

AUSTRALIAN WATER

ASSOCIATION

PROCUREMENT MATURITY IN THE WATER INDUSTRY

Water Security for all Australians



DISCUSSION PAPER

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EXECUTIVE SUMMARY

In the first of a series of discussion papers, the Australian Water Association has collaborated with KPMG to examine the impact of procurement in enhancing water security. Procurement plays a key role in the continuity of water supply through the provision of plant, equipment, spare parts and contractors to perform capital works and deliver operational support. Having a mature procurement capability can help utilities attain value for money, security of supply, commercial risk protection and meet social obligations. These benefits materially contribute towards utilities being able to provide affordable water to communities.

For this report, a series of interviews were undertaken with utility companies and suppliers to assess the sector's procurement maturity. The four pillars of Strategy & Governance, Organisation & People, Process and Enablers, which underpin the KPMG Procurement Maturity Assessment, were used as the basis of the interview questions. The responses informed a view as to the maturity of the procurement operations of the sampled utilities.

As organisations move up the maturity curve, there is an increase in the value added from procurement. On an estimated \$7 billion total spend by water utilities, there may be opportunity to achieve additional savings in excess of \$110 million within the industry based

on KPMG research. These benefits could be used to reduce prices for customers or increase investment to secure water supply.

Distinct differences were highlighted in the perceptions of relative maturity between suppliers, smaller utilities and larger entities. Suppliers' claims that significant development is required across all procurement pillars are echoed by the smaller utilities. However, larger utilities displayed greater levels of maturity, which indicates a correlation between the level of investment in procurement resources, technology and processes and the capabilities of the function.

Generally, utilities are moving beyond targeting short term, one-time outcomes and are looking to implement sustainable models that can deliver enhanced net public benefit over time. The findings presented in this paper indicate that there is significant scope for utilities and suppliers to accelerate and deepen this improvement journey to attain additional levels of benefit. Key improvement themes across the review included:

- ▶ Positioning procurement to have a responsibility to the end water customer. Through greater alignment with internal stakeholders via effective business partnering and deeper supplier engagement, procurement functions would be enabled to develop a more customer-orientated strategy and direction that leads to supply security, maximising value for money while mitigating risks for water customers.





- ▮ Increasing transparency of forward projects and spend profile to aid supplier capacity planning, investment decisions and better facilitate innovations. Better demand planning and more proactive sharing of information on future projects and associated procurement requirements between utilities and suppliers can improve mutual efficiency and reduce costs. One opportunity is to more fully embrace early contractor engagement so that utility companies can work closely with suppliers, within the bounds of probity, to develop project designs and other business requirements that better align with market capabilities.
- ▮ A greater emphasis on collaborating across the water sector. An improved focus on regular, meaningful sector collaboration would enable utility companies to develop further and faster through sharing of better procurement practice and lessons learnt. This may be achieved through embedding forums to share innovation and best practices through joint opportunity workshops, collaborative cost-down projects, knowledge sharing and joint delivery models.
- ▮ Stronger contract management and supplier relationship development processes. Suppliers view current utility contract management practices as more adversarial than collaborative or mutually beneficial. Therefore, enhanced decision support tools to ensure the correct

type of contracting method is chosen to procure the service or material, as well as investments in strengthened contract management capabilities, would pay dividends. To raise maturity, relationship segmentation approaches, trained and dedicated resources, better practice contract management systems and structured supplier engagement models are needed.

- ▮ Further deployment of leading procurement technology. Utilities, with some exceptions, were found to be slow in adopting the wave of new technology being developed to support procurement. For example, cloud-based P2P systems, cognitive data analytics, robotic process automation and supply chain sustainability monitoring. The adoption of such technology can accelerate and enable the attainment of improved maturity levels and lead to better procurement outcomes.

Our research highlights that many larger water utilities have reform programs underway that aim to strengthen procurement capability and maturity. As an example, Sydney Water have been on a path to raise procurement maturity since 2013, and have recently expanded this program to also include the wider supply chain. Procurement functions in these entities are working to assume a more strategic role that proactively partners with stakeholders to determine how to create additional value for the organisation.

KEY MESSAGES

Water is a major driver of Australia's life and prosperity. The Australian community and its leaders can't afford to be complacent about water security for urban, regional, rural or remote communities. In a recent survey our industry members told us that water security for all Australians is their number one priority. We have defined water security in broad terms: the certainty that the Australian community can have that its water needs will be met into the future on an economically, socially and environmentally sustainable basis.

Over the next year, the AWA will be developing a water security scorecard to enable the Australian community to understand the current level of water security. It is also releasing a series of discussion papers on topics that can enhance water security. This paper is the first in that series and explores the area of strategic procurement in the water industry.

The views in this paper have been formed through selected interviews with eight utilities and seven suppliers (details in Appendix A) as well as KPMG's global procurement experience. Over the course of the interviews, the participants were asked to contribute their existing practice, future improvement plans, and examples of better practice that may be widely utilised in the sector.

THE ROLE OF PROCUREMENT IN SECURING OUR WATER FUTURE

Procurement sits within a broader context of water industry strategy and policy - it provides an approach, tools and capabilities that can enable utilities to deliver better practice procurement and achieve a range of beneficial outcomes in areas of capital and operational program delivery, financial performance, supply risk management and broader corporate social responsibility.

Water businesses across Australia procure in excess of \$7 billion of goods and services each year¹. The practice of procurement in the water industry has significant implications for the affordability of water and water services, and in turn, water security itself.

In addition to lowering the costs of water

provision, procurement also plays a key role in the continuity of water supply by ensuring that plant, equipment, spare parts and contractors are all available as needed to expand and maintain the water network.

However, a recent KPMG global survey of C-Level executives found that there is still a lot of work to do before procurement is widely recognised as an important strategic function. According to the survey, 73% of C-level executives still do not believe that the procurement function adds real value to their organisation². Consequently, the water sector still has much to do to attain a leading level of procurement maturity and better practice. Raised expectations from C-Level executives, customers and regulators in regards to pricing and value, and from internal business partners in relation to functional effectiveness and efficiency, ensure that the improvement of procurement is imperative.

CASE STUDY - Sydney Water procurement maturity assessment

Sydney Water Corporation is Australia's largest water utility, supplying fresh water, wastewater treatment, recycled water and stormwater services to over 4.6 million people across Sydney, the Illawarra and the Blue Mountains. Wholly owned by the NSW state government, Sydney Water supplies 1.4 billion litres of drinking water to its customers, managing both fresh and waste water distribution and treatment networks. Annual procurement spend is approximately \$1.2 billion per annum, primarily comprised of capital and operational network costs.

Sydney Water embarked on a transformation program in 2013 intending to develop a procurement operating model that partners with suppliers to deliver enhanced customer and business value. To do this, Sydney Water developed an integrated centre-led model which enabled a more effective value add business partnering experience. This performance was underpinned by an operating model focused on contributing to better external customer outcomes and a culture that was both constructive and collaborative. The aim was to improve the results of Sydney Water through reducing complexity and duplication, improving consistency and setting up the organisation to be more responsive to change.

1. ABS: total sales revenue by the water supply industry in 2013-14 was \$16m (<http://www.abs.gov.au/ausstats%5Cabs@.nsf/0/9EF05B385442E385CA257CAE000ED150?Opendocument>).

According to KPMG insight, 40% of the revenue is spent on capital, goods and services for the industry.

2. 2014, 'The Power of Procurement', www.kpmg.com

A key piece of this project was the procurement transformation. Characteristics of a centre-led model include:

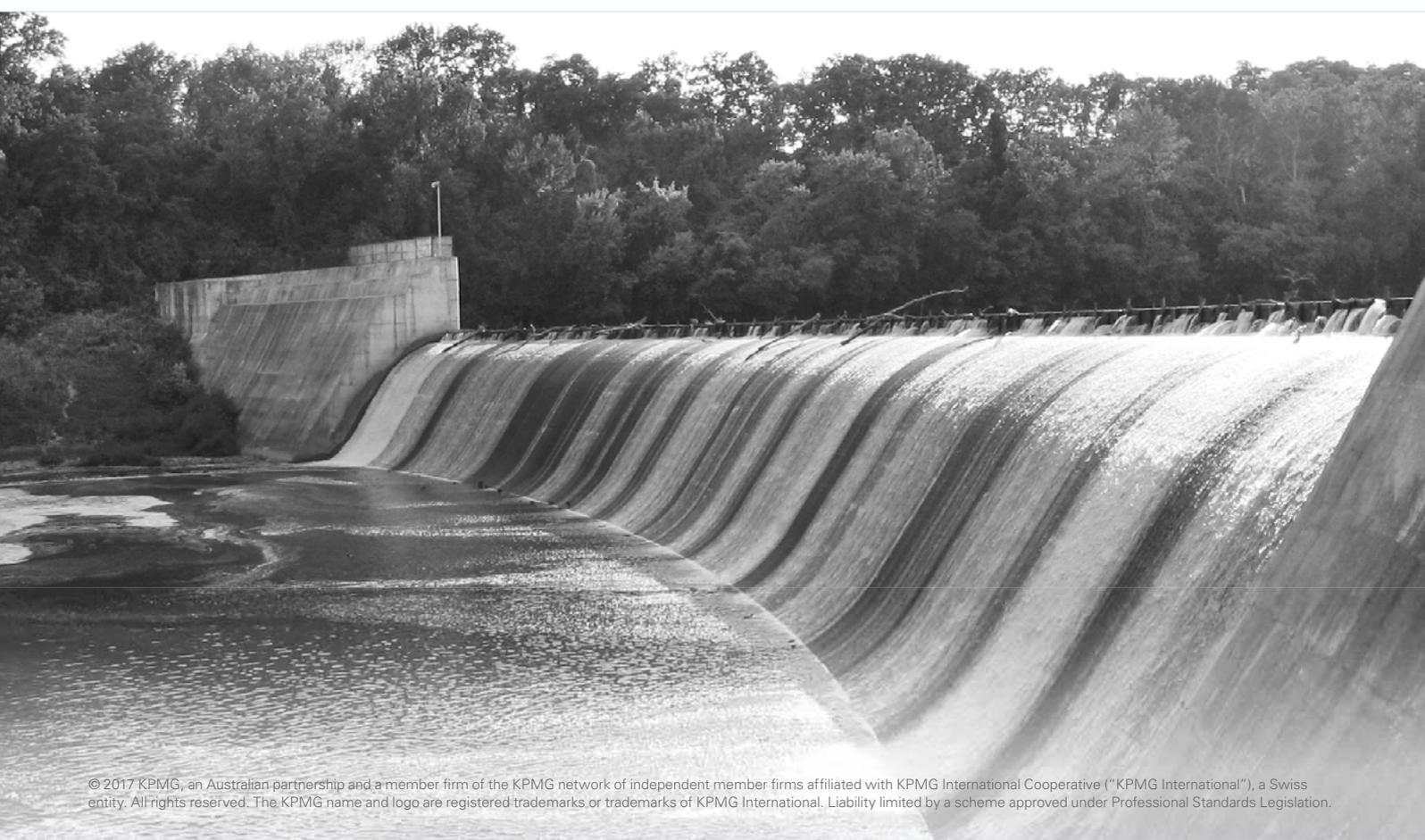
- ▶ A central group who are accountable for setting strategy and process, agrees on program, coordinates procurement, designs and implements process, selects appropriate technologies, shares leading practices and measures performance;
- ▶ Applies customised procurement service strategies giving consideration to specific functional and category needs;
- ▶ Flexible cross-functional teams assembling knowledge and information to maximise and leverage sourcing benefits across the business segments; and
- ▶ Effective governance through senior operating leadership teams.

There were a number of improvement areas that Sydney Water were aware needed remedy. The procurement regime was fragmented, largely reactive, tactical and project focused, and did not address core strategic procurement fundamentals. For example, there was little emphasis on:

- ▶ Performance framework in which procurement targets are set, measured, benchmarked and reported;
- ▶ Corporation wide strategic category management planning;

- ▶ Thorough market assessment to attract the best solution for the business. Competition is presented in terms of providing opportunity for suppliers, rather than securing the best available outcome for the corporation;
- ▶ End-to-end procurement process and developing new commercial approaches. There was little focus on current strategic procurement practices such as comprehensive spend analytics and opportunity assessment, spend category management, supplier positioning, hypothesis testing, strategic sourcing and negotiations, and enterprise supplier performance management;
- ▶ Improving the use of procurement information and technology to take advantage of technology enablers for procurement planning, analysis, and process execution and performance management;
- ▶ Procurement partnering with the business in influencing and driving outcomes to ensure optimum value.

To validate the progress of the transformation to date and identify target areas for further development, Sydney Water engaged KPMG to complete a Procurement Maturity Assessment to determine the relevant maturity of the Sydney Water procurement function against global benchmarks and identify a future improvement roadmap to attain a leading level of maturity.



THE PROCESS OF MATURE STRATEGIC PROCUREMENT

Sydney Water's business model and drivers of procurement demand across the business were understood prior to completing tasks to support of the procurement maturity assessment. The evidence supporting the assessment findings included online survey results, qualitative analysis of financial data and the interpretation of interview findings, competency assessments and contract reviews. These details were gathered in two stages.

The first stage focused on an external maturity assessment of Sydney Water's existing procurement function against the headline pillars of the KPMG Procurement Maturity Framework, specifically:

- Development of an online maturity assessment survey for completion at the practitioner, manager and executive level;
- Validation of the 70 survey responses through interviews with the procurement team;
- A quantitative review of the procurement financial data to assess against a range of benchmark KPI's; and
- A desktop review of 10 selected 'Business Critical' contracts and validation interviews with the contract managers.

The second stage sought to understand the wider procurement model across Sydney Water by conducting a high level review which included:

- Desktop reviews of Sydney Water procurement policy and procedures, procurement team structure and category structure;
- Interviews with over 40 procurement team and business stakeholders to understand the engagement model and assess the effectiveness of the central procurement function; and
- A high level competency assessment completed through one-on-one interviews with the contract and category managers across the business.

The results of the maturity assessment provided Sydney Water with a current state assessment of their existing procurement organisation against the KPMG Procurement Maturity Framework and global procurement benchmarks. This included feedback on the effectiveness of the engagement model with the

business units and assessed the competency of their existing contract management function. The insights captured Sydney Water's key strengths and weaknesses and drove recommendations for improvement initiatives beyond existing development plans.

THE OUTCOME

Sydney Water utilised the findings of the maturity review and improvement recommendations to secure executive support for a more extensive transformation. The phased implementation of the recommended improvement initiatives achieved financial benefits substantially in excess of initial projections.

THE MATURITY MODEL

The ability of utilities to maximise the range of benefits is dependent on the maturity of the procurement function across the industry. The level of maturity is an aggregate of four central dimensions, namely, Strategy & Governance, Organisation & People, Process and Enablers. The graphic below in Figure 1 shows how these are underpinned by 11 pillars.

This approach to maturity is founded on KPMG's Procurement Maturity Assessment methodology. This comprises of an extensive database of maturity benchmarks for global private and public sector entities, as well as the results of organisational maturity surveys compiled by KPMG and others.

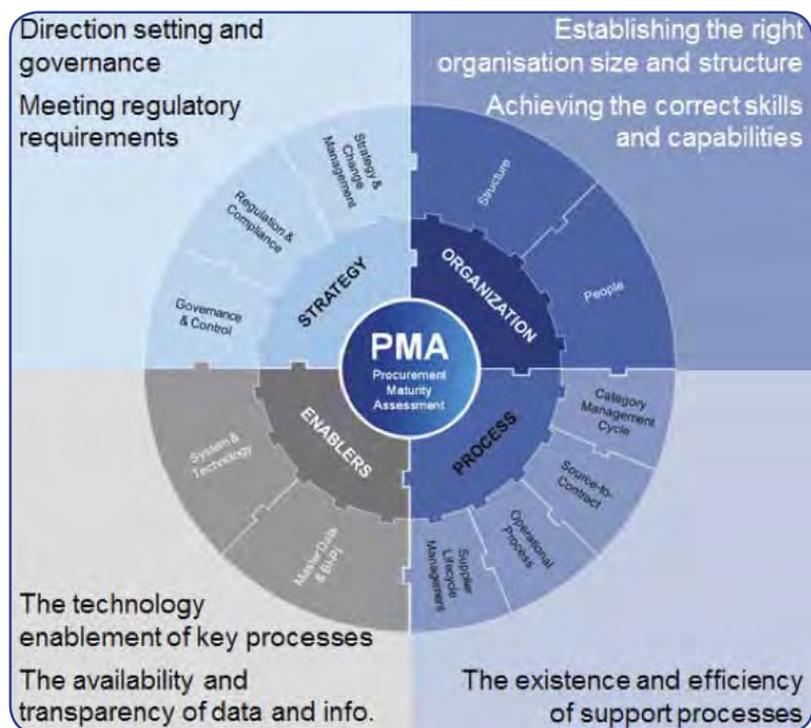


FIGURE 1 - Procurement Maturity Assessment

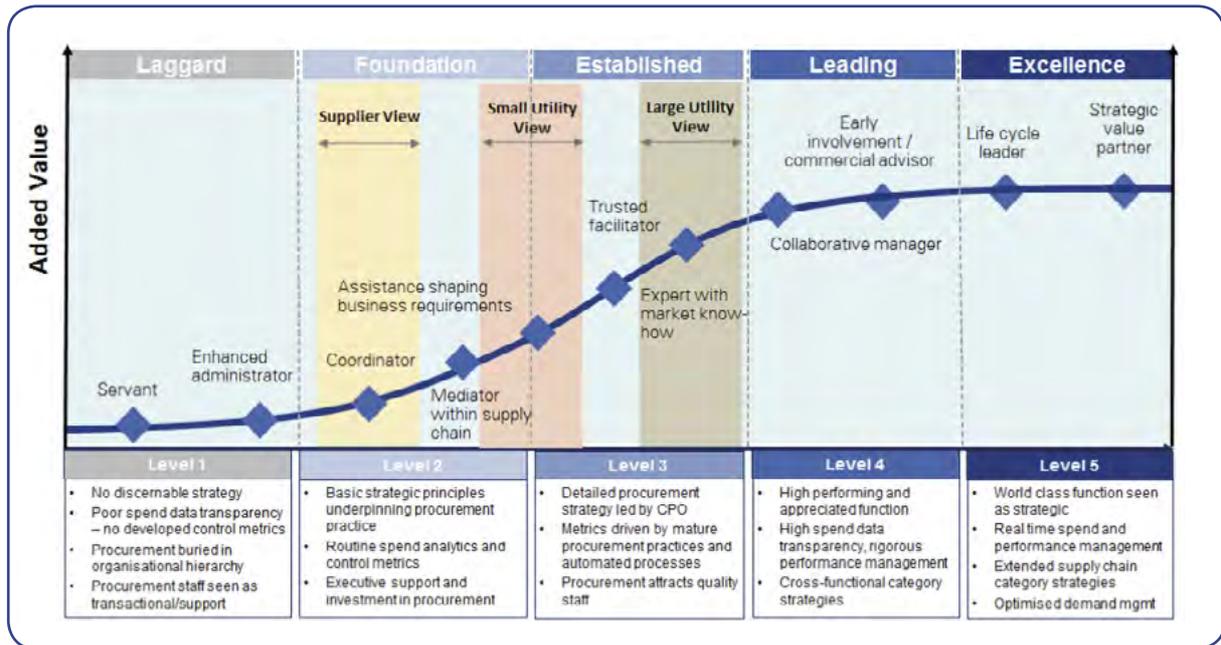


FIGURE 2 - Added Value of Increased Procurement Maturity

This database permits comparisons of relative maturity by geography and sector between organisations seeking to improve, and those that have achieved better procurement practice.

The KPMG Procurement Maturity Assessment methodology informs development of the conceptual maturity diagram (Figure 2), which shows the increase in added value from procurement as organisations move from 'Laggard' to 'Excellence' along a notional maturity curve. The sustained improvement of procurement maturity is best viewed as an activity undertaken over a period of time. The graphic also shows the extent of procurement service integration and the differentiated roles played by procurement associated with each of the five levels of maturity.

The water industry maturity interviews and analysis highlighted distinct differences in the perceptions of relative maturity between suppliers, smaller utilities and larger entities. Suppliers believed that the water industry as a whole still had a significant development need across many of the procurement pillars, whilst acknowledging that pockets of better practice did exist. This opinion was largely echoed by the smaller utilities given their smaller scale and limited resources devoted to the function. Larger utilities pointed to more mature capabilities arising from higher levels of investment in procurement resources, technology and processes.

A summary of the current situation, associated strengths and potential improvement areas for procurement within the water industry are contained in the following sections, which are aligned with the four central maturity dimensions. KPMG sees the potential to achieve additional savings in excess of \$110 million on the estimated \$7 billion total spend across the water industry. This can be achieved by consistently increasing procurement maturity within the industry from a foundation to a leading level of maturity (refer to Figure 3)³. This could lead to reduced prices for customers or increased investment in the industry to assist in more future-looking projects. Further savings are possible if the water sector attains a stretch-level of maturity excellence and becomes world class.

FUTURE-PROOFING CHANGE

KPMG undertook a recent study⁴ into potential alternative evolution scenarios for the future procurement profession through to 2035. The four main options are:

- ▶ **Scenario I:** R.I.P. procurement
- ▶ **Scenario II:** Procurement primacy
- ▶ **Scenario III:** World of project economy
- ▶ **Scenario IV:** The creative agency

For the Australian water industry, and the procurement departments that drive the utilities and suppliers' sourcing, the scenarios described in this study provide a relevant outlook for possible changes.

3. Saving of >\$110m calculated as the 1.6% increase in savings from Foundation (2.5%) to Leading (4.1%) shown in Figure 3, using the estimated \$7bn total spend across the water industry.

4. April 2016, "Future-Proof Procurement" www.kpmg.com

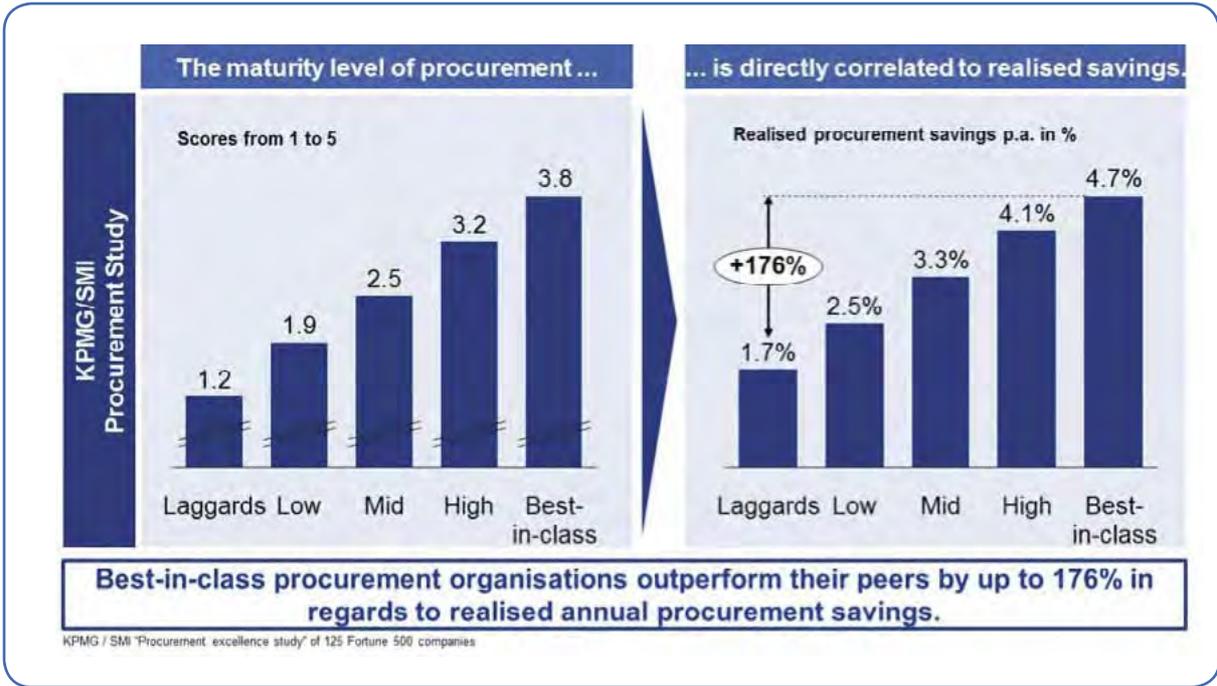


FIGURE 3 - Increased Additional Savings through Maturity Phases

The study also identified a range of future-proofing strategies linked to future uncertainties that will shape the way the function evolves.

Figure 4 outlines the 10 uncertainty factors that are significant in the future development of procurement. These factors should be considered

by water utility procurement managers to help shape future maturity improvement options and strategies. Potential future-proof strategies are presented in this paper aligned to the 4 pillars of the procurement maturity assessment for the water industry.

Future procurement uncertainty factors

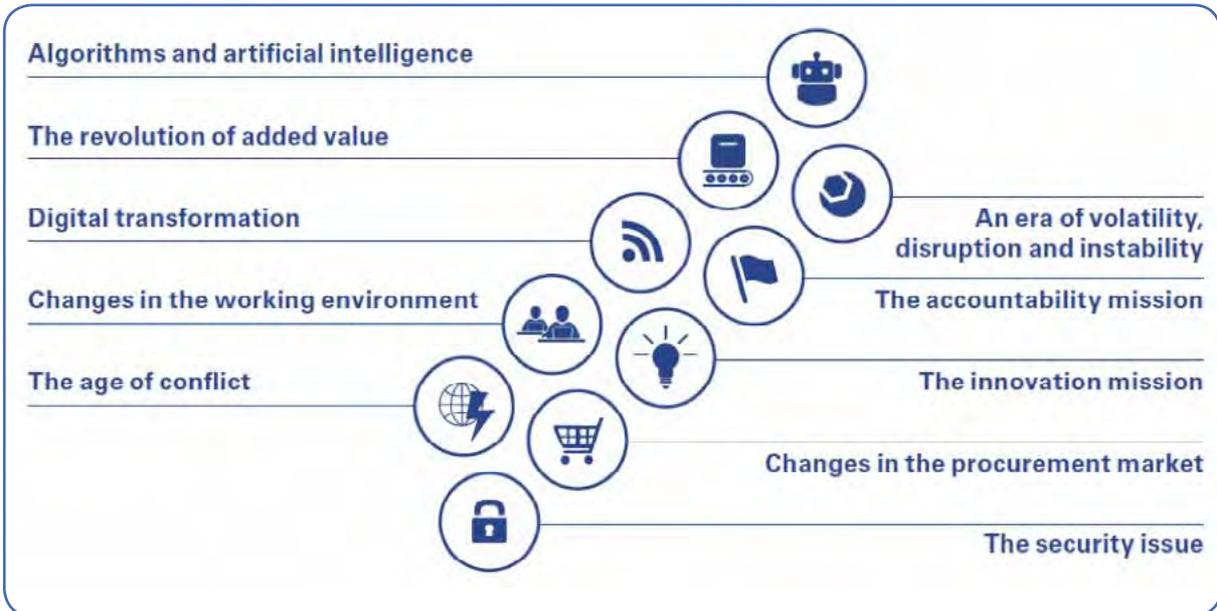


FIGURE 4 - Uncertainty Factors to Consider in Future-Proofing

MATURITY MODEL APPLIED TO THE AUSTRALIAN WATER INDUSTRY

STRATEGY & GOVERNANCE

MODEL OUTLINE

The Strategy & Governance dimension covers an agreed future direction for procurement that supports the objectives of the utility with appropriate oversight and controls. This includes:

- ▶ Strategy & Change Management
 - ▶ The role and scope of the procurement function,
 - ▶ The development of its vision and strategy,
 - ▶ The clarity of its aims and objectives; and
 - ▶ The extent to which it is aligned with wider utility strategy.

It also considers the extent to which procurement has the processes and capabilities to manage change.

- ▶ Regulation & Compliance

The extent to which the procurement function has visibility and effective management of issues of regulation and legislation.

- ▶ Governance & Control

The effectiveness of the procurement operations and governance. Consideration is given to the structures, frameworks and policies in place and how effective these are in achieving the desired outcomes.

Whilst important in all utilities, the governance and regulation dimensions are particularly key in public sector utilities where adherence to wider Government policy and probity in the face of public scrutiny is essential.

CURRENT SITUATION

The level of Strategy & Governance across the utilities varies, depending on the size and maturity of the organisation. Small-sized utilities don't have specialised procurement functions, thereby impacting their ability to create formal procurement strategies that align and address the utilities' future objectives. Larger utilities focus on procurement, using their structure and impact on the wider business as a means of being involved in setting strategy and managing supplier relationships.

Where some utilities shared their internal strategy to move procurement to a more strategic, business partnering model; other utilities were focusing more heavily on contract management, further compounding the tactical nature of the work.

Suppliers in the industry commented that procurement was viewed as an enabler that ensured governance across utilities' acquisition of goods, services and construction. Although this has a positive connotation on procurements' ability to manage issues regarding regulation and legislation, a strong emphasis on probity may hinder innovation and transparency for upcoming projects. This could have a negative impact on utilities improving their cost basis.



SHORT-TO MEDIUM TERM BETTER PRACTICE FOR THE AUSTRALIAN WATER INDUSTRY

- ▶ Ensure the water customer is placed at the centre of all decisions. To do this, procurement specialists will need to develop a clear corporate strategy and direction for procurement that delivers security of supply, maximises value for money and mitigates risks to the water customer.
- ▶ Work with business planners and network program managers to break down future projects and operational activities over a 12-24 month horizon into schedules of forecast requirements for plant, equipment, spare parts and contractors suitable for procurement action.
- ▶ Increase transparency of forward projects and spend profile to aid supplier capacity planning, investment decisions and opportunity to introduce innovative solutions.
- ▶ Category plans to set the commercial direction and benefits realisation activities over the following 1-3 years. Ensure that these are in place and frequently reviewed and updated for major categories based on risk and spend.
- ▶ Streamline the procurement delegation process to minimise unnecessary duplication in sign-offs and extended approval delays in order to reduce procurement cycle times and increase business agility.

MEDIUM-TO-LONG-TERM OPPORTUNITIES FOR THE AUSTRALIAN WATER INDUSTRY

- ▶ The rise of 3D printing is likely to increase the prominence of the 'make in-house' procurement strategy within category plans, particularly for maintenance, repair and operations spare parts. So in the medium term a core procurement segment, such as the procurement of spare parts, could be completely taken over by operational maintenance teams. This would be replaced by the engagement of procurement in the acquisition of bulk printing materials and 3D data for printing systems.
- ▶ Deployment of 'big data' analytical capability can also enhance the role of procurement in company-wide governance reviews, risk management strategies and control frameworks. While intelligent procurement systems identify anomalies and patterns in data and processes, procurement can use these to initiate targeted measures such as ad hoc supplier audits or predictive product quality tests before an incident occurs.

ORGANISATION & PEOPLE

MODEL OUTLINE

The Organisation & People dimension includes the existence of a fit-for-purpose function (including structure/skills). This includes:

Structure

The organisation model utilised to conduct procurement i.e. decentralised or centralised, as well as the structure of the function, for example, category management or project-aligned. The reporting lines for procurement employees including whether aligned to finance, network or operations divisions.

People

The level of resources, as well as the effective capability and ongoing development of procurement practitioners. This starts from talent acquisition to training and career progression.

The complex water industry operating environment and range of goods and services to be purchased place a premium on procurement team capacity and capability.

CURRENT SITUATION

Most utilities surveyed were seeking to make the procurement function better aligned with internal stakeholders through effective business partnering. Consequently, these changes are strengthening the relationships within the business as procurement is further sought to provide expertise in high-value projects.

Considerable variation exists in procurement structure and team composition in utilities. Several smaller utilities operated a largely outsourced program delivery model, with procurement activities mostly undertaken by engineering and maintenance staff. Such a model allows for a reduced investment in procurement and capability.

Alternatively, larger entities with in-house workforces are focused on building and up-skilling their procurement capability. These organisations are placing greater emphasis on procurement professionals with subject matter expertise in the areas they are procuring, reflected in the suppliers' positive experiences. In these cases, procurement professionals are able to relate to the product or service they are procuring, helping to understand and determine the value in the agreement.

The use of technical specialists in the procurement process, and how and when they are engaged, also plays an important role in the success of the project.



There were inconsistencies in the way utilities collaborated with their internal stakeholders, not only across utilities, but also within. As procurement gains further trust and momentum in utilities, they are being engaged earlier in the process and leading the governance and processes whilst using utility subject matter expertise in the decision making process.

SHORT-TO-MEDIUM TERM BETTER PRACTICE FOR THE AUSTRALIAN WATER INDUSTRY

- ▶ Form follows function in the establishment of procurement teams. Professional capability should be scalable based on the amount of spend and proportion of work delivered in-house.
- ▶ Opportunity exists for utilities to collaborate, to share the investment in procurement capability through the establishment of a joint-buying consortium to purchase common requirements on behalf of the sector. This recognises that utilities are not in direct competition. A current example in implementation is the National Universities procurement hub which will see a small central outsourced procurement group buying selected categories on behalf of member universities.
- ▶ Develop a 3-5 year people capability strategy that includes training, competency reviews, succession planning and career pathways for procurement organisations to maintain and develop talent in utilities. To increase exposure and strengthen business partnerships, it may be beneficial that part of this strategy includes reciprocal secondments with business units.
- ▶ Joint training and development with suppliers will strengthen mutual understanding and management techniques. For example, combined training on contract management processes can assist both organisations to realise more value from major agreements.

MEDIUM-TO-LONG-TERM OPPORTUNITIES FOR THE AUSTRALIAN WATER INDUSTRY

- ▶ Access to cognitive computing capabilities can be provided via an app or similar to water utility staff to provide customised, situation-specific responses in real-time to individual procurement questions. Cognitive technology

has the ability to learn and improve with every action and request.

- ▶ Acceleration of the trend for the range of procurement activities to become broader and more specialised. This diversity is unlikely to be encompassed within traditional standardised job profiles. It is therefore probable that relatively homogeneous procurement roles and job descriptions will be broken down into several specialist areas i.e. supplier coach, data strategist or supplier collaboration lead

PROCESS

MODEL OUTLINE

The Process dimension covers the end-to-end lifecycle of procurement. It is aimed at ensuring efficient and effective activities aligned to corporate strategy and goals. This includes:

- ▶ **Category management cycle**
The maturity of processes and activities undertaken across the utility to segment spend areas, identify opportunities, develop strategies for enhanced commercial value and execute on these plans to achieve tangible benefits.
- ▶ **Source-to-contract**
The step-by-step processes involved from initial spend analysis through sourcing and negotiation contracting, noting the different approaches required between high and low complexity market events.
- ▶ **Operational process**
The operational or transactional activities typically involved within the purchase-to-pay process (e.g. requisition and approval, purchase order creation, receipt, invoice reconciliation and payment).
- ▶ **Contract and supplier lifecycle management**
The management of contracts and strategic suppliers throughout the lifecycle, including identifying and managing performance, risk and ongoing relationships.

Procurement processes within the water industry need to be tailored for the distinct requirements of corporate/indirect goods and services compared to asset infrastructure acquisitions and associated maintenance, repair and operations spend.

CURRENT SITUATION

Broadly, utilities and suppliers commented that whilst reasonable levels of maturity existed in the source-to-contract and purchase-to-pay processes; more limited capability exists within the upstream process of demand management, as well as post-award contract management and supplier relationship management.

Utilities reported mixed levels of maturity in regards to future demand and workload planning to enable volume aggregation and long-term agreements. Whilst the nature of the regulatory cycle and internal project planning approvals generates robust potential data sources, in reality, procurement invariably receives only partial or untimely forecasts. Improvements can be made in the manner, accuracy and transparency of utilities when communicating project information, including timing, volumes and upcoming projects to suppliers.

Concern was raised by the suppliers on whether utilities were aware and using the correct type of contract dependent on the product or service procured, the risk and the supplier relationship. For example, this can include widespread usage of early contractor engagement techniques, as well as alternative contract forms, such as EPCM (Engineer, Procure, Construct and Management).

Ongoing contract reviews have a perception that they are more transactional than strategic. Comments from suppliers showed that it feels adversarial, rather than collaborative and mutually beneficial. Further, after contracts are signed, procurement has less influence. The contracts, when managed, don't necessarily involve procurement, which may, over time affect

what value is realised by the utilities.

SHORT-TO-MEDIUM TERM BETTER PRACTICE FOR THE AUSTRALIAN WATER INDUSTRY

- ▶ Investing in broader capability, processes and guidelines to cover the end-to-end procurement lifecycle, particularly demand forecasting management, contract management and SRM (Supplier Relationship Management).
- ▶ Understand and expand usage of contracting models depending on the legal and commercial risks based on their applicability and needs to address. For instance, constructing models that could be considered include, Design and Construct, Design, Construct and Maintain or Engineer, Procure, Construct and Maintain/ Manage.
- ▶ Deploy mobile device enabled procurement processes such as transactional requisitioning to aid water utility field staff working outside of office environments.
- ▶ Regular and robust measurements of performance and value brought through the procurement process to include functional KPIs to measure the contribution of procurement to corporate objectives, as well as tailored measures to track the benefits delivered from contracts to overarching supplier relationships.
- ▶ Build capability in holistic supplier risk identification and mitigation, including financial, reputational and corporate social responsibility and environmental factors. This is increasingly important as utilities become more customer-centric and look to protect their brand in the eyes of the consumer.



MEDIUM-TO-LONG-TERM OPPORTUNITIES FOR THE AUSTRALIAN WATER INDUSTRY

- ▶ Utilise Robotic Process Automation for basic repetitive tasks associated with the purchase to pay cycle such as resolution of receipt discrepancies.
- ▶ Embrace a less-traditional and cross-functional approach to negotiation. In particular, to deploy business war gaming, game theory, nudging, mathematical probability models and behavioural psychologists to assist procurement to improve negotiation strategies.
- ▶ On-site supplier audits are likely to be used for more exceptional circumstances, as options to conduct virtual audits become more extensive. This will allow for test criteria and processes to be established that can be experienced in virtual reality. Buyers will be able to virtually move through actual production facilities by using a headset.
- ▶ Adopt algorithm-based and paperless artificial intelligence solutions to support future contract management processes. The use of artificial intelligence will be able to check contracts cross-departmentally, assess risks and administer contracts independent of human intervention

ENABLERS

MODEL OUTLINE

The Enablers dimension includes providing the intelligence and information needed for timely and informed decision making, whilst managing the risks of the processes. This includes:

- ▶ **Systems and technology**

The existence of enabling technology aligned to a range of established procurement processes and activities. From spend analysis, sourcing, on-line catalogues and purchase-to-pay to supplier management and knowledge management.

▶ **Procurement intelligence and performance reporting**

The existence and quality of core procurement intelligence and management information across the organisation e.g. benefits tracking, contract profiles and knowledge capture, suite of functional performance measures, targets and out-turns.

Traditionally the procurement technology functionality utilised by the water industry has been an adjunct of either asset management systems such as Ellipse or financial packages such as Finance One.

CURRENT SITUATION

The use of technology in water utilities is not very mature, predominantly in the smaller utilities. Larger utilities are more advanced, using e-catalogues and considering expanding to other areas to include e-sourcing abilities. The move to a more technology enabled function is viewed as a strategic decision to compliment a more efficient process.

A key consideration for the industry are probity concerns in the procurement process. These concerns hinder knowledge sharing and lead utility companies to acknowledge that more can be done in this area to move from a reactive measure into a more proactive, open process, that embraces innovation.



Currently, to gather new ideas and potential innovation for future projects, a number of the larger utilities conduct contractor forums to run through the panel arrangement, procurement review of markets and the industry and independent reviews of supplier innovations. Understandably the smaller utilities, with a lower workforce, find new ideas and innovation through the tendering process or through scheduled supplier forums.

The efficiency of supply chain to deliver services within the utilities varies. Some have a centralised function, whilst others act as wholesalers without logistics departments. Even with low procurement spend, this is an area that can be further improved to enable it to run more efficiently.

SHORT-TO-MEDIUM TERM BETTER PRACTICE FOR THE AUSTRALIAN WATER INDUSTRY

- ▶ Opportunity for the supply chain to be viewed in a more holistic manner from an end-to-end process. One example would be procurement with logistics being part of one function, as opposed to the current silo approach.
- ▶ To support reverse auctions, streamline purchase-to-pay and support robust contract management processes, utilities may consider new cloud based technology (such as Coupa, Ivalua, Ariba) that can be overlaid on current Enterprise Resource Planning systems (e.g. SAP) and asset management solutions (e.g. Maximo).
- ▶ Embed a culture that encourages sharing of innovation best practices through joint

opportunity workshops, collaborative cost-down projects and routine knowledge sharing.

- ▶ Partnering with strategic suppliers to define vision, set objectives, as well as understanding and promoting shared values. One core function is developing a relationship that extends beyond the documented contract and incorporates the emotional intelligence required for the long-term relationship to succeed.

MEDIUM-TO-LONG-TERM OPPORTUNITIES FOR THE AUSTRALIAN WATER INDUSTRY

- ▶ More widespread use of social media to promote the real-time sharing of information, lessons learnt and ideas between supplier and procurement communities. This could occur both within the water sector and between industries in a global basis.
- ▶ Use of artificial intelligence to improve predictive maintenance and self-management of spare parts supply. For example, allowing for smart machines to order their own replacement parts or to trigger the manufacture of them (using 3D printers) prior to machine breakdowns. The time that is currently spent by procurement to complete this task can be diverted to more value-added and strategic MRO procurement tasks.
- ▶ Adoption of automated reporting algorithms and analytics to liberate procurement from routine, tactical and limited value-add reporting.

APPENDIX A – Interview Participants

WATER UTILITIES:

- ▶ Yarra Valley Water
- ▶ South Australian Water
- ▶ Tasmanian Water
- ▶ Melbourne Water
- ▶ Coliban
- ▶ Sydney Water
- ▶ Unity Water

SUPPLIERS INTO THE WATER INDUSTRY:

- ▶ Jacobs
- ▶ GHD
- ▶ Broad-spectrum

- ▶ Suez
- ▶ Infrastructure & Pipeline Consultants
- ▶ MWH
- ▶ Microvi

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HOW TO GET INVOLVED

AWA is advocating and advising governments and the community how to improve water security in the best interests of the country. To strengthen its expertise and capability, AWA invites support from industry and community associations, utilities and corporations who wish to be national leaders in advancing Australia's water security.

Under the banner of 'Water Security for All Australians', AWA and its partners will:

- ▶ Conduct briefings to government and the media
- ▶ Prepare discussion papers designed to introduce concepts and ideas that advance the understanding of and opportunities to improve water security;
- ▶ Launch the 'Water Security for All Australians' scorecard at Ozwater '17 during the 16-18th May 2017; and
- ▶ Based on feedback from its members, government and community, continue to improve the scorecard and the quality of debate.

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DISCUSSION PAPER

Australian Water Association

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