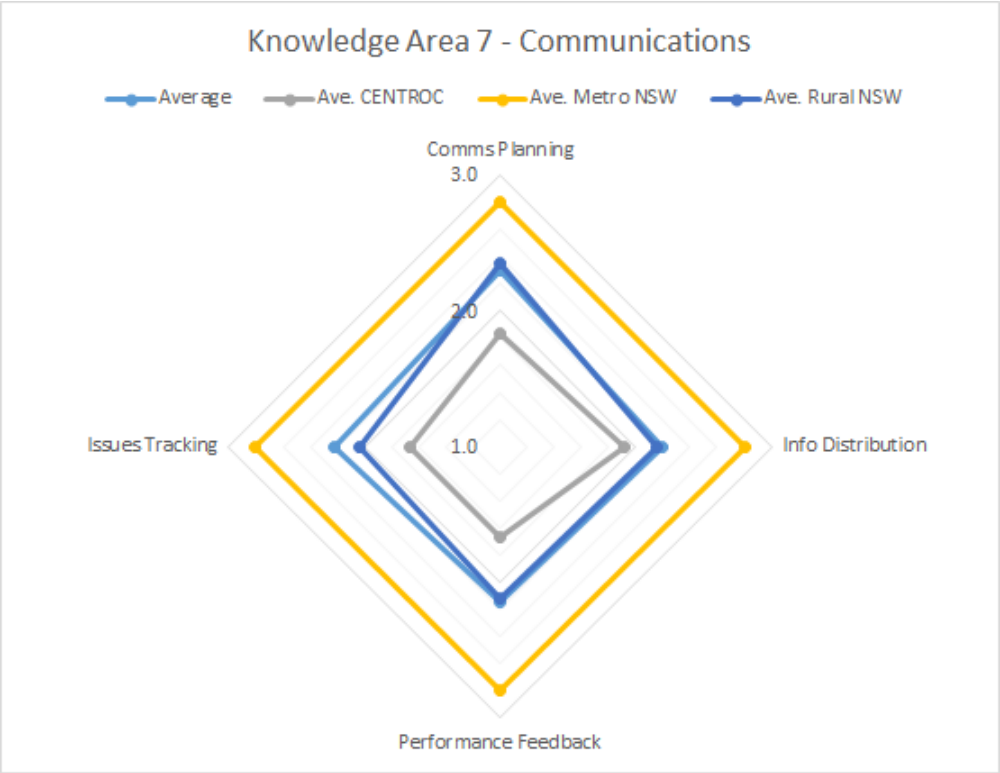

Figure 4.27: Organisational Results of Maturity in Knowledge Area 7 - Project Communications Management

As explored in Cost and Time Management Knowledge Areas, selecting the appropriate metrics of information to record seems to be a shortcoming of Local Government project management. The contribution of poor scoping means that objectives and deliverables may not have been defined to report against. Project communication therefore becomes difficult and is likely to be more reactive to inquiry from management and stakeholders (in the case of Local Government; the community they serve) rather than pro-actively planned for and implemented to the satisfaction of stakeholder needs and relative to their influence/impact on the project. While Councils may have existing communication processes in place based on statutory requirements (Local Government Act/IP&R process) individual projects may not be beholden to organisational standard reporting processes. Record keeping for issues tracking and management may also suffer if not mandated by company policy. The possibility of stakeholder issues arising may only be considered when the issue materialises rather than anticipated and planned for in early and consistent communication (see also Section 4.11 Risk Management for more detail).

Capacity comparisons in Project Communications Management show an interesting difference between organisations that have a PMO versus formal PMs. In reference to Figure

4.28 one can see the that respondents from Council's with PMs rate themselves better than those with a PMO across all processes except Issues Tracking. One can speculate that, as effective communication is a more subjective skill than the other Knowledge Areas and requires intense interaction with people on a personal level, it may be that respondents to the questionnaire consider individuals as more effective at planning and carrying out stakeholder communication for projects than a PMO that follow defined, and possibly impersonal, processes of communication. It may also simply be a function of staffing capacity as the information from 'Your Council' for the responding NSW Councils states the PMO Council's have on average 404 staff versus 361 for formal PM Councils. Those without either formal PM resources average at 265 full time equivalent personnel (NSW Office of Local Government 2015). With more personnel it may be easier for Council's to develop specific roles for communications management across all Council projects as applied in the Community Engagement Continuum of the IP&R framework (NSW Office of Local Government 2013*b*).

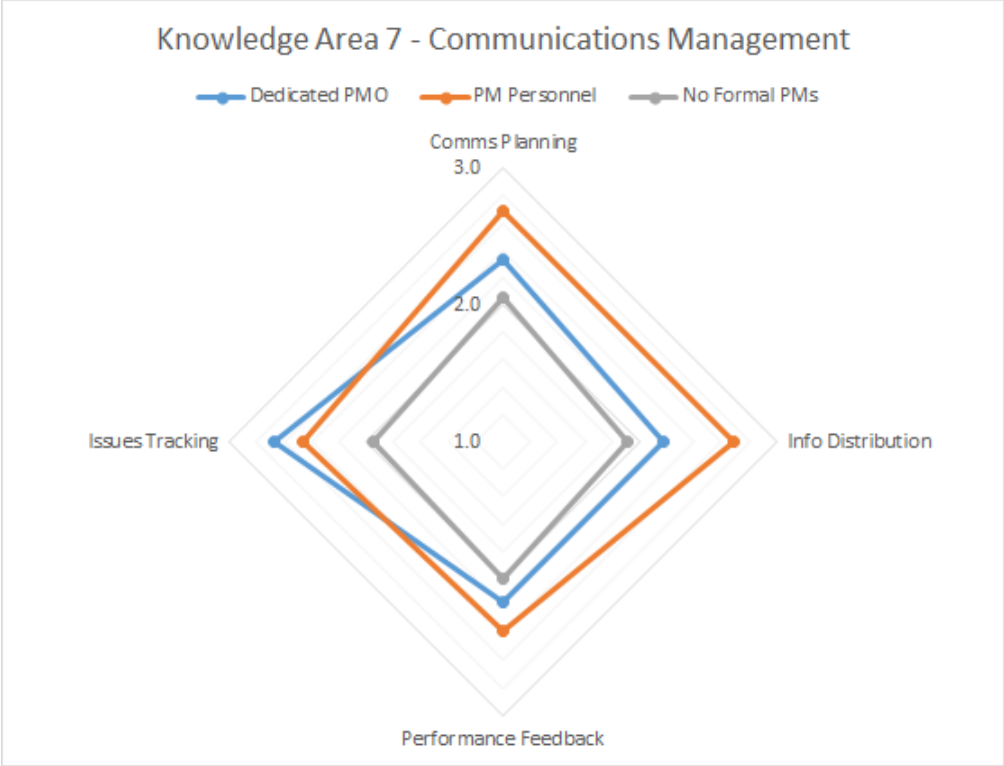

Figure 4.28: Capacity Results of Maturity in Knowledge Area 7 - Project Communications Management (Councils with PMOs and PMs)

Adopting a standard communication plan that is aligned the the IP&R framework may assist in advancing the maturity of Communications Management without the need for additional resourcing. If Councils are already conducting regular communication to the

Figure 4.29: Capacity Results of Maturity in Knowledge Area 7 - Project Communications Management (Project Management Framework Adoption)

community and their elected representatives, aligning project communications planning and reporting should be mandated in Council policy. Those respondents that identify as organisations with a PM framework may already be doing such communications management (Refer Figure 4.29). If such planning and reporting are carried out as standard, it would be hoped that planning for, capturing, prioritising and reporting on any project issues should advance also.

4.10.1 Respondents' Comments on Knowledge Area 7

The following are a sample of respondents' comments for additional insight into the application and maturity of the processes within Knowledge Area 7 - Project Communications Management.

Communications Planning

- *Limited communication/consultation. Letters provided to residents prior to works beginning, operational unit has meeting at similar time. Occasionally requests are*

made which are assessed reactively. – Responding with a Maturity Rating of 2, this respondent considers communications limited with letters of notice being distributed to affected stakeholders as standard. The communications planning is lacking and requests for information are handled as they arrive.

- *These processes are currently being improved and including PR* – Responding with a Maturity Rating of 2, this respondent identifies the link between project communications and Councils public relations activities.

- *Council is trialling Aconex with a current major project to deal with significant number of stakeholders, document control and contract documentation* – Responding with a Maturity Rating of 2, this respondent's organisation is using industry tools to plan for communications and document control.

- *Formal consultation is undertaken (extent depends on the individual project), stakeholder registers are developed and comms plans developed* – Responding with a Maturity Rating of 3, this respondent has identified a standard procedure for stakeholder communications planning.

Information Distribution

- *Scope/approximate timeframes delivered to stakeholders* – Responding with a Maturity Rating of 1, this respondent identifies the basics of information distribution.

- *Information availability is prioritised depending on project cost, stakeholder impact etc* – Responding with a Maturity Rating of 2, this respondent has described resourcing information distribution on the basis of cost and impact. While this process is no doubt scalable for different projects, the organisation will require a standard by which to assess the extent and method of information distribution for their projects.

- *Media releases, letter box drops, project signage, Variable message boards, community and project meetings, etc all utilised to communicate to stakeholders* – Responding with a Maturity Rating of 3, this respondent acknowledges that many methods of communication are employed to distribute project information.

- *Multi-level communication - leaflets, Press, Radio, Public Meetings etc* – Responding with a Maturity Rating of 4, this respondent's organisation invests in a number of information distribution methods.

Performance Reporting

- *Project performance limited to on time/on budget and minimal disturbance. Minimal reporting beyond financial.* – Responding with a Maturity Rating of 1, this respondent sees the organisation as only reporting the minimum metrics of performance.
- *Regular reports are delivered verbally although a written, monthly project progress report is a reasonably rare thing* – Responding with a Maturity Rating of 2, this respondent suggests that verbal reporting is conducted (assumed internally within the project team and management) but that written reports are conducted ad-hoc.
- *Data is collected as responses to the above modes of communication as well as the Council Customer Request (Complaint) Management System (CRMS)* – Responding with a Maturity Rating of 2, this respondent relies on an organisational data and complaint management system to capture metrics on performance.
- *Performance Reports to public stakeholders done regularly* – Responding with a Maturity Rating of 4, this respondent is confident in the established procedures used to share performance metrics.

Issues Tracking and Management

- *Customer Request Management System fully tracked, meeting minutes, return surveys etc* – Responding with a Maturity Rating of 3, this respondent has identified a organisational standard system for capturing issues and ensuring response - this may not be project exclusive and linked to project performance and communications management plans.
- *Emphasis on customer requests / complaints. Proactive in this regard. Formal system in place* – Responding with a Maturity Rating of 3, this respondent has also pointed to the organisational complaints management system to support issues triage and tracking.

In summary, Councils appear to have existing communication systems and processes in place but the overall maturity of project management discipline may mean that such

systems are not aligned for maximum benefit. Information and reporting that is mandatory of the public system can be distributed regularly for public appraisal but it appears project information is not always planned for and distributed to stakeholders in a proactive manner. As per the objectives of this research, project success can and should be a measure of Local Government performance and aligning the IP&R process of community engagement, service delivery and reporting can be functional in a project–based organisation.

4.11 Knowledge Area 8 - Project Risk Management

According to the PMMM, the overall purpose of Knowledge Area 8 - Risk Management is to identify, analyse, respond, and control risk factors throughout the life of a project. Risk management is understanding the risk events, assessing their impact on the project, determining the best way to deal with them, developing and executing a plan, and monitoring progress:

Risk Identification Risk identification involves determining which risks are likely to have an impact on the project and documenting the characteristics of each item. The main products of this component are potential risk events and risk triggers.

Risk Quantification Risk quantification covers evaluating the risks and assessing the potential outcomes. Risk quantification includes examining all identified risks; determining the interactions, relationships, and implications to the project; developing probabilities of occurrence; determining which risks warrant response; and assessing the range of possible project outcomes. The main product is a prioritised list of quantified risk events.

Risk Response Development Risk response involves defining the steps to managing the risks. It includes determining how best to respond and establish contingency plans, reserves, and agreements necessary to contain the risks. Planning strategies are developed to avoid, mitigate, or accept risks. Risk response includes the development of a risk management plan, project reserves, and mitigation strategies.

Risk Control Risk control involves controlling risks, making decisions on how to handle each situation, and taking corrective action. Risk control is seeing a risk concern,

deciding how to handle it, and carrying out the decision. Risks are controlled in accordance with the risk management plan and established procedures. The main products are a risk register, corrective actions, and updates to the risk management plan.

Risk Documentation Risk documentation involves establishing a project database to collect historical information on the risks encountered and related experiences. The main products from this component include a historical database and post-project assessment.

Across these five process areas respondents were asked to rate themselves to measure Council's maturity. Respondents were grouped into their organisational categories and their responses averaged and compared in Figure 4.30. As can be seen there is little distinction between Council organisational types with the range of average results very small. Only CENTROC as a sub-set appears to fall behind the average. Reported strengths appear in Risk Identification and Risk Control whereas weakness appears in Risk Response Development and Documentation.

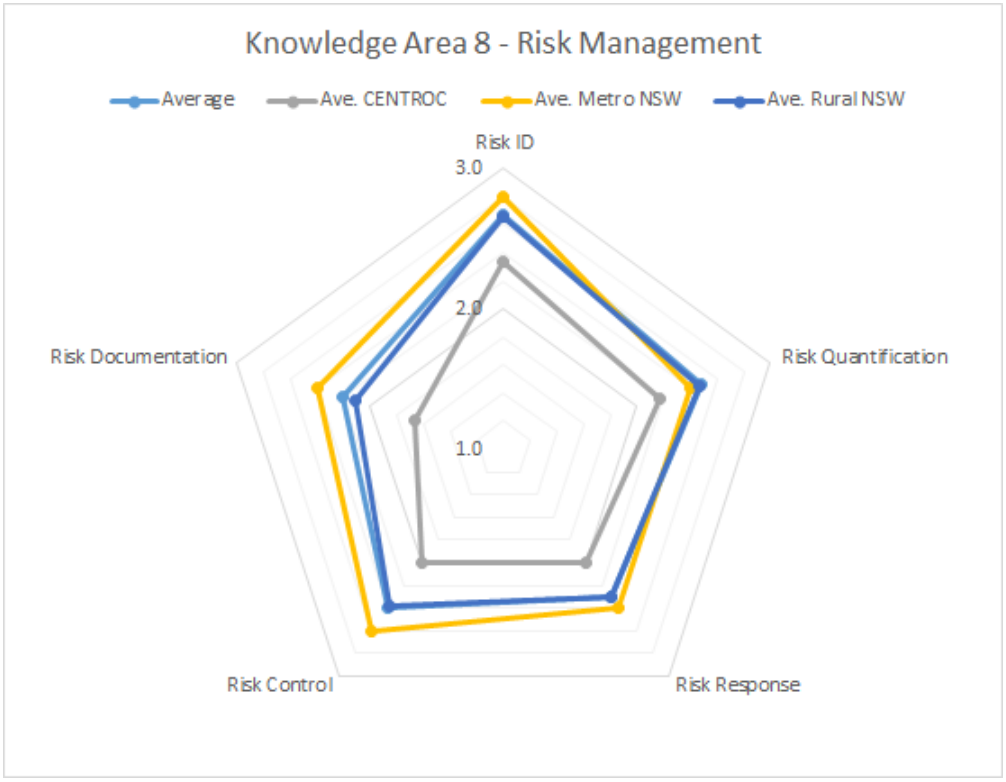

Figure 4.30: Organisational Results of Maturity in Knowledge Area 8 - Project Risk Management

The weakness areas in this Knowledge Area may be linked. Development of Risk Response/Contingency plans is documentation intensive. The creation of a risk register or database is also intensive and does not directly influence the deliverables of individual projects. Development of response plans for each and every risk on each and every project is also the outcome of not having a standard library of risks and adopted responses. Without this central database it comes down to the project manager to produce risk response plans - which it appears is not being conducted well. Regardless, with strengths in identifying, quantifying and managing risk, Councils are managing this knowledge area better than communications, HR or quality components of projects. This is to be expected of the government sector which is held to a high-standard of risk-adverse operations and the employment of corporate governance and due-diligence.

Capacity comparisons in Project Risk Management, shown in Figure 4.31, see a highly stratified maturity difference between organisations that have a PMO (most mature), formal PMs (less mature) and those without (least mature). A stand-out in this comparison is the process of Risk Documentation. Organisations with a PMO are obviously dedicating more resources to risk documentation and the creation of standard risk response plans. A focus on system development outside individual project deliverables will result in more mature and consistent risk management process in the long-term.

Those Councils responding that that have no formal framework adopted are decidedly immature in Risk Documentation (see Figure 4.32). Adopting a standard risk management approach that is supported across all projects and contains a central register of risk management plans not only would help avoid or manage risk, but could conversely used to maximise opportunity in project delivery. Identifying risks and opportunities, quantifying them and creating plans on how to avoid/realise them is a huge factor of success for projects (The Standish Group International, Inc 2013). Capturing lessons learned from this Knowledge area in a central database could be hugely beneficial to Councils that produce regular project types such as roads, events or public utility installation.

4.11.1 Respondents' Comments on Knowledge Area 8

The following are a sample of respondents' comments for additional insight into the application and maturity of the processes within Knowledge Area 8 - Project Risk Management.

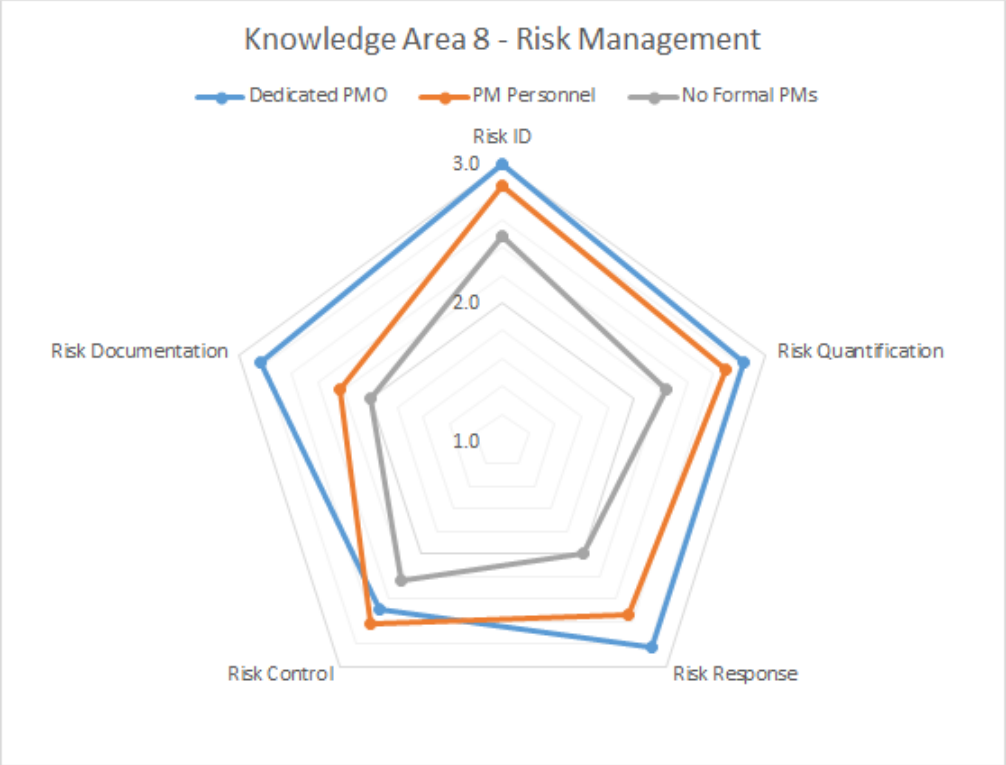

Figure 4.31: Capacity Results of Maturity in Knowledge Area 8 - Project Risk Management (Councils with PMOs and PMs)

Risk Identification

- *Primarily related to WH&S/Environmental risks. No focus on project/business risks* – Responding with a Maturity Rating of 2, this respondent recognises that risk identification is carried out well on some aspects but not on others.
- *Major projects have individual risk registers reviewed periodically, Enterprise Risk Management being developed, Audit and Risk Committee reviews major project risks quarterly* – Responding with a Maturity Rating of 2, this respondent acknowledges a risk register that has standard identified risks.
- *There are enterprise risk analyses for various operations, and for projects, WHS and Environmental risks are extensively analysed, and to a lesser extent, other risks* – Responding with a Maturity Rating of 4, this respondent considers th identification process extensive.

Risk Quantification

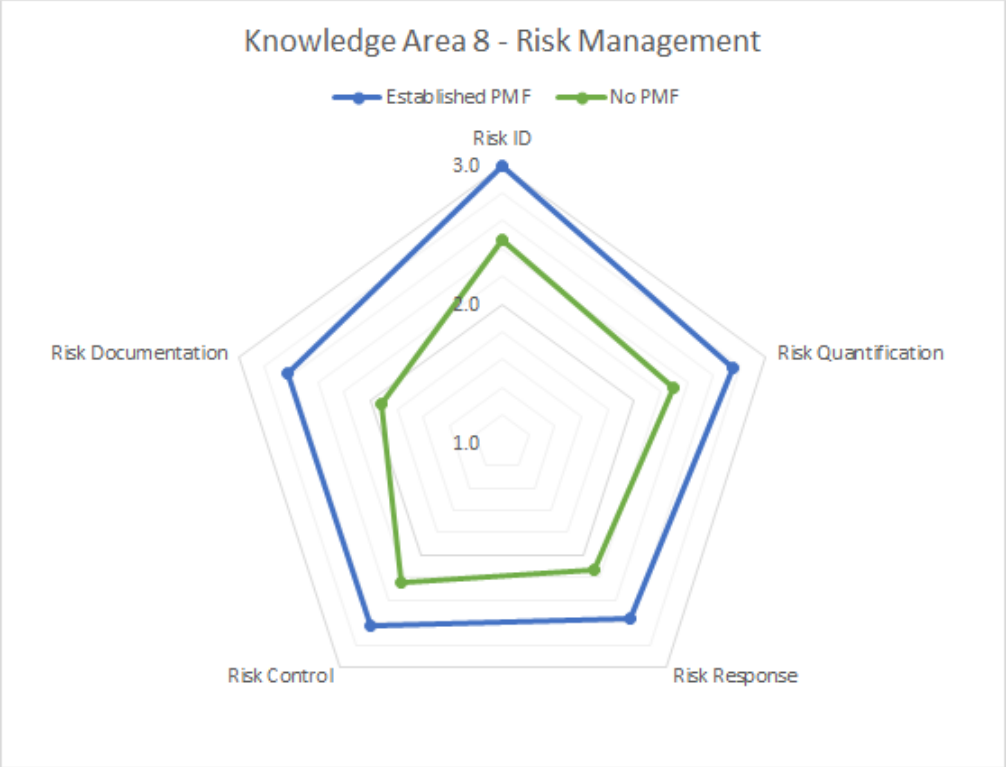

Figure 4.32: Capacity Results of Maturity in Knowledge Area 8 - Project Risk Management (Project Management Framework Adoption)

- *Hazard assessment processes and regular inspections. Solely related to WH&S / Environmental* – Responding with a Maturity Rating of 2, this respondent recognises that risk quantification is carried out well on some aspects but not on others.
- *Risks are valued on the basis of cost, reputation/political impact, time, etc* – Responding with a Maturity Rating of 3, this respondent has described standard measures that are used to quantify risk based on extent and likelihood of outcome.

Risk Response Development

- *Mitigating options are considered and options developed, the best of which is selected as a response plan, this can some times be to accept, mitigate, avoid, transfer etc* – Responding with a Maturity Rating of 2, this respondent identifies response planning and selection of response based on risk quantification.
- *Formal risk management process in place for identified risks. Develop / implement controls, reassess, etc.* – Responding with a Maturity Rating of 2, this respondent states some formal adopted processes exist in formulating response measures.

Risk Control

- *Some mitigation measures are put into place as risks are identified, although there is a fairly strong occurrence of this being done over and over again.* – Responding with a Maturity Rating of 2, this respondent explains that risk responses are being conducted repeatedly, suggesting that similar risks are not identified on frequent projects or that the response developed is insufficient to avoid risks turning into issues.

- *A risk register is kept and action/contingency plans in place to effect if appropriate* – Responding with a Maturity Rating of 3, this respondent states that plans are in place to try and ensure control is carried out

Risk Documentation

- *Documented in information management system, project specific so not compiled* – Responding with a Maturity Rating of 1, this respondent has identified an organisational information management system that separates documentation on individual project basis that does not allow for a central database of risks and response strategies.

- *No but this is to change - project close out meetings are to be conducted and learning experience will form part of the debrief of projects. Yes it is intended to keep a Database of information e.g. history of learnings* – Responding with a Maturity Rating of 1, this respondent has identified a deficiency in capturing lessons learned. This appears to extend beyond risk management, but if lessons learned form the basis for adoption of future risk response strategies then maturity is set to improve.

- *Held in records system not specific project database* – Responding with a Maturity Rating of 2, this respondent acknowledges that the risk documentation exists but may not be specifically located for project work.

- *Apart from the risk register, analysis, management plan etc the project files maintain records and the Lessons Learned Log is updated* – Responding with a Maturity Rating of 2, this respondent has also pointed to Lessons Learned as a means of risk management data capture.

In summary, Councils appear to have a high-level of risk management awareness and many have existing risk identification, quantification and management processes. These are not necessarily linked to projects however. Maturity deficiencies in project scoping exercises (refer Section 4.12) and failure to specify project objectives means that quantifying risks and impacts is a largely subjective process. Unless a risk can be linked to a project objective, it cannot be properly considered in regards to impact on the project. For example, if a project objective was to avoid removing any trees during the construction of a bike-path, assessing the risk to said trees through the use of a bulldozer in construction can be quantified. Without the specific objective, such a risk would not be identifiable or quantifiable. With many councils seeming to have little to no central database for project risks, individual project managers must constantly conduct risk identification and response strategies - the burden of which appears to be limiting the effectiveness of this management discipline to the likely detriment of project success; such was identified in Section 2.4 Reasons for Project Failure.

4.12 Knowledge Area 9 - Project Procurement Management

According to the PMMM, Knowledge Area 9 - Procurement management is the processes and actions undertaken by the project manager and/or project team to acquire goods and services in support of the project. It also includes activities in managing the contract throughout the period of performance and closing the contract upon completion. Procurement planning involves planning for all purchases, acquisitions and contracting. All these processes and actions must be taken within the constraints of the organisational structure and policies of the overall organisation. For Council, as a government entity contracting goods and services with public money, this requires a high degree of transparency in the selection process. Generally the process involves contracting with an outside vendor to acquire goods and services in a timely manner, in the appropriate quantity, and within a defined quality standard. In fact, the term"contracting" is often used interchangeably with "procurement." The following processes make up this Knowledge Area:

Procurement Planning Procurement planning involves determining whether to procure or produce in-house, deciding how to procure, identifying what and how much

to procure, and determining when to procure. If any goods or services are to be acquired from outside the project team, the specifications should be laid out in detail, along with the major milestones, timing/scheduling, initial cost estimate, and budget impact. The outcome of this component is the procurement management plan.

Requisition Requisition bridges the gap between identifying requirements and contracting with the outside world. The process of planning to contract includes identifying potential vendors, determining solicitation type (oral or verbal, invitation for bid, request for proposal, etc.), determining the type of contract, developing procurement documents, etc. The outcome of this component is a solicitation or tender package.

Solicitation/Source Selection This process involves finding the right vendor and negotiating the contract for goods and services. It includes soliciting information from industry, receiving the bids/proposals, evaluating the information, negotiating the contract, and finalising the contract award. The outcome of this component is the award of the contract.

Contract Management/Closure This includes actions involved with vendor management during contract performance, acceptance by the client, payment for services, and close-out activities. The purpose is to assure that the seller performs in accordance with the terms of the contract and receives proper reimbursement (in both quantity and timing).

Procurement in Local Government is a complex system designed to ensure ethical and legal compliance to State Government mandates. The legislative requirements for tendering by NSW local and county councils are prescribed by section 55 of the Local Government Act and by the Regulation. However, other legislation is also relevant to council operations and activities involved in tendering, procurement and contracts (NSW Division of Local Government 2009). The regulations specify that purchases greater than $150,000 require a structured tendering process. Council's procurement policies may extend this to competitive quotation processes below this threshold which request comparative quotations of three or more vendors. The interconnected impacts of this system is outside the focus of this research but should be considered as a high-influence factor when assessing the results submitted by study participants. The reader is directed to the NSW Office

of Local Government *Tendering Guidelines for NSW Local Government* (2009) and the NSW Government *ProcurePoint* website for more details.

Across the four processes of this Knowledge Area respondents were asked to rate themselves to measure Council's maturity. Respondents were grouped into their organisational categories and their responses averaged and compared in Figure 4.33.

The maturity results of this Knowledge Area are the highest and among the most consistent in this research. The average maturity across the four processes are all greater than 3 suggesting an organisational standard is in place and is being managed.

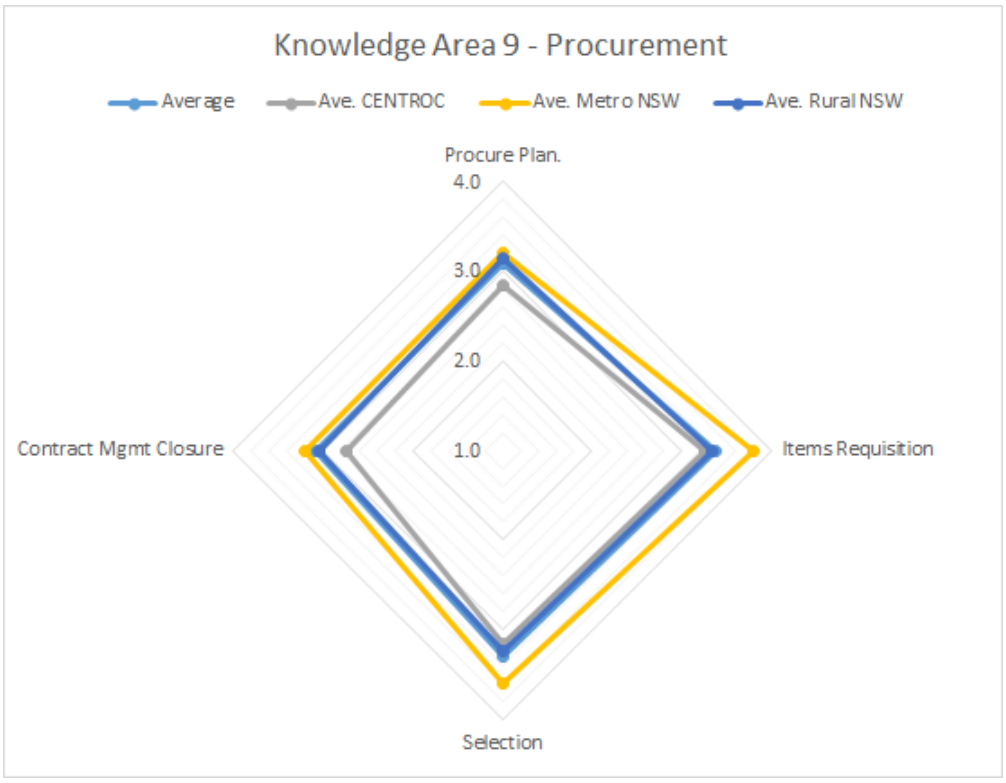

Figure 4.33: Organisational Results of Maturity in Knowledge Area 9 - Procurement Management

Metro Councils have an above average maturity in Selection and Requisition processes which may reflect the greater outsourcing that is conducted in metro councils compared to rural councils. Requisition may be made easier by virtue of the availability of more vendors in metropolitan centres. The survey questionnaire also requested respondents to answer a special interest question regarding vendor availability: *Do you have difficulty in sourcing the minimum number of contractors willing to bid for your project/activity in accordance with your Council's Procurement Policy?*. Of the 39 responses to this question, 17 expressed that there are insufficient local suppliers for specialised activities, only one

of those 17 was a Metro Council.

The relatively high maturity by all organisations is likely attributable to the fact that procurement processes have significant mandatory requirements that must be conducted. State Government audits on Local Government procurement practices and the existence of disciplinary Independent Commission Against Corruption (ICAC) are further incentives to mature conduct in this Knowledge Area. This is not to say that all Councils are only acting on improving maturity in procurement management to satisfy regulations. As can be seen in Figure 4.34, those Councils with a PMO are further excelling toward maturity Level 4 with all processes currently at 3.8. Those Councils with an adopted Project Management framework also exceed those without as can be seen in Figure 4.35. This is despite the fact that all Councils operate under the same regulation - those that adopt project management disciplinary processes conduct procurement better than those without.

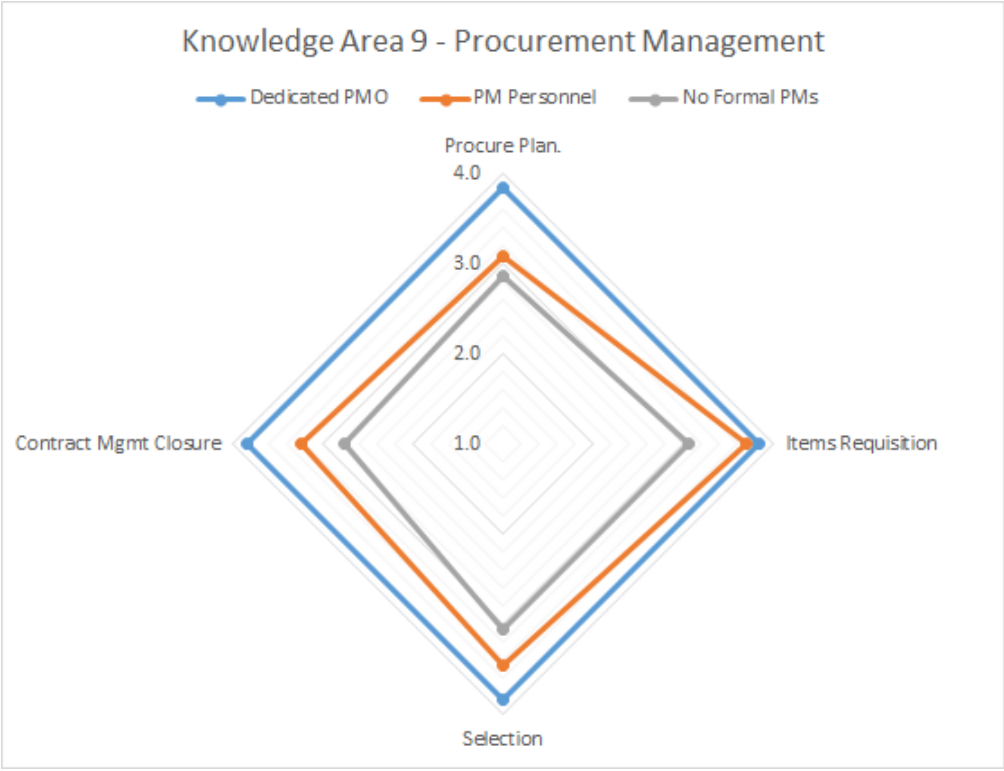

Figure 4.34: Capacity Results of Maturity in Knowledge Area 9 - Project Procurement Management (Councils with PMOs and PMs)

As the most mature of the the nine Knowledge Areas in Local Government, procurement process should be looked to for solutions on how to improve the maturity in other Areas. The impact of mandating procurement processes in sector-wide Regulation and frequent

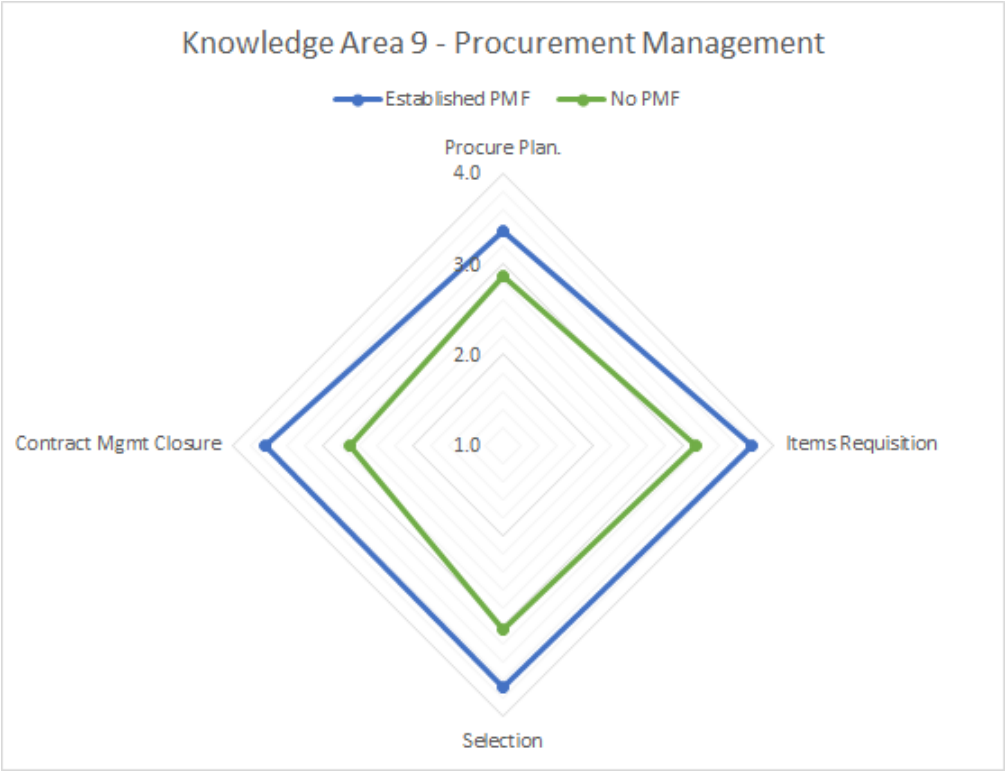

Figure 4.35: Capacity Results of Maturity in Knowledge Area 9 - Project Procurement Management (Project Management Framework Adoption)

auditing within organisations cannot currently be quantified. However, Councils can implement internal policies regarding the production and delivery of project management outputs and audit their systems frequently to undertake assessment of compliance. Gap analysis of these audits can act as the impetus for Deming cycles of business improvement. Such an approach will be discussed in 5 Conclusion. While this Area is currently a strength in the sector, procurement remains an important set of processes for project success and should not be ignored while focus is placed on improving other, less mature processes.

4.12.1 Respondents' Comments on Knowledge Area 9

The following are a sample of respondents' comments for additional insight into the application and maturity of the processes within Knowledge Area 9 - Project Procurement Management.

Procurement Planning

- *Disconnect between identification, design and operation stages of projects* – Re-

sponding with a Maturity Rating of 2, this respondent suggests that procurement may not be coordinated across stages of project development.

- *Internal/external decisions made early. In the case of external, the form of contract and delivery strategy is determined early* – Responding with a Maturity Rating of 3, the make/buy decision of this Council's project activities is conducted early in project planning.

- *Set processes on procurement of materials/services. Large purchases with long lead times determined and acquired well before project begins.* – Responding with a Maturity Rating of 4, this respondent first acknowledges the policy process for procurement and states that the organisation benefits from early procurement planning.

Requisition

- *Council is fairly proactive in ensuring that signed documentation and insurances are in place* – Responding with a Maturity Rating of 2, this respondent has assurances regarding project services acceptance.

- *Procurement processs are being improved e.g. bang for buck, haggling for best price against competitors.* – Responding with a Maturity Rating of 3, this respondent states the financial benefits the organisation and project baseline might realise with improved requisition processes.

- *Primarily preferred supplier / panel of providers arrangements in place.* – Responding with a Maturity Rating of 4, this respondent has described pre-arranged procurement supply panels that fast-track the identification and approval process of requisition.

- *Strict corporate and statute procedures adhered to.* – Responding with a Maturity Rating of 4, this respondent holds to the organisation and sector regulations for requisition.

Solicitation/Source Selection

- *As per the procurement policy, often done by contacting industry professionals and discussing the project requirements* – Responding with a Maturity Rating of 3, this

respondent identifies an organisational approach to verifying vendors to meet project requirements.

- *Done well though heavily dependent on one or two resources, need to up skill other staff* – Responding with a Maturity Rating of 4, this respondent states that, while the organisation performs well, it is because of the performance of individuals.
- *Ranked based on price and availability using preferred supplier/panel of provider contract. Items not on contract are procured based on requirements set out in Local Government Act* – Responding with a Maturity Rating of 4, this respondent identifies processes established in pre-arranged procurement supply panels and adherence to Regulations.

Contract Management/Closure

- *Contractors performance assessed and fed back through document management system, payments made based on delivery on ground* – Responding with a Maturity Rating of 4, this respondent asserts that progress against deliverables ensures procurement contract performance is achieved. It is likely that payment is an incentive to production.
- *Managed in accordance with the contract and statutory requirements.* – Responding with a Maturity Rating of 4, this respondent relies on contractual agreements at the point of requisition to ensure performance.

In summary, Councils appear to conduct procurement processes better than other project management functions. It is suggested that this is is a result of both State Government regulatory requirements and a by a long history of out-sourcing; building maturity through experience. Contract management appears to be a strength of Councils that operate by well–defined procurement processes and are able to ensure delivery is incentivised by payment against contract milestones.

4.13 Concluding Remarks on Study

The results of the research displayed above is extensive but only forms the initial benchmark of investigation in the Local Government sector's performance and maturity in

project management. Below forms a summary of the study, Conclusions, recommendations and suggested future research is presented in the following chapter.

When considering the study, the research activity achieved its intended objectives of:

Selection of an appropriate Benchmarking tool The PMMM proved itself as an appropriate method of benchmarking individual organisations for comparison using self-assessment. The model was concise enough for completion but detailed enough for analysis.

Conduct meaningful benchmarking exercise The structured questionnaire, and the use of SurveyMonkey proved effective in presenting the model and enabling self-assessment remotely without significant time or financial cost. The maturity data received was quantitative and enabled analysis readily for the purpose of benchmarking and comparing maturity. The distribution method via email was relatively successful in capturing the intended sample size.

Assess the extent of application of Project Management discipline The data could be condensed and displayed consistently to enable meaningful analysis. The research achieved the objective of benchmarking maturity however further investigation will be required to determine the causes, influences and links to project management performance in the sector in the context of Councils' service delivery.

Existing strengths and weaknesses The presented data identified areas of high and low maturity and also displayed points of similarity and disparity.

Future application The success of this benchmarking exercise can be used as an incentive to further refine an assessment tool for Local Government project management performance for integration into annual reporting requirements of the State Government.

In summarising the study outcomes the research can be considered successful on the following measures:

- The participant response targets were met in all sample frames except metro Councils which was one below the target of 10 participants
- The participants provided ample additional comments to begin validation of some assumptions made from analysing the quantitative data

- The participant information was easily linked to the OLG 'Your Council' data for comparative analysis to industry assessment already carried out and to determine some of the capacity and functional influences that may be relevant to analysis
- No complaints or concerns were received by the researcher or the USQ Ethics Committee
- Research was conducted in the time–frame planned for

Acknowledged shortfalls in the survey response include:

Incomplete survey results – Some participants failed to complete the later sections of the survey. This may be due to fatigue and the survey being too detailed. Methods to address this could include: randomising questions to avoid uneven impacts on later Knowledge Areas, combining similar processes to reduce the number of overall questions, leaving a comment field at the end of the Knowledge Area rather than each process question.

Susceptibility to bias – Given the mode of Level 2.0 was consistent across almost all Processes under assessment and the average did not exceed 3.2 for most Knowledge Areas, outliers responding with maturity rankings of 4 or 5 without justifying with comments are considered suspiciously optimistic. Without the need to provide evidence or for specific KPIs to be met, a participant has some freedom in responding with higher or lower rankings than may be the actual case. As this survey was conducted widely, without a sampling method controlled by the researcher, there was little other method that could reduce such exposure to bias. For further research, independent field studies and interviews may be conducted to verify the practices and process of a selected sample of Councils. This research has provided a suitable benchmark by which to pursue deeper inquiry.

Participation – While sample targets were met in most instances, participation in the study was disappointing. It was hoped that more than 100 Councils may have participated. Further benchmarking exercises, perhaps initiated through a connected Council network with the support of executives in each Council, may be conducted to gain a larger sample response and further refine or validate this research. By making the survey more relevant to Council's outside NSW greater participation across the whole sector may be achieved in future benchmarking.

Factors that may have influenced the study include:

Timing – The timing of the research; on the lead-up to the end of financial year, may have impacted the availability of suitable participants. Managerial and executive staff are likely to have been concerned with formulating new budgets and closing-out the 2014/15 financial year. Additionally, Fit for the Future submissions were required on 30 June 2015 which would have reduced the availability of staff to complete the survey. Future research attempts may have to consider a more suitable time frame.

Voluntary nature – As there was no requirement to participate and no personal reward for doing so, the survey relied on the good-will of Council staff to afford the time to complete the survey. Future research may have to encourage executive support or a reward or incentive for participation.

Personnel Target – The distribution method via email was addressed to the Director of Engineering Services/Infrastructure as a generic starting point to target prospective participants. Such directorates may not exist in all Councils, a director may be absent during the study period or the Council records staff may not have been able to direct the survey to the appropriate personnel. In future, as long as ethical factors are considered and resolved, a more personal approach to acquiring participants may be required such as phoning the Council, identifying the most appropriate staff member and personally deliver the survey instrument via email.

The researcher is satisfied that the research met all the objectives set-out to be achieved and that meaningful data was captured that can now be presented back to the sector to initiate conversation regarding continued benchmarking towered improved maturity.

Chapter 5

Conclusion

This research concludes that the Local Government sector is not highly mature in formal project management discipline when assessed by a best-practice maturity model. While there can be no doubt that Councils constantly deliver important services and projects around Australia, it appears as though successful delivery of such work is based on the expertise and experience of individuals rather than because of an established project management framework and defined processes. With less than half of respondent Councils identifying a standard or framework for project management in their organisation, the efficiency and overall success of project management must come into question. An ad hoc approach to scoping, planning and delivering projects will never be as efficient as a well–integrated process.

The NSW State Government, by implementing the IP&R framework is expecting Councils to think strategically about planning, delivering and reporting on the services the community expects of their Council. Should Councils fail to align their project delivery to such a framework it is likely that project deliverables will not be optimal and overall service delivery will suffer. NSW Councils need to consider improving service delivery if they are intent on standing alone in the face of the Fit for the Future reform package - building maturity in project management is offered as means of realising this operational improvement.

The results of this research display some interesting commonalities across the sector. On the whole both metro and rural Councils share the same strengths in Procurement with lesser strengths in Time and Cost management. Common weaknesses exist in Quality

and HR management. Project Scoping and Project Integration are identified weak points across the sector that are suspected to cause maturity impacts on all other Knowledge Areas. While Metro Council's outperformed Rural Councils overall, the only striking differences are witnessed in Communication Management where Metro Councils significantly exceed the average and in Quality Management where they dip below the average. Such differences are cannot be completely explained from the results of this research and warrant further inquiry.

In assessing the impact of the Project Management Office, it was discovered that those Councils with a PMO rate more mature than those without. Those Councils that responded that they did not resource a PMO but employed staff that carried out these functions demonstrated that such an approach yielded almost equal maturity dividends as PMO Councils. PMO Councils specifically stood out in the Areas of Procurement and Human Resource management. The later being an overall weak area may provide incentive to setting up a PMO in Council or as a shared resource between Councils.

Across all nine Knowledge Areas assessed, those Councils that had identified a project management framework in their organisation, whether industry standard or created in-house, rated much more mature than those without. Those organisations intent on building organisational maturity would do well to focus on aligning current practices into a standard approach that is adopted, managed with executive support and improved over time.

This research was limited in that only maturity of the organisation was assessed. While this data enabled benchmarking based on assessed maturity indicators, the reasons for the maturity were not investigated. The analysis and assumptions from the collected data presented in this paper require validation through further research. In order to determine the underlying factors influencing current maturity rankings, or inhibiting maturation, the following areas of research are recommended:

Project Management Governance What, if any, governance structure is in place within Councils that enables or reviews project delivery? How are these governance activities linked to Councils overall governance and reporting requirements? Can the impact of project sponsorship or the existence of a steering committee be quantified?

Portfolio, Programme and Project Alignment Benchmarking maturity in Portfolio and Programme Maturity and the integration with project delivery may provide insight on how Councils prioritise and resource service delivery (including projects) and how scheduling may occur across the organisational programme of works.

Council Organisational Structure How are human resources distributed within Local Government organisations? What inhibitions to resource sharing, scheduling and accountability are caused by the formation of 'silos' in functional areas of the business? What effect does this have on the whole of Council operations?

PMO function Looking deeper at those Councils that have established a PMO; how are they resourced? What functions to they deliver and how are they integrated into Council structure?

Outsourcing Impacts One of the greatest variables between Councils is the extent by which service delivery is conducted by awarded contracts to private companies. The strong results in Procurement, and the seemingly anomalous poor results for Metro Councils in Quality Management require further investigating into the project management discipline as it effects contract work. Are project management activities and processes undertaken better by private businesses competing for government contracts? Is this market competition delivering rewarding outcomes for Councils that are mature in contract management?

This research has demonstrated that Councils are able to report upon their own management performance in disciplines such as project management. Together with existing standard benchmarking approaches in asset management, Councils may be able to fulfill the intent of the State Government's performance management framework and give the public better insight into Council performance beyond static metrics that are presented in the current annual reports on the sector. It is intended that this research be extended, refined and repeated to validate the assessment method for future inclusion in sector-wide performance measurement and analysis.

With regular benchmarking and analysis it is hoped that improvement can be realised across the sector and a Council-specific project management body of knowledge can be formed. Greater maturity across the sector will ensure the efficient and sustainable service delivery of Local Government that local communities rely on to live, work and thrive.

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Appendix A

Project Specification

Version 1.2 – 28 April 2015

USQ Supervisor: Nateque Mahmood Sponsorship: Parkes Shire Council

Project Supervisors: Andrew Francis *BENH* (Director Infrastructure Parkes Shire), Ben Howard (Director Operations Parkes Shire), Kent Boyd *BEng Civil (First Class Hons), MBA* (General Manager Parkes Shire)

Project Aim: This project seeks to investigate the level of project management practice currently utilised with Local Government across NSW in the delivery of annual programs and capital projects. Research will be conducted within the engineering and operations portfolios of Local Governments of varying workforce size to determine the current state of project delivery and its shortcomings compared to established best practice. The research will investigate and review existing and alternative Maturity Models in Project Management. This work will be undertaken in the context of NSW Local Government reform, Fit for the Future, where proven efficiency and financial sustainability in meeting community expectations in infrastructure level of service is imperative for Council's to avoid forced amalgamations.

Projected timeline and resources (as of 28 April)

Item	**Due By**	**Resources**	**Support**
Study Previous submissions for content, quality, context and layout	15 Feb 15	USQ ePrints: Moree Ind. Estate	USQ Supervisor
Skeleton report to support scope, set up dissertation document	23 Feb 15	MS Word/MikTex	
Write Background and context, develop initial sections of dissertation	10 Mar 15	IPWEA publications, TCorp Report, Fit for the Future, AMPs	R Staples, B Howard, A Francis, K Boyd, B Byrnes
Literature review; established maturity models, Local Government Review, existing audits on performance	10 March - 25 May 15	USQ Database, Google Scholar, IPWEA library, LG NSW	USQ library, M Savage (IPWEA)
Project Scope -surveys, data, no. of case studies, willing participants	1 Apr 15		USQ supervisor
Survey and case study preparation -maturity assessment	15 May 15	Survey checklist, database establishment	All LG agencies
Submit preliminary report	3 June 15		USQ supervisor
Compile data and identify key challenges to develop gap analysis	15 June 15	Returned surveys	
Report findings, draw conclusions	30 July 15	Completed surveys	USQ supervisor, M Bailey, B Byrnes, A Francis
Business improvement and change management strategies including reporting on existing maturity models	15 Aug 15	Literature, best practice manuals, studies	Melbourne City, M Bailey, A Francis
Summary of conclusions, maturity evaluation for PSC, reporting	15 Aug 15		USQ Supervisor
Application across industry assessment	30 Aug 15	Survey checklist,	IPWEA, CENTROC
Partial Draft Dissertation	16 Sep 15		
Dissertation finalisation	25 Oct 15	Feedback from draft	USQ supervisor, K Boyd, B Howard,
Dissertation submission	29 Oct 15		

Appendix B

Project Management Maturity Matrixes

	Knowledge Area 1 - Project Integration						
	Scope Definition	Deliverables Definition	Develop PM Plans	Execute PM Plans	Change Control	Project Closure	Info. System
Average	2.4	2.3	2.4	2.3	2.1	2.2	2.5
Ave. NSW	2.4	2.3	2.4	2.3	2.0	2.1	2.4
Ave. CENTROC	2.2	2.1	2.1	1.8	1.8	1.7	2.2
Ave. Metro NSW	2.8	2.6	3.0	2.8	2.2	2.4	2.8
Ave. Rural NSW	2.3	2.3	2.3	2.2	2.0	2.0	2.3
Mode	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Maximum	4.0	4.0	5.0	5.0	5.0	5.0	5.0

	Knowledge Area 1 - Project Integration						
	Scope Definition	Deliverables Definition	Develop PM Plans	Execute PM Plans	Change Control	Project Closure	Info. System
Dedicated PMO	2.7	2.6	2.7	2.6	2.4	2.6	3.3
PM Personnel	2.8	2.5	2.8	2.6	2.4	2.3	2.9
No Formal PMs	2.2	2.1	2.1	2.1	1.9	2.0	2.0
Established PMF	2.9	2.6	2.9	2.7	2.5	2.4	2.8
No PMF	2.2	2.1	2.1	2.1	1.9	2.1	2.3
<6 PMs	2.4	2.2	2.1	2.1	1.9	2.1	2.3
>=6 PMs	2.6	2.4	3.1	2.9	2.5	2.4	2.9

	Knowledge Area 2 - Project Scope (deliverables)				
	Scope Template	Business Requirements	Tech Requirements	WBS	Change Control
Average	2.3	2.2	2.6	2.3	1.9
Ave. NSW	2.2	2.2	2.6	2.4	1.9
Ave. CENTROC	2.0	1.9	2.5	2.2	1.7
Ave. Metro NSW	2.4	2.8	3.0	2.6	2.2
Ave. Rural NSW	2.1	2.1	2.6	2.3	1.8
Mode	2.0	2.0	2.0	2.0	2.0
Maximum	4.0	5.0	5.0	5.0	4.0

	Knowledge Area 2 - Project Scope (deliverables)				
	Scope Template	Business Requirements	Tech Requirements	WBS	Change Control
Dedicated PMO	3.0	2.9	3.1	2.6	2.3
PM Personnel	2.5	2.2	2.7	2.8	2.3
No Formal PMs	1.9	2.0	2.3	2.0	1.6
Established PMF	2.8	2.6	3.0	2.6	2.3
No PMF	2.0	2.0	2.3	2.2	1.7
<6 PMs	2.1	2.0	2.4	2.2	1.8
>=6 PMs	2.6	2.6	2.9	2.6	2.3

	Knowledge Area 3 - Project Time				
	Resources	Activity Sequencing	Dev. Schedules	Control Schedules	Integrate Schedules
Average	2.4	2.6	2.6	2.4	2.1
Ave. NSW	2.5	2.6	2.6	2.4	2.1
Ave. CENTROC	2.3	2.4	2.5	2.2	2.0
Ave. Metro NSW	2.6	2.8	2.8	2.8	2.2
Ave. Rural NSW	2.5	2.6	2.6	2.3	2.1
Mode	2.0	2.0	2.0	2.0	1.0
Maximum	5.0	5.0	5.0	5.0	5.0

	Knowledge Area 3 - Project Time				
	Resources	Activity Sequencing	Dev. Schedules	Control Schedules	Integrate Schedules
Dedicated PMO	2.7	2.8	3.0	2.8	2.5
PM Personnel	2.7	2.8	2.7	2.8	2.3
No Formal PMs	2.2	2.3	2.4	2.1	1.9
Established PMF	2.9	3.1	2.9	2.8	2.5
No PMF	2.1	2.2	2.4	2.2	1.9
<6 PMs	2.3	2.3	2.4	2.2	1.9
>=6 PMs	2.7	3.1	2.9	2.9	2.6

	Knowledge Area 4 - Project Cost			
	Cost Est.	Cost Budget	Performance Mgmt	Cost Control
Average	2.7	2.6	2.2	2.7
Ave. NSW	2.7	2.5	2.2	2.6
Ave. CENTROC	2.4	2.1	1.6	2.2
Ave. Metro NSW	2.6	2.8	2.6	2.8
Ave. Rural NSW	2.7	2.5	2.1	2.5
Mode	2.0	2.0	1.0	2.0
Maximum	5.0	5.0	5.0	5.0

	Knowledge Area 4 - Project Cost			
	Cost Est.	Cost Budget	Performance Mgmt	Cost Control
Dedicated PMO	3.0	3.0	2.5	3.0
PM Personnel	2.8	2.8	2.8	3.0
No Formal PMs	2.4	2.3	1.8	2.3
Established PMF	2.8	2.8	2.7	3.0
No PMF	2.5	2.5	1.9	2.4
<6 PMs	2.5	2.5	2.0	2.5
>=6 PMs	2.9	2.8	2.7	3.0

	Knowledge Area 5 - Project Quality Management	
	Quality Plans Producd	QA conducted to plan
Average	2.1	2.1
Ave. NSW	2.1	2.2
Ave. CENTROC	1.9	2.0
Ave. Metro NSW	1.6	1.8
Ave. Rural NSW	2.2	2.2
Mode	2.0	2.0
Maximum	5.0	5.0

	Knowledge Area 5 - Project Quality Management	
	Quality Plans Produced	QA conducted to plan
Dedicated PMO	2.0	2.2
PM Personnel	2.4	2.2
No Formal PMs	1.9	2.0
Established PMF	2.3	2.4
No PMF	1.9	2.0
<6 PMs	2.0	2.0
>=6 PMs	2.3	2.4

	Knowledge Area 6 - Project HR Management					
	HR Planning	HR Acquisition	Team Development	PM Knowledge	PM Competence	PM Development
Average	2.2	2.0	1.9	2.4	2.5	2.5
Ave. NSW	2.2	2.0	1.9	2.5	2.4	2.5
Ave. CENTROC	1.9	1.8	1.8	2.3	2.0	2.0
Ave. Metro NSW	2.4	1.6	1.8	2.6	2.4	2.8
Ave. Rural NSW	2.2	2.1	2.0	2.4	2.4	2.5
Mode	2.0	2.0	2.0	2.0	2.0	3.0
Maximum	5.0	5.0	5.0	5.0	4.0	5.0

	Knowledge Area 6 - Project HR Management					
	HR Planning	HR Acquisition	Team Development	PM Knowledge	PM Competence	PM Development
Dedicated PMO	2.7	2.3	2.5	3.0	3.2	3.0
PM Personnel	2.5	2.2	1.9	2.5	2.6	2.6
No Formal PMs	1.9	1.7	1.8	2.1	2.1	2.3
Established PMF	2.5	2.1	2.2	2.8	2.9	3.0
No PMF	2.0	1.9	1.8	2.1	2.2	2.2
<6 PMs	1.9	1.8	1.7	2.1	2.1	2.2
>=6 PMs	2.7	2.4	2.4	2.9	3.1	3.1

	Knowledge Area 7 - Project Communications Management			
	Comms Planning	Info Distribution	Performance Feedback	Issues Tracking
Average	2.3	2.2	2.2	2.2
Ave. NSW	2.4	2.3	2.2	2.2
Ave. CENTROC	1.8	1.9	1.7	1.7
Ave. Metro NSW	2.8	2.8	2.8	2.8
Ave. Rural NSW	2.3	2.2	2.1	2.0
Mode	2.0	2.0	2.0	2.0
Maximum	5.0	4.0	5.0	5.0

	Knowledge Area 7 - Project Communications Management			
	Comms Planning	Info Distribution	Performance Feedback	Issues Tracking
Dedicated PMO	2.3	2.2	2.2	2.7
PM Personnel	2.7	2.7	2.4	2.5
No Formal PMs	2.0	1.9	2.0	2.0
Established PMF	2.6	2.6	2.6	2.6
No PMF	2.1	1.9	1.9	2.0
<6 PMs	2.0	1.9	1.9	2.0
>=6 PMs	2.9	2.8	2.6	2.6

	Knowledge Area 8 - Project Risk Management				
	Risk ID	Risk Quantification	Risk Response	Risk Control	Risk Documentation
Average	2.7	2.5	2.3	2.4	2.2
Ave. NSW	2.7	2.5	2.3	2.4	2.2
Ave. CENTROC	2.3	2.2	2.0	2.0	1.7
Ave. Metro NSW	2.8	2.4	2.4	2.6	2.4
Ave. Rural NSW	2.7	2.5	2.3	2.4	2.1
Mode	2.0	2.0	2.0	2.0	2.0
Maximum	5.0	4.0	5.0	5.0	5.0

	Knowledge Area 8 - Project Risk Management				
	Risk ID	Risk Quantification	Risk Response	Risk Control	Risk Documentation
Dedicated PMO	3.0	2.8	2.8	2.5	2.8
PM Personnel	2.8	2.7	2.5	2.6	2.2
No Formal PMs	2.5	2.2	2.0	2.2	2.0
Established PMF	3.0	2.8	2.6	2.6	2.6
No PMF	2.5	2.3	2.1	2.3	1.9
<6 PMs	2.6	2.3	2.1	2.2	2.0
>=6 PMs	2.9	2.8	2.6	2.7	2.6

	Knowledge Area 9 - Project Procurement Management			
	Procure Plan.	Items Requisition	Selection	Contract Mgmt Closure
Average	3.1	3.4	3.3	3.1
Ave. NSW	3.2	3.4	3.3	3.1
Ave. CENTROC	2.8	3.3	3.2	2.8
Ave. Metro NSW	3.2	3.8	3.6	3.2
Ave. Rural NSW	3.2	3.3	3.2	3.0
Mode	3.0	3.0	3.0	4.0
Maximum	5.0	5.0	5.0	5.0

	Knowledge Area 9 - Project Procurement Management			
	Procure Plan.	Items Requisition	Selection	Contract Mgmt Closure
Dedicated PMO	3.8	3.8	3.8	3.8
PM Personnel	3.1	3.7	3.5	3.2
No Formal PMs	2.9	3.1	3.1	2.8
Established PMF	3.4	3.8	3.7	3.6
No PMF	2.9	3.1	3.0	2.7
<6 PMs	2.8	3.2	3.2	2.8
>=6 PMs	3.5	3.7	3.6	3.5

Appendix C

Survey Instrument

Project Management Maturity Benchmarking in Local Government

Project Management Maturity in Local Government

Principal Investigator Details
Mr Nathan Koenig
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Research Description

This project is being undertaken as part of an Honours Project for Bachelor of Engineering degree.
The research project aims at establishing a benchmark for current project management practices within Local Government organisations. Historically, Local Governments have not adopted formal frameworks for delivering capital works projects resulting in missed opportunities for project optimisation. Faced with current reforms from State Government, Local Government must now prove their long term capacity and sustainability in delivering community expectations efficiently – the impact of capital project delivery is critical in achieving this.

The research will utilise established, internationally recognised project management frameworks to build questionnaires and interviews to determine the current maturity of Local Government practices across the sector using 9 key knowledge areas. It is hoped this process will yield quantitative figures that will allow targeted improvement in fields that have shown to be the least mature.

The participants of the study will include engineers and project managers within Local Government organisations (primarily in NSW). You are asked to provide an internal assessment of your organisation and together with project practitioners in Local Government across the state, we will build a picture of where our common strengths and weaknesses are.

Other public information, such as that published in your Council's annual reports, will be used to contextualise the study considering such factors as shire population, rate income and asset replacement value.

Participation

Your participation will involve completion of a questionnaire that will take approximately 35 minutes of your time.
Questions will include benchmarking your organisation against such indicators as "Does your organisation carry out structured Project Closure processes?" requiring you to respond on a scale of 1 to 5. Each point on the scale will have maturity indicators to help you decide where your Council sits on the scale.
Your participation in this project is entirely voluntary. If you do not wish to take part you are not obliged to. If you decide to withdraw from the survey simply close your browser window. Your decision whether you take part, do not take part, or to take part and then withdraw, will in no way impact your current or future relationship with the University of Southern Queensland or Parkes Shire Council.

Expected Benefits

It is expected that this project will benefit the government sector by highlighting knowledge areas that may be lagging in project management practice and inform future business improvement initiatives. At the conclusion of the study a summary of research results will be tabled that you may use within your organisation to continually benchmark toward industry best practice.

It is intended to frame this research in the context of the latest round of Local Government reforms, detailing the challenges faced within the sector as we strive for 'sustainability' in the delivery of services to our communities. The results of the study are proposed to be published in industry publications and may be used to lobby State Government for support in business improvement for project management practice across the sector.

Risks

There are negligible social risks associated with your participation in this project – if you believe responding to the questions contained in this survey my effect your social standing you may withdraw from the study by closing the internet browser before submitting your results – this will terminate your participation.

Privacy and Confidentiality

All comments and responses will be treated confidentially unless required by law.
The names of individual persons are not required in any of the responses, nor is the survey tailored in such a way as to make you personally identifiable. The name of your Council however will be requested.
Any data collected as a part of this project will be stored securely as per University of Southern Queensland's Research Data Management policy.

Please Note: Once your data has been submitted to the study you will be unable to withdraw it.

Consent to Participate

Clicking on the 'Submit' button at the conclusion of the questionnaire is accepted as an indication of your consent to participate in this project.

Questions or Further Information about the Project

Please refer to the Research Team Contact Details at the top of the form to have any questions answered or to request further information about this project.

Concerns or Complaints Regarding the Conduct of the Project

If you have any concerns or complaints about the ethical conduct of the project you may contact the University of Southern Queensland Ethics Coordinator on (07) 4631 2690 or email ethics@usq.edu.au. The Ethics Coordinator is not connected with the research project and can facilitate a resolution to your concern in an unbiased manner.

Thank you for taking the time to help with this research project. Please keep this sheet for your information.

*** If you consent to participating in this research project please input today's date (DD/MM/YYYY)**

Project Management Maturity Benchmarking in Local Government

Your Council

The following lead-in Questions will provide the survey with your Council's basic details in Project Management adoption and intentions in response to Fit for the Future reform package.

*** Please Select Your Local Government Area**

*** Has your Council adopted an established Project Management framework?**

- ○ No, none
- ○ PMBOK
- ○ PRINCE2
- ○ Agile
- ○ A mixture of the above
- ○ Other (please specify)

*** Has your Council adopted an established Business Improvement framework?**

- ○ No, none
- ○ LEAN
- ○ Australian Business Excellence Framework
- ○ SIX Sigma
- ○ Total Quality Management (TQM)
- ○ Business Process Improvement (BPI)
- ○ Agile Management
- ○ A mixture of the above
- ○ Other (please specify)

*** Does your organisation have a Project Management Office (PMO)?**
i.e. dedicated employees undertaking any of the following:
project management support services, providing project management consulting/mentoring, developing and maintaining project management methodologies/standards, training project managers within the organisation, or supplying project managers for major project initiatives.

- ○ Yes, we have a dedicated Project Management Office
- ○ Yes, we have personnel that undertake these duties part time or informally
- ○ No, we do not have a Project Management Office

*** How many staff in your organisation hold formal Project Management (or equivalent) qualifications?**

*** What Proposal is your Council intending on submitting in response to the "Fit for the Future" reforms package**

The 9 Project Management Knowledge Areas

The following pages present questions related to your organisation's Project Management Maturity against a number of key indicators.

These indicators are arranged within nine Knowledge Areas as compiled by J. Kent Crawford in "Project Management Maturity Model" 3rd Edition (2014), CRC
Press: http://www.crcpress.com/product/isbn/9781482255447

The nine Knowledge Areas are as follows:
1. Project integration
2. Project scoping
3. Project time management
4. Project cost management
5. Project quality management
6. Project Human Resourcing
7. Project Communications Management
8. Project Risk Management
9. Project Procurement Management

It is important that you complete each Knowledge Area to gain a greater understanding of your organisation's strengths and weaknesses. This framework will enable key areas of improvement to be focused on in concentrating business improvement efforts.

The assessment will be undertaken following the 5-step maturity scale from left to right.
The scale is as follows:

Level 1: Initial Process
Ad hoc processes
Management awareness

Level 2: Structured Process and Standards
Basic processes; not standard on all projects; used on large, highly visible projects
Management supports and encourages use
Mix of intermediate and summary-level information
Estimates, schedules based on expert knowledge and generic tools
Mostly a project-centric focus

Level 3: Organisational Standards and Institutionalised Process
All processes, standard for all projects, repeatable
Management has institutionalised processes
Summary and detailed information
Baseline and informal collection of actuals
Estimates, schedules may be based on industry standards and organizational specifics
More of an organisational focus
Informal analysis of project performance

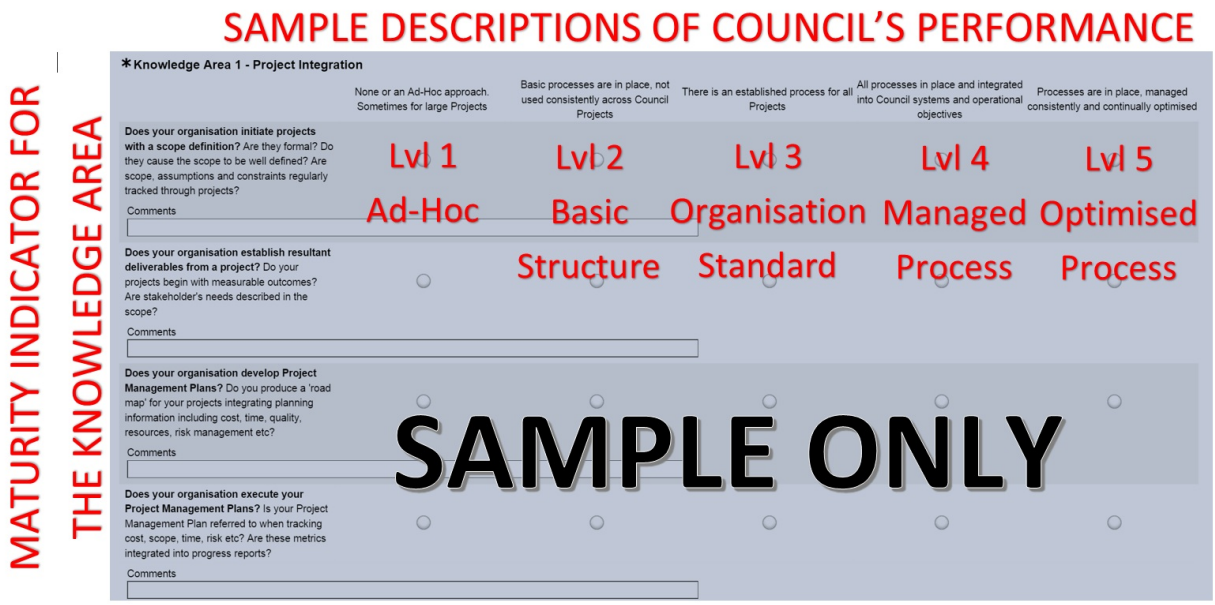
Level 4: Managed Process

Processes integrated with corporate processes
Management mandates compliance
Management takes an organisational entity view
Solid analysis of project performance
Estimates, schedules are normally based on organisation specifics
Management uses data to make decisions

Level 5: Optimising Process
Processes to measure project effectiveness and efficiency
Processes in place to improve project performance
Management focuses on continuous improvement

Please note: this is a self assessment. It is assumed you, as the participant, will posses skills and knowledge in Project management, an understanding of project controls, organisational structure, project management, professional development, and management skills within the capital works or engineering department of your Council.

It is accepted that some reporting bias is inherent in such a survey but participants are encouraged to be objective in their appraisal as factual information is expected to yield better results for future improvement work for the betterment of LG organisations.



Please click "Next" to commence the maturity benchmarking assessment

Project Management Maturity Benchmarking in Local Government

Knowledge Area 1 - Project Integration

The purpose of project integration management is to
(1) initiate the project;
(2) coordinate project activities and integrate all efforts into a project management plan;
(3) integrate, analyse, and report the project results in carrying out the project management plan;
(4) control changes to the baseline plan;
(5) collect, integrate, and organise project information in a project information system; and
(6) close the project in an orderly and disciplined fashion.

*** Knowledge Area 1 - Project Integration**

	None or an Ad-Hoc approach. Sometimes for large Projects	Basic processes are in place, not used consistently across Council Projects	There is an established process for all Projects	All processes in place and integrated into Council systems and operational objectives	Processes are in place, managed consistently and continually optimised
Does your organisation initiate projects with a scope definition? (Are they formal? Do they cause the scope to be well defined? Are scope, assumptions and constraints regularly tracked through projects?)	○	○	○	○	○
Comments					
Does your organisation establish resultant deliverables from a project? (Do your projects begin with measurable outcomes? Are stakeholder's needs described in the scope?)	○	○	○	○	○
Comments					
Does your organisation develop Project Management Plans? (Do you produce a 'road map' for your projects integrating planning information including cost, time, quality, resources, risk management etc?)	○	○	○	○	○
Comments					
Does your organisation execute your Project Management Plans? (Is your Project Management Plan referred to when tracking cost, scope, time, risk etc? Are these metrics integrated into progress reports?)	○	○	○	○	○
Comments					

	None or an Ad-Hoc approach. Sometimes for large Projects	Basic processes are in place, not used consistently across Council Projects	There is an established process for all Projects	All processes in place and integrated into Council systems and operational objectives	Processes are in place, managed consistently and continually optimised
Does your organisation undertake formal Change Control in your projects? (Do you identify and assess changes to the project baseline, manage authorised changes, inform stakeholders and identify corrective actions? Are lessons learnt captured?)	○	○	○	○	○
Comments					
Does your organisation carry out structured Project Closure processes? (Do you measure project performance against deliverables and ensure any contractual or stakeholder obligations are met? Do you collect and capitalise assets?)	○	○	○	○	○
Comments					
Does your organisation have a standard Project Information System? (Do you consistently capture records? Do you have structured systems, tools or processes that all of Council can use for future reference?)	○	○	○	○	○
Comments					

Project Management Maturity Benchmarking in Local Government

Knowledge Area 2 - Project Scope

Scope management consists of the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully. Scope management has the components listed below.

*** Knowledge Area 2 - Project Scope (deliverables)**

	No scope, standards or very general statements. Documentation Ad-hoc	Basic processes are in place, not used consistently across all Council Projects	There is an established process that is used for nearly all Projects	All processes in place and integrated into Council systems and operational objectives	Processes are in place, managed consistently and continually optimised with Council's values in mind
Does your organisation have a Project Scope template or planning tool to capture detailed scope statement? (Does the project team know the standard expected of a scope statement?)	○	○	○	○	○
Comments					
Are business requirements scoped? (Are the business/stakeholder needs detailed and measurable?)	○	○	○	○	○
Comments					
Are technical requirements scoped? (Are the necessary standards or legislative requirements detailed? Are they linked to Business requirements?)	○	○	○	○	○
Comments					

*** Knowledge Area 2 - Project Scope (WBS and Change Control)**

	No documentation or Ad-Hoc: maybe some dot-points	Basic processes or templates are in place, not used consistently across all Council Projects	There is an established process or template that is used for nearly all Projects	All processes in place and integrated into Council's management and control systems	All Projects include standard process from which lessons are learnt and improved upon.
Does your organisation produce a Work Breakdown Structure for the Project? (Does the WBS form the basis for project planning, is it linked to accounting system for reporting purposes?)	○	○	○	○	○
Comments					
How well is Change Control scoped? (Is the mechanism for authorising change detailed? Are changes really evaluated/prioritised or are they merely listed?)	○	○	○	○	○
Comments					

Project Management Maturity Benchmarking in Local Government

Knowledge Area 3 - Project Time

The Overall Purpose of time management is to develop the project schedule, manage to that schedule, and ensure the project completes within the approved time frame. Time management involves defining project activities, identifying required resources, sequencing the activities, developing the schedule, executing the schedule, and controlling the plans during project execution.

*** Knowledge Area 3 - Project Time**

	No schedules, or loosely defined activities and deadlines, little monitoring	Basic processes for identifying, sequencing and moniotring activities	There is an established process for all Projects including templates and standards	All processes in place and integrated into Council systems and operational objectives	Processes are in place, managed consistently and continually optimised
Are project Activities and Resources defined? (Are the resources required for carrying out the deliverables quantified against activities? Are materials, labour, plant listed with any constraints and assumptions?)	○	○	○	○	○
Comments					
Are Project Activities sequenced? (Are deadlines and dependencies between activities established? is a network or Gantt diagram produced?)	○	○	○	○	○
Comments					
Are Project Schedules developed? (Are the duration, start and finish dates of the project activities defined relative to the resources required? Is a baseline time and cost produced with a schedule management plan?)	○	○	○	○	○
Comments					
Are your Project Schedules controlled? (Is the schedule baseline monitored and controlled to ensure projects are delivered on time?Are status reports produced? Are changes authorised and corrective actions taken to achieve the baseline?)	○	○	○	○	○
Comments					

*** Knowledge Area 3 - Project Time (Program integration)**

	Occasionally there is informal grouping of project schedules for program milestone status	Projects starting to be prepared on Council-wide programs but no attempt to integrate dependencies	A master program is produced integrating key external dependencies (weather, report deadlines etc)	All project schedules are integrated on key and detailed dependencies in a larger program	A process is in place to continuously improve the schedule integration process for Council projects
Are schedules integrated across the organisation? (Are Projects scheduled into Programs across Council's delivery program in order to optimise resources, ensure cashflow or deliver against the delivery program?)	○	○	○	○	○

Comments

Project Management Maturity Benchmarking in Local Government

Knowledge Area 4 - Project Cost

The overall purpose of cost management is to determine the total costs of the project, manage to those costs, and ensure the project completes within the approved budget. Cost management involves estimating the cost of identified resources, developing a project baseline, comparing progress against the baseline, and controlling costs.

*** Knowledge Area 4 - Project Cost**

	Ad-hoc cost estimates/control performed, little expertise, records are poor, some costs missed	Basic processes for identifying generic resource costs, publishing reports and monitoring metrics	Standard across Council, processes repeatable, baseline reporting streamlined	All processes in place and integrated into Council systems and operational objectives	Process is being optimised, estimates & reporting undertaken from past & for future performance
Are Projects Cost estimated? (Is there a formal analytical process to determine the cost of all resources to carry out project activities or products?)	○	○	○	○	○
Comments					
Are Projects Cost Budgeted? (Is the cost estimate applied to the WBS to 'timephase' the cost estimate and develop a baseline for cashflow projection?)	○	○	○	○	○
Comments					
Are Projects Performance Managed? (Are projects measured to determine what has been accomplished in accordance with the plans? Is progress measured against the baseline?)	○	○	○	○	○
Comments					
Are your Projects Cost Controlled? (Are cost baselines managed to complete projects within approved budgets? Are changes managed, corrective action taken, stakeholders informed, baselines updated?)	○	○	○	○	○
Comments					

Project Management Maturity Benchmarking in Local Government

Knowledge Area 5 - Project Quality Management

The overall purpose of quality management is to satisfy the customer, to conform to requirements, to ensure fitness for purpose, and to ensure the product is fit for use. It is that set of activities/tasks that are required to ensure the project satisfies all the needs for which it was undertaken (and which are documented in the statement of work), and includes a focus on quality management from the perspective of product, processes, and the people needed to make quality an effective and efficient aspect of successful project completion.

*** Knowledge Area 5 - Project Quality Management**

	Standards may be known, no established practice for quality management	Basic processes used on major projects. Management supports extra resources for QA	The quality process is well documented, Council standard exists. Quality sign-off occurs	All projects follow QA process. Quality sign-off required for project closure	The process includes techniques/methods/guidelines for feeding improvements back into the process
Are Project Quality Plans produced? (Are the standards, practices and quality activities detailed in parallel with the project plan? Are strategies and resources for quality planned for?)	○	○	○	○	○

Comments

	Standards may be known, no established practice for quality management	Basic processes used on major projects. Management supports extra resources for QA	The quality process is well documented, Council standard exists. Quality sign-off occurs	All projects follow QA process. Quality sign-off required for project closure	The process includes techniques/methods/guidelines for feeding improvements back into the process
Is Quality Assurance controlled within projects? (Are projects monitored to comply with relevant standards and processes together with the Quality Plan? Are ways to reduce, eliminate or correct quality issues identified and implemented?)	○	○	○	○	○

Comments

Knowledge Area 6 - Project HR Management

The overall purpose of human resource management is to identify the requisite skill sets required for specific project activities, to identify individuals who have those skill sets, and to assign roles and responsibilities for the project, managing and ensuring high productivity of those resources, and forecasting future resource needs.

* Knowledge Area 6 - Project HR Management

	Informal project teams formed based on who is available at the time, no confirmation from managers	Formal teams established on large projects and held accountable, performance managed by PM	All projects follow HR planning process. HR are assigned based on interest and talent	All projects follow HR planning process. HR are assigned based on organisational priorities	Focus on high productivity, Project team feedback and improvement in HR assignment and development
How well are human resources planned for the Project? (Are human resourcing needs identified for projects or activities? Is staff time estimated and costed appropriately?)	○	○	○	○	○
Comments					
How well are appropriate staff acquired for the project? (Is there a formal process for acquiring staff for a project team, billing them to the project, prioritising works? Is responsibility, accountability and authority assigned?)	○	○	○	○	○
Comments					
How well are Project teams developed and managed? (Are there guidelines and standards to promote team buy-in? Are there mechanisms for developing team synergy and providing feedback to staff?)	○	○	○	○	○
Comments					

*

Knowledge Area 6 - Project HR Management (Professional Development)

This refers to the individual's actual experience in working on or leading projects. Examples of project experience include working as a project controller, planner/scheduler, estimator, project management process expert, methodologist, project administrative support or mentor. Competency is measured by determining the effectiveness of an individual's work efforts, or an individual's ability to successfully lead the delivery of projects of varying size and complexity. If the corporation acknowledges project management as a cornerstone for building corporate success, then they will incorporate environmental success factors, such as formalised professional developmental programs or project management career path for their project managers and project team members.

	Some people have skills to lead a project outside regular duties, no formal career path	Some staff are seen to lead projects with high success, some project-related roles developed	Project management integral to Council, project roles expected to develop by training/experience	Individuals hired or developed based on PM knowledge/skill, incorporated into org structure	Projects given high value in Council, formal PD processes to enhance PM capacity, provide training
How would you rate Project Management Knowledge across the organisation? (That is knowledge or qualifications owned by individuals regarding project management)	○	○	○	○	○
Comments					
How would you rate Project Management/Competence by staff in your organisation? (How mature are staff in facilitating or participating in project teams?)	○	○	○	○	○
Comments					
How would you rate your Council's initiative in Project Management development? (Is there an understanding of the benefits of project management as a skill and resource? Is Council encouraging professional development in PM practice?)	○	○	○	○	○
Comments					

Project Management Maturity Benchmarking in Local Government

Knowledge Area 7 - Project Communications Management

The overall purpose of communications management is to manage the project data process from collection to categorization to dissemination to utilisation and decision-making.

*** Knowledge Area 7 - Project Communications Management**

	No standard, information is usually available from PM when requested	Basic processes for identifying stakeholder needs and frequent reporting on large projects	Formal planning for all projects, stakeholders' needs signed off, info available in records system	Project performance & reports integrated into Council systems, Communications managed to plan	Council focused on value-add communications, all documentation available for review, lessons capture
How well is communication planning undertaken for Council's Projects? (Is there a formal process to plan for and record communications to meet the needs of all Project stakeholders such as who, what, when, where, and how.)	○	○	○	○	○
Comments					
How well is Project information distributed? (How is information made available to the project stakeholders? (including retrieval and distribution systems))	○	○	○	○	○
Comments					
How well is Project performance managed? (How is status information gathered and distributed during project execution and control? Does it include status reporting, progress measurement, and forecasting data?)	○	○	○	○	○
Comments					

	No standard, information is usually available from PM when requested	Basic processes for identifying stakeholder needs and frequent reporting on large projects	Formal planning for all projects, stakeholders' needs signed off, info available in records system	Project performance & reports integrated into Council systems, Communications managed to plan	Council focused on value-add communications, all documentation available for review, lessons capture
How well are issues tracked and managed? (What kind of issues-tracking and management processes are in place? Are they regularly used? Are issues really evaluated/prioritised or are they merely listed? Is there regular follow-up and reporting?)	○	○	○	○	○

Comments

Knowledge Area 8 - Project Risk Management

The overall purpose of risk management is to identify, analyse, respond, and control risk factors throughout the life of a project. Risk management is understanding the risk events, assessing their impact on the project, determining the best way to deal with them, developing and executing a plan, and monitoring progress.

*** Knowledge Area 8 - Project Risk Management**

	Risks are considered as they arise as problems, day-to-day problem solving, no records	Basic processes for identifying, responding to and recording risks. Macro-level, for large projects	Used on nearly all projects, checklists and forms available, multi-criteria assessment, metrics kept	Risk assessment and reporting integrated in Council systems and cost/time/planning processes.	Risk database in place, lessons learnt to address risks in other projects, used for baselining
How are Risks to the project identified? (Does Council identify which risks are likely to have an impact on the project? Does documenting the characteristics of each item occur?)	○	○	○	○	○
Comments					
How are Risks to the Project Quantified? (Includes examining all identified risks; determining the interactions, relationships & implications to the project; developing probabilities of occurrence; determining which risks warrant response)	○	○	○	○	○
Comments					
How are Project Risk Responses developed? (Are steps to manage the risk defined? Does this include determining how best to respond and are contingency plans, reserves or agreements necessary to contain the risks?)	○	○	○	○	○
Comments					

	Risks are considered as they arise as problems, day-to-day problem solving, no records	Basic processes for identifying, responding to and recording risks. Macro-level, for large projects	Used on nearly all projects, checklists and forms available, multi-criteria assessment, metrics kept	Risk assessment and reporting integrated in Council systems and cost/time/planning processes.	Risk database in place, lessons learnt to address risks in other projects, used for baselining
How are Project Risks controlled? **(**Risk control is seeing a risk concern, deciding how to handle it, and carrying out the decision. Risks are controlled in accordance with the management plan and established procedures. Is a risk register kept?)	○	○	○	○	○

Comments

Is Project risk documentation kept? (This involves establishing a project database to collect historical information on the risks encountered and related experiences)

	○	○	○	○	○

Comments

Project Management Maturity Benchmarking in Local Government

Knowledge Area 9 - Project Procurement Management

Procurement management is the processes and actions undertaken by the project manager and/or project team to acquire goods and services in support of the project. It also includes activities in managing the contract throughout the period of performance and closing the contract upon completion. Procurement planning involves planning for all purchases, acquisitions and contracting. All these processes and actions must be taken within the constraints of the organisational structure and policies of the overall organisation. Generally the process involves contracting with an outside vendor to acquire goods and services in a timely manner, in the appropriate quantity, and within a defined quality standard.

*** Knowledge Area 9 - Project Procurement Management**

	No process in place, contracts managed at final delivery level	Basic processes used for large projects, contracts managed on milestones	Standard or policy in place, used for most projects. Expedited process such as vendor panel in place	Procurement compliance mandated by Council, integrated into finance system, detailed contract mgmt	Procurement process optimising tendering and contract performance, lessons and closure actions kept
Is procurement considered in the planning stage of the Project? (This involves determining whether to procure or produce in-house, deciding how to procure, identifying what and how much to procure, and determining when to procure.)	○	○	○	○	○
Comments					
How well are Goods or Services Requisitioned? (How is contracting undertaken within Council? Is there a procurement policy or management plan common for all projects/services?)	○	○	○	○	○
Comments					
How well are Goods or Services Solicited (selected)? (How does Council seek information from industry, receive the bids/proposals, evaluate the information, negotiate the contract, and finalise the contract award?)	○	○	○	○	○
Comments					

	No process in place, contracts managed at final delivery level	Basic processes used for large projects, contracts managed on milestones	Standard or policy in place, used for most projects. Expedited process such as vendor panel in place	Procurement compliance mandated by Council, integrated into finance system, detailed contract mgmt	Procurement process optimising tendering and contract performance, lessons and closure actions kept
How well are contracts managed through to closure? (How are actions involved with vendor managed during contract performance, accepted by the client? How are payment for services, and close-out activities handled?)	○	○	○	○	○

Comments

*

Special Interest Question:

Do you have difficulty in sourcing the minimum number of contractors willing to bid for your project/activity in accordance with your Council's Procurement Policy?

- ○ No, We always receive sufficient interest in Council contracts
- ○ Yes, we have difficulty - there are insufficient local suppliers for specialised activities (e.g. noise impact assessments)
- ○ Yes, we have difficulty - the current market makes tendering competitive for Council OR suppliers are uninterested in working with Council
- ○ N/A, we do not have a required minimum number of bidders for contract works

Other (please specify)

Project Management Maturity Benchmarking in Local Government

Survey Complete!

Thank you very much for your participation and honesty in answering the above questions.

If you wish to get in touch to discuss this project, make changes or additions to your submission or wish to receive a summary report of the study and recommendations; please leave your or your Council's email address in the following field.

Alternatively, the researcher can be contacted on (02) 6861 2382 during business hours.

I hope that all of us across the sector can continue to produce better and better projects to meet the growing needs of our communities. I hope that this research will open up opportunities for improvement, at an organisational level but all at an individual level; prompting management to invest in their staff to improve project management processes across their area of influence.

- Nathan Koenig

Please provide your email address to keep in contact with the researcher and to receive a summary of the research (optional)

Email Address