PROCUREMENT AND SUPPLY CHAIN IN A CHANGING WORLD

A practical guide on key considerations when leading or operating procurement and supply chain functions in the rapidly changing energy industry.



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1. About EPSA

The Energy Procurement Supply Association (EPSA) is an Asia Pacific notfor-profit association that is made up of energy industry procurement and supply professionals. EPSA's value proposition enables a collaborative environment where supply chain and procurement professionals support and learn from each other to address common business challenges.

It brings together members and often prospective members to network and collaborate for the purpose of sharing and creating tangible, sustainable business benefits to their respective organisations. This includes exploring contemporary issues and best practice opportunities that drive and enable procurement and supply chain optimisation.

EPSA activities are managed and delivered largely through the voluntary work of the membership.

EPSA Membership spans the Asia Pacific region with members based in Hong Kong, Macau, Malaysia and across most Australian States and Territories.

JJ A Message from the President

Like many industries across the globe, the energy industry in the Asia Pacific region is paying closer attention to how Procurement and Supply Chain Management is evolving in a Changing World. The energy industry is undergoing unprecedented transformation and teams accountable for procurement and supply chain management are expected to support their organisations in strategic decision making. Procurement and Supply Chain is no longer a cost-saving unit but contributes to the wider strategy, generating more value for the organisation.

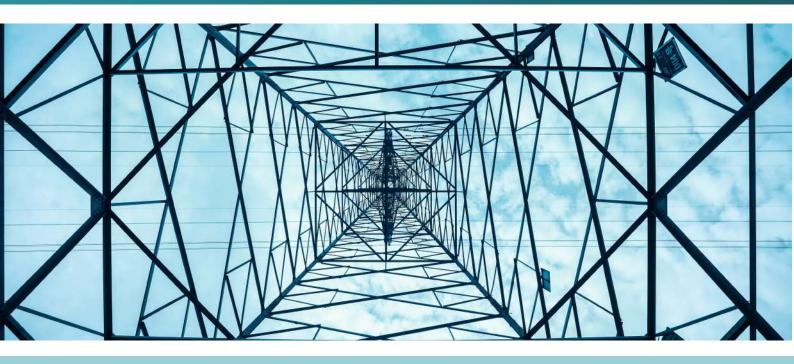
EPSA has developed this document to assist the energy industry procurement and supply chain management community to stimulate meaningful discussions with their teams and business stakeholders about the impact of procurement and supply chain management in this changing world. We hope that you enjoy reading this Paper as much as we enjoyed developing it.

Regards

Charlie Hollis

President of EPSA







Energy Procurement Supply Association

3. Executive Summary

The energy industry is undergoing unprecedented transformation. There is a significant focus on sustainability by moving towards Net Zero. The grid is becoming more distributed and relying on a more diverse range of energy inputs. This is underpinned by changing consumer and investor expectations, including compliance to legislation such as the Modern Slavery Act. Australia and Malaysia are investing heavily towards Net Zero including renewable energy with a move towards decentralised systems. Hong Kong is also focusing on reducing its carbon footprint by reducing the use of fossil fuels and optimising its existing power generation plants.

Procurement is a component in the end-to-end supply chain. This Paper covers both procurement and broader supply chain management (the term 'the function' is sometimes used in this Paper to refer to the procurement and supply chain function) in acknowledgement of the functional responsibilities of EPSA members. The function is well placed in this transformation journey and has been provided with a pivotal opportunity to make meaningful impacts not just in traditional areas but also in leading Environmental, Social and Governance (ESG) initiatives. Many organisations have started bringing the function into strategic decision making, and it is no longer a cost-saving unit but contributes to the wider strategy, generating more value for the organisation.

During the COVID-19 pandemic, the function has been central in mitigating risk in supply and in overall supply chain resilience. Whilst legislation such as the Security Legislation Amendment (Critical Infrastructure Protection) Act 2022 (SLACIP Act) (which implements amendments to the existing Security of Critical Infrastructure Act 2018 (Cth) (SOCI Act)) and Modern Slavery Act 2018 (Cth) are impacting organisations, this has been converted into an opportunity to improve transparency and <u>address risks including cybersecurity</u>. With two-thirds of the ESG footprints of an organisation lying in their supply chains, the function has the perfect opportunity to lead impactful sustainable initiatives.

With a 'call to action' to continue to become more strategic and have a more commercial approach, there is a necessity to be equipped with the right technology. With the use of next generation Procure to Pay (P2P) tools and disruptive technologies like artificial Intelligence (AI), the function sometimes displays similarity to technology start-ups and has undergone transformation projects in many organisations. Whilst procurement technology solutions can be problematic in proving return on investment, the function is being relied on by executive teams to lead and deliver large scale changes not only for their own benefit but in creating a more efficient experience for their stakeholders.



These demands have highlighted both a talent and capability shortage in the function. Capabilities need to be less process focused and more aligned with the overall business, highlighting communication and influencing skills. Supply risk is leading to Supplier Relationship Management becoming a key risk mitigant.

The sustainability journey has called for a new set of procurement professionals with a strong grasp of ESG concepts and strong technical skills to aid the digital transformation journey. Noticeably, changing requirements have provided an opportunity for Strategic Business Partnering, creating a stronger relationship within businesses, and understanding better what the business needs.

This Paper is based on interviews conducted with EPSA members and external experts ranging from CEOs to academics to start-up founders. Taken together, valuable insights and trends have been identified and presented as key considerations when leading or operating in procurement and supply chain functions in an industry evolving through innovative and disruptive forces.

4. Trends in the Energy Industry

EMERGING TRENDS ACROSS THE ENERGY SECTOR IN OUR REGION

The trend

Energy Transformation (including renewable energy, gas, green gas, battery, wave, wind and solar)

Closure/transition of coal plants

Critical Infrastructure and the potential for re-regulation Relevance to procurement teams (impact \$ and non-\$)

Higher spend costs on new technologies that have not reached economies of scale (eg. battery technology developments driven by investment impacting price 3 years ago vs. now).

Energy infrastructure costs increasing with changed fuel sources/locations and transmission requirements.

A new level of knowledge is needed and on more varied technologies.

The need to interact with a different set of internal stakeholders and colleagues to be 'involved' early enough to make a commercial difference.

In future, dealing with different markets and suppliers; buying under different commercial terms and specifications. 'Go to market' will be smaller and therefore less competitive.

Reduced traditional requirements as assets close and transition arrangements are worked through. Operating and Capital expenditure

will reduce on those assets.

Changed infrastructure spend requirements: distributed network, micro hubs.

Investment business cases are getting more difficult for industry; the cost of compliance with the Critical Infrastructure requirements will make that more difficult

How to approach the change

Use of should-cost models.

Much closer relationship and interaction with the Original Equipment Manufacturers (OEMs).

Create procurement profession peer groups on each specific technology to share learning on cost-to-manufacture, new sources of materials and new entrants.

Access data sources that monitor costs, indices, and trends.

Selective training and tech briefings for the procurement team.

Use of RACI on new groups of stakeholders.

Focus on the end customer.

Suppliers as partners.

Demand plan the reduced requirements as assets close down against the internally published timetable

Estimate the quantum of spend not going to be incurred or moved to alternate technologies or transmission structures as events take place.

Supply chain transparency and supplier relationships are critical

Prepare your teams with a commercially-savvy, business partnering outlook. This may necessitate skills and staff changes White paper recommended actions for leaders

Select a should-cost model to include in your procurement tools suite, train staff on its use.

Select your key OEMs and establish a cycle of closer relationship management – Supplier Relationship Management (SRM).

Contact procurement peers in EPSA and across functional networks and establish your peer group. Grow over time.

In conjunction with finance, review your 3rd party choices of market data feeds. Select and register with preferred choices

Provide budget allowances for increased training and if possible, junior talent intake.

Personal approach to stakeholder group leaders (your peers) to open the door for your team to interact with their team.

Set staff objectives in line with their responsibilities to each asset or product/service category

Provide upwards advice and forecasts to CFO

Proactively manage your supply base

Scenario planning is a must

Get early access to strategy and business planning teams

Determine actions necessary under critical infrastructure requirements as early as possible

EPSA Procurement and Supply Chain in A Changing World

"As the energy sector evolves, so do the challenges faced by procurement practitioners, including resource availability and alternative sources of materials. On the one hand we must continue to deliver value for our stakeholders today, while on the other hand we must anticipate and plan for the procurement challenges of tomorrow. To do this we must genuinely partner with the teams we're supporting, keep abreast of changes in our sector and the supply markets we operate within, and most importantly remain curious."



Sharyn County, General Manager Procurement, Property and Fleet, Jemena



<u>Australia</u>

The electricity market in Australia is transforming towards Net Zero, impacting fuel type, distribution requirements, technologies and scale. The gas market is also undergoing transformation, with more flexible use of resources to meet industry and household demand and the Liquefied Natural Gas (LNG) export business. Companies are successfully developing new sources of green gas as part of that transition.

The Australian renewable energy market is expected to grow at a Compound Annual Growth Rate CAGR) >12% by 2030.¹ The COVID-19 pandemic had a limited impact on the renewable energy industry as the country managed to complete many large-scale and small-scale renewable projects over the last two years. Over the next 20 years, around 61% of coal plants in the electricity market are scheduled to be retired.²

¹ Australia Renewable Energy Market Size (2022 - 27) | Industry Growth, Analysis (mordorintelligence.com)

² State of the energy market 2021 | Australian Energy Regulator (aer.gov.au)

Malaysia

The renewable market in Malaysia is expected to grow at a CAGR of 8.5% before 2030. The COVID-19 pandemic had a significant impact on this growth, as the government postponed major renewable energy tenders. Government policies and incentives for the development of solar energy are the main factors that would contribute to the renewable market growth in the upcoming years. The country is also aiming to install 9GWs of solar capacity by 2050, which has attracted a lot of investment in this area.³ Other schemes such as the Feed-in-Tariff program and Net Energy Metering are also introduced to drive the solar sector growth. The potential of other renewable energy such as geothermal, wind, and ocean is being explored. There is also an increased consumption of alternate clean power such as gas and nuclear energy, hindering renewable energy growth.

As the consumption of natural gas and coal is expected to increase slightly over the next two decades, Malaysia aims to retire its inefficient power plants and replace them with highly efficient ones to reduce fuel consumption and CO2 emissions.



"Decentralisation of energy supply chain from coal to natural gas to renewables: you can make the transition but how do you make it sustainable, so customers, regulators, suppliers still like you."

Doug Jackson, ex-COO AGL Energy.

³ Malaysia Renewable Energy Market Growth Size (2022-27) | Outlook Analysis (mordorintelligence.com)

Hong Kong

Hong Kong's priority is to ensure that energy needs are met safely and efficiently at a reasonable price and minimise any kind of environmental impact resulting from the production and consumption of energy. The total energy supply is expected to grow at an annual rate of 1.3% over the next ten years.⁴

With plans to optimise its power generation with low carbon emissions, Hong Kong is phasing out existing coal-fired generation units with low carbon fuels such as renewable energy and imported nuclear energy.

Natural gas and imported nuclear gas will continue to constitute a significant

portion of Hong Kong's fuel mix in the future, and as a result, natural gas is expected to reach 35% of the overall fuel mix by 2035.⁴

Along with moving away from low carbon fuel, Hong Kong also focuses on enhancing energy efficiency by promoting green buildings, encouraging electricity savings, facilitating low carbon transport, and developing facilities to convert waste into energy.

Hydrogen is the new frontier: hydrogen batteries and solid-state hydrogen storage are emerging, and the hydrogen supply chain has the potential to be both centralised and decentralised, like solar. We are seeing 'co-coupling' of industries, e.g., the potential for agricultural farms to have both solar and hydrogen."

Justine Jarvinen, CEO UNSW Energy Institute.

⁴ Hong Kong, China | APEC Energy Demand and Supply Outlook | 5th Edition.

b. Hydrogen Technology and Batteries — Journey Towards a Clean Energy Future

With economies continuing to recover from pandemic impacts, clean energy is a part of many recovery packages, potentially increasing employment whilst supporting the Net Zero transition. Batteries and hydrogen are two crucial technologies in this transition, due to their ability to convert chemical energy to electrical energy and vice versa.

The Australian battery market is expected to grow by more than 70% in the next decade.⁵ The COVID-19 pandemic hasn't had а significant impact in reducing net demand on the battery market. Even though the demand from the automotive and telecom sectors decreased. this was compensated by an increase in demand from consumer batteries and ESG deployments. The increased number of renewable projects will raise the demand for energy storage systems.

The major roadblock to this growth will be the lack of raw materials and manufacturing facilities. It is noted that Australia has large reserves of metals such as lithium and nickel, critical for manufacturing batteries. Many US and European companies are planning to diversify their supplier base and move to multi-sourcing strategies, which have resulted in strategic agreements with Australian mining companies to secure raw materials.

Similarly, the battery market in Malaysia is also expecting significant growth in the next decade, driven by the increase in demand from the automotive and electronics industries and the declining lithium-ion battery prices. Considered a



prime location for data centres in Asia-Pacific, the telecommunication industry is seeing many government initiatives in the country. Companies such as Microsoft and Google are planning on establishing their first data centres in Malaysia soon, increasing demand for batteries for backup systems.

Australia and Hong Kong are well-positioned to become major players in the global hydrogen market. According to the International Renewable Energy Agency, hydrogen will account for 12% of global energy use by 2050.⁶ Hydrogen based fuels could be essential in decarbonising sectors where emissions are proving hard to reduce, such as shipping, aviation, and iron and steel industries.

In Hong Kong, which has little physical space for renewable energy, hydrogen technology could play a significant role in meeting sustainability goals. Hong Kong has launched a \$200 million Green Tech Fund to encourage innovation in green technologies such as hydrogen.

⁵ Australia Battery Market 2022 | Industry Growth, Analysis (mordorintelligence.com)

⁶ Hydrogen Economy Hints at New Global Power Dynamics Hydrogen Economy Hints at New Global Power Dynamics | IRENA | January 2022

In November 2021, Jemena, commenced operation of a comprehensive hydrogen project: the Western Sydney Green Hydrogen Hub. The \$15 million project, which is cofunded by Jemena and the Australian Renewable Energy Agency (ARENA), is transforming (surplus) renewable energy into hydrogen gas. As a carbon-neutral fuel, hydrogen is expected to play a considerable role in the energy system of the future as Australia moves towards net-zero emissions by 2050.

To develop the hub, Jemena worked with a suite of local project partners while also leveraging international experience and insights into the development of hydrogen networks. This work informed Jemena's development which approach, the company construct trial saw а power-to-gas facility. Now operational, facility is injecting (at up to 2 per the by volume) hydrogen gas into cent Jemena's gas distribution network in New South Wales; is capable of powering a microturbine and/or fuel cell to generate electricity which can be exported back to the electricity grid; and is able to provide hydrogen to an adjacent hydrogen cylinder refilling station for use in offsite applications such as vehicle refuelling.

At the heart of the Western Sydney Green Hydrogen Hub is a power-to-gas production facility which comprises:

• a 500kW electrolyser (including final water treatment, electrolyser stack, purification and cooling systems)

- a hydrogen buffer store
- hydrogen gas control panels
- hydrogen gas grid injection panels
- a site control hut
- a power grid connection, including high voltage transformer, and
- a hydrogen cylinder refilling station.

To generate hydrogen on-site, a 500kW Proton Exchange Membrane (PEM) electrolyser (which is powered by renewable energy) converts water into hydrogen and oxygen, with the latter being vented into the atmosphere. The electrolyser was developed by Canadianbased company Hydrogenics (now Cummins-Hydrogenics) and has а production capacity of 100Nm3/h or 10kg/h of hydrogen gas. Jemena expects maximum annual hydrogen production to be 87,600 kilograms (88 tonnes).

While it is still early days, Jemena anticipates the Western Sydney Green Hydrogen Hub will provide insights into and the opportunities constraints associated with the development of a hydrogen industry locally. Early signs have revealed a number of technical challenges, which have been overcome, community, while investor, and stakeholder support for the project and hydrogen more generally continues to grow.

The project is anticipated to operate for around five years.



c. Critical Infrastructure and the Potential for Re-regulation

In discussing the treatment of critical infrastructure and the regulatory environment, it became apparent that both are inextricably linked. It is noted that the energy industry, as it is 'critical infrastructure', is impacted heavily.

"Strong political relationships are critical, and with the grid in transition, from a corporate perspective it can be 'really hard to win'. There is a requirement to balance the needs of shareholders with other stakeholders. There is an argument to be made for re-regulation; you need efficiency and a national planning approach to do it well. If it is left to individual states and companies, the next 10-20 years could be problematic."



"

"Procurement will be same for the next few years, then revenue will drop too much for majors to be able to support current assets (we are seeing this already). Do we revise reliability standards? Where is the bulk of procurement spend coming from? It is now coming from families, and when does that become significant enough to impact investment decisions? Who will be in charge of supply chains?"

Justine Jarvinen, CEO UNSW Energy Institute.



In Australia, preparation is underway for the Security Legislation Amendment (Critical Infrastructure Protection) Act 2022 (SLACIP Act) (which implements amendments to the existing Security of Critical Infrastructure Act 2018 (Cth) (SOCI Act)), covering 11 essential services and providers. This has been seen elsewhere globally, for example in the United States approximately 15 years ago. It gives minimum standards that energy industry participants will have to meet.

Procurement and supply chain must conduct forward planning, understand and navigate any roadblocks. Scenario planning is assessed as being important: a secure forward-focused plan with multiple scenarios is a resilience requirement.



5. Emerging Trends in Procurement and Supply Chain Management

EMERGING TRENDS ACROSS THE PROCUREMENT PROFESSION

			11/L/14
Nature of the trend	Relevance to energy sector	How to approach the change	White paper recommended actions for leaders
Alignment to the Values of the organisation: Procurement and supply chain as a value driver	Ensure your objectives align to and stem from the Board objectives. Ensure the values of the organisation are displayed by the function.	Workshop the task of aligning Board objectives to your objectives. Workshop the task of aligning Board Values to your values. Identify those trends that suit your organisation's maturity and appetite for change.	Sponsor the objectives workshop and include all team members. Sponsor the 'Our Values' workshop and include all team members. Initiate the team discussion on which elements from this White Paper will move you forward.
Procurement and supply chain as a driver of growth and sustainability	With the energy sector under high pressure to meet ESG targets, managing supplier footprints is critical for sustainability. Customers are increasingly seeking ESG-positive supply of energy. Investment is increasingly based on ESG-positive outcomes.	Have a team that has a strong grasp of ESG concepts. Be able to report ESG within your supply chain. Drive team and organisational awareness that ESG outcomes underpin successful investment business cases.	Make sure sustainability goals are aligned to your organisation's overall objectives. Measure, analyse, draw insights from analyses and report on ESG in your supply chain. Link supply chain ESG insights to business planning and investment activities.
Supply chain resilience & supplier risk management	Understanding your upstream supply chain. Use of your modern existing ESG programs. Black belt in Risk management.	Discover your suppliers' supplier, and their supplier. Dovetail this with your ESG programs to make use of both studies. Select key staff with Risk capability and add technical training.	Add job objectives that assign discovery of your suppliers' supplier, and their supplier. Oversight of how you have dovetailed this with your ESG programs to make use of both studies. Allow budget estimates for high-end risk training course.
Digitisation of the procurement and supply chain function	Helps organisations move from transactional to strategic activities. Increased legislation could lead to the requirement of more team members, and technologies like RPA can help teams operate cost-effectively. Energy sector is moving towards massive digitisation and aligning with the right technology can be beneficial.	Have a digital procurement strategy aligned with the organisation's wider digital strategies. Have a leader who can lead the strategy. Prepare your team and stakeholders for the change.	Demonstrate the ROI to secure funding and support from the Board. Make use of cloud-based micro services to trial technologies that would benefit, before you commit towards a massive digital transformation.
Supplier Market Analysis	Increased commodity prices, and shift to renewable can demand new suppliers. Increased focus on risk management has caused organisations to move away from single-sourcing strategies. More organisations are after suppliers who are capable of innovation. New entrants and leavers from the supplier base demand that procurement 'stays up to date' with the shape, size, and content of the ever-changing supplier base.	Having the latest technologies like advanced analytics can considerably reduce supplier selection time. Use the advantages of social networking to shortlist potential suppliers. Approach suppliers keeping in mind of possible future innovation and collaborations. Utilise your professional network to learn of new entrants and recent leavers.	Invest in technology solutions and newsfeeds that relate to the ever-changing supply base. Create an in-house library for all-team access on market-based information and news. Assign the ownership of this library to a team member (eg. analyst) to be responsible for its usefulness and accessibility. Encourage team members to create their own professional network for outside-the-office learning.
Talent Management	Shortage of skilled professionals, and increased demand for people with category expertise, commercial savvy, strategic thinking and digital and technical knowledge. ESG demands a new skillset for procurement professionals. Global supply chains call for people with cultural adaptability.	Skill gap analysis to identify what the team is currently lacking. Work closely with People and Culture functions for long term retention of people. Consider consultant-type processes for hiring people – case studies, scenario workshops. Consider graduate programs to ensure you have a funnel of talent entering the function.	Have a clear understanding of what candidates are after. Specific trends include work flexibility, the impact of the 'millennial mindset' (do what interests you, learn fast, deliver, move on), employer and candidate values alignment, and a focus on non-traditional pathways to higher level roles. Candidates can be more focused on personal outcomes than looking for an organisation's Employee Value Proposition. Don't just promise benefits such as flexible working arrangements but actually deliver them. You as a leader are a key impact in attracting and retaining talent in your team. Show what your procurement team has achieved so far, and your team values to attract and retain talent.
Demand for competent change management capability	The ability level of the procurement team to perform change management planning and execution.	Determine by skills gap analysis the level of need for this capability uplift.	Sponsor the skills gap analysis and fund the necessary training. Ensure you have succession planning in place for this skill.
n-tier Supply Chain transparency	Transparency is vital for complying with legislation such as Modern Slavery, and the Security Legislation Amendment (Critical Infrastructure Protection) Act 2022 (SLACIP Act) (which implements amendments to the existing Security of Critical Infrastructure Act 2018 (Cth) (SOCI Act)). Transparency can help you identify potential risks in the supply chain such as cybersecurity threats.	Leverage the latest technologies such as blockchain to enable transparency. Have a thorough understanding of your supply chain - the ability to identify and influence the end-to-end supply chain.	Collaborate with suppliers on why visibility is vital for both organisations. Build an internal knowledge of relevant technologies, its characteristics and applications. With that knowledge, determine its place in your environment.

a. Alignment to the Values of the Organisation: (Needed to Support Strategy)

Notwithstanding the emerging trends described later in this Paper, it is fundamentally important that the function is aligned to the strategic objectives of the business. The procurement and supply chain team has an obligation to show the organisation that it is aligned with Board, CEO and executive team goals, and focused on delivering elements of those goals. All tasks undertaken by the function should be visible as being connected to the organisation's strategy, goals, and objectives.

Any misalignment between what the organisation's strategic imperatives and what the function focuses on, will have the effect of isolating the function and sub-optimising its contribution to those imperatives.

The energy sector is currently exposed to change from multiple external forces. Consequently, the Board's goals can be expected to be refined/ changed more often in the near and medium term. This demands that the function also revisits its goals to ensure ongoing fit and alignment.

There are two channels to align to. Alignment to strategic objectives referred to above is the first of those. Secondly, alignment to the stated and published 'Values' of the organisation and the way procurement and supply chain management is performed is critical. Not 'what' it does, but 'how it does it'. Every enterprise typically has a set of 'Values' that all employees should embrace. They range across any number of behavioural topics including Safety, Respect, Teamwork, Ethics, Accountability, Collaboration, and Transparency. The function, as it manages the supply interactions for the organisation, must champion those values to the external market. Values do not change as frequently as objectives.







b. Procurement as a Driver of Growth and Sustainability — is it the biggest untapped value driver in your organisation?

The COVID-19 pandemic has shown organisations how procurement can become a value driver rather than simple efficiency and transactional function. Being able to anticipate and meet changing stakeholder needs is the key for procurement and supply chain to continue performing as a value-driving function.

Cost management will remain one of the ways through which procurement will continue to generate value. COVID-19, trade policy disagreements, and geopolitical tensions have resulted in a rapid increase in commodity pricing, logistics bottlenecks, container availability and port congestion. Apart from the impact of price increases, the shortage of commodities and longer lead times could also lead to loss of sales and customers. We note that this is where the function can generate value for their organisation by not just moderating price increases, but by guaranteeing security of supply.

With procurement and supply chain having a sense of purpose in generating value, offsetting price increases through negotiations can only generate one-third of the potential value that the function can deliver. With proper use of technology, it can contribute to managing supplier risk, diversifying the supplier base, and unlocking collaborative supplier market best practices to lead ESG sustainability in the organisation.

Achieving the status and reputation of delivering business value (as opposed to just price reductions), the procurement and supply chain team must be clear in its understanding of what the organisation sees as 'value'. Gaining a clear definition is the first step in moving towards sustainably contributing to the bottom line. The definition of value is different from one organisation to another. Your stakeholders will give you a very clear picture of what they consider value to be. Ask and you will learn. 01

Define what your organisation sees as 'value,' as ultimately your performance to that value definition is a key driver that will bring procurement into strategic decision making.

Take time to understand internal customer needs and requirements, and continuously engage with the business by making use of the wandering-around management style.

03

Getting sight of a stakeholder's job objectives is and effective way of ensuring that the work you want to take in conjunction with that stakeholder is what the stakeholder would value and appreciate

04

Spend quality time inside the Business units of your stakeholders. In this way you can 'live a day in their shoes' and pleasingly, they will see your investment in time as a genuine effort to understand their circumstances and goals.

05

Additional cross-functional training and promoting job switching can build a critical understanding of the business needs and the challenges they face.

EPSA Procurement and Supply Chain in A Changing World

"We know cost is just one part of the value equation, and that other things such as quality, safety, and timing must also be considered when making a procurement decision. Our role is to work with our stakeholders to really understand the outcome they are after and illuminate the range of factors which may lead to a poor or an excellent procurement outcome."

Sharyn County, General Manager Procurement, Property and Fleet, Jemena

"Risk Management is a rising skill set requirement."

Mark Shortman, Partner, Control Risks.

The effects of the COVID-19 pandemic and intensifying trade policy disputes have shown organisations the amount of risk that sits within their supply chains. Supply chain risk management has quickly evolved to become a prominent topic within the executive team and procurement and supply chain teams are an integral part of achieving organisational resilience through risk management.

However, many organisations still follow a reactive approach to supply chain disruptions. Multi-sourcing strategies, mobile warehousing, increased buffer stocks, performing regular supplier audits, and working closely with suppliers are some of the common approaches that organisations use to monitor risks such as regulatory changes and stakeholder demands. But very few invest time in automating these activities. Setting up temporary teams to manage these supply chain disruptions is often inefficient.

Organisations with mature management of complex supply chains have invested heavily in supply chain risk management. These organisations have permanent risk management teams and processes in place. Some of these teams continuously monitor global market trends and events that might cause disruptions. They also invest heavily in increasing the transparency of their supply chains by building databases of supplier locations, performance, and audit results. These databases are often automated to alert the risk management team about the latest incidents along with possible implications. While creating these databases, organisations must include new supply chain risks such as cybersecurity, geopolitical, and environmental challenges.

Risk focus has resulted in increased mitigation plans on events such as conflict, natural disasters, and cyber-attacks. Building a riskaware culture is one of the most effective ways many organisations can respond to these events. Organisations can improve their risk culture by influencing management to accept and acknowledge the risk of these events occurring. It is critical that organisations work together towards а rapid resolution. Transparency is another key factor for building a risk-aware culture. The functional leadership team must be able to clearly communicate their risk tolerance to both internal and external parties, as this can empower them to be more responsive and take ownership of their own actions. The risk appetite of the individual teams should be aligned with the organisation's overall risk tolerance, so that teams do not take actions that benefit themselves but harm the broader organisation.

Procurement and supply chain has an important obligation to show the organisation that it is synchronised to organisational goals and focused on delivering the dependent elements of those goals. All the tasks undertaken by the function should be visible to be connected to a single (or more) organisational strategic imperative and subsidiary objectives. As the energy sector is currently exposed to more disruption from external forces, strategic imperatives can be expected to be refined/ changed more often in the near and mediumterm. This demands that procurement and supply chain also revisits its goals to ensure ongoing fit and alignment to the changing organisational requirements.

1. Use a risk matrix with credible mitigations and monitor regularly



Understand the upstream supply stream, your suppliers' supplier... and their supplier.



Using Failure Mode and Effect Analysis (FMEA) for managing supply chain risks

FMEA is a risk assessment tool that evaluates the severity, occurrence, and detection of risks and priorities which risks are the most urgent. Failure Modes is the way in which something could fail and Effects Analysis is the process of studying its consequences. The goal of FMEA is to identify risks and build resilience into the supply chain.

FMEA can be done in a seven-stage process to make the process effective⁷:

- 1. Review your supply chain processes in question for potential failures.
- 2. Determine the severity ranking of each failure.
- 3. Determine the occurrence ranking of each failure.
- 4. Determine the detection ranking of each failure.
- 5. Assign a Risk Priority Number (RPN) and prioritise for action.
- 6. Take necessary actions and review the process.
- 7. **Re-rank the RPN.**

	FMEA Criteria	Definition and Scoring
1.	Severity	How severe is the failure likely to be? Score 1 = low severity Score 10 = very severe.
2.	Occurrence	What is the likelihood of the problem occurring? Score 1 = low probability of failure occurring. Score 10 = high probability of failure occurring.
3.	Detection	What is the likelihood of detecting failure early in the process? Score 1 = high likelihood of early detection. Score 10 = high likelihood that we will not detect a failure.

Risk Priority Number (RPN) = Severity x Occurrence x Detection

The RPNs are then sorted from largest to smallest and actions are taken on the highest RPN to mitigate the overall risk. Once the mitigation actions are completed the RPNs are recalculated and new RPNs are determined, and the process is continued.

⁷ Failure Mode Effect Analysis – FMEA | CIPS Guide

d. Digitisation — Moving from Transactional to Strategic

Digital procurement has already become a reality. We have seen some organisations adopting disruptive technologies such as AI and blockchains to improve the transparency and management of their supply chain. They have done this by digitising a variety of tasks, from automating transactional activities to using blockchains to map their supply chain visibility. Many organisations are using technology to help the procurement function deliver more value by focusing on the strategic functions rather than spending time on transactional activities.

Organisations are also actively assessing the benefits of digitisation to improve the resilience and transparency of their supply chains. As a result, with digital transformation, IT spend has increased and better contract management needs to be in place for the IT category. Global IT spend could increase by 5% over the next year, and pricing from technology vendors is also increasing.⁸ However, factors such as commodity price increases, increased resource requirements for compliance, and increased costs for attracting and retaining talent can put considerable pressure on budgets. It is vital for organisations to show how digitisation can deliver value to secure funding.

Organisations are addressing the challenges of digitisation in their own ways. While most know the importance of adopting the latest technology, there is sometimes a failure to understand how the technology can help their team drive value.⁹ Additionally, with the exponential rate of technological advancement there is sometimes a lag effect – for example, focusing on versions of traditional ERP and contract management tools rather than moving to disruptive technologies (such as enablement from predictive analytics).

Finally, having a clear digital procurement strategy in place is vital. While organisations understand the need for a clear strategy, the majority start their digital journey without one. Functional leaders must be able to resolutely drive the transformation journey using a syndicated and supported strategy.

⁸ Gartner Forecasts 2022 | Press Release | Gartner

⁹ Procurement Challenges 2021 |A ProcureCon Report | OpusCapita



EPSA Procurement and Supply Chain in A Changing World

"The supplier is an asset."

Adam Hughes, Senior Director, Group Commercial & Procurement, CLP Holdings.





EPSA Procurement and Supply Chain in A Changing World

e. Supply Market Analysis — New Purpose Calls for New Suppliers

An increased focus on supply chain risk management along with the transformation to Net Zero has forced many organisations to identify new suppliers and produce multisourcing strategies. With rising demands for better commercial outcomes and decreased risks, supply market analysis has become a key priority, backed up by effective Supplier Relationship Management (SRM – see section 6(h) of this Paper). Factors varying from macroeconomics, geopolitical instability, ESG requirements, and complying with legislation such as the Modern Slavery Act can influence the selection of future suppliers.

On average, it takes about two to three months to complete a single supplier search. Consequently, supplier selection is often not prioritised and contracts are often rolled over at expiry. This can have a significant impact on the organisation's supply chain, as this leads to companies often making use of the same suppliers with minimal supplier performance improvements. As Nichola Wilson, formerly of ElectraNet notes, a key objective is to engage suppliers in a way that gives a good result including a good commercial outcome. Price maintenance, price triggers, how to bring it all together ensures that supply partners are fit for purpose, and who understand ElectraNet's business sensitivities.

Along with traditional tools for supply market analysis (verifying certifications and evaluating the financial and geopolitical risks), functional teams should also focus on aligning manufacturing and shipping locations to suit your needs to tackle the increasing logistics and

Determining supplier's inventory information, and lead time and delivery performance statistics can help organisations source the right supplier. Make sure that you understand your supplier's scalability and partner with suppliers who can meet your small quantity as well as low and high-volume orders.

With the right technology, organisations can save a considerable amount of time spent on supply market analysis. The latest technology in the market like AI using algorithms such as natural-language processing, can narrow down shortlists within hours from an extensive database of suppliers. Investing in these types of AI technologies, or service providers with similar capabilities is required for effective supply market analysis.

As supply market analysis will continue to become a key priority, the procurement and supply chain community must look to grow its social network through both online and offline events such as conferences, memberships (EPSA is a prime example), and forums. Professionals can improve their social networks by cultivating closer relationships and increasing communication frequency with their contacts. However, social networking on its own is not a solution to identify the right supplier. It helps in finding suppliers which ultimately impacts cost-reduction. With a strong network, organisations will be able to learn from the past, better predict the future, discover new tools and techniques, and drive outcomes together with a community of partners, including suppliers, other procurement and supply chain teams, and intelligence providers.

> The rising geopolitical tensions and unknowns such as the COVID-19 pandemic call for multisourcing strategies and a diverse supplier base.

> Right use of technology can save a considerable amount of time in supplier selection.

Build a professional network that links you to news and breakthroughs that would otherwise pass you by.

Create inbound avenues of market trends, data, and news flow.

Equip yourself to be a 'finder of the (perceived to be) unfindable'.

Ensure your team has (or has access to) digitisation and change management skills.

As the function moves to a larger strategic role and as a value-generator, it is important to attract, train and retain the right talent. Procurement needs deep category expertise, cross-functional skills, and a broader business and commercial acumen to understand the changing global markets. Broader supply chain management requires logistics, inventory, and warehousing expertise specific to organisational outcomes.

What currently faces EPSA members was a key theme in all interviews: there is a shortage of appropriate candidates. exacerbated bv international border restrictions with COVID-19 and a changing outlook on employment to include more flexibility. Candidates often display a different, more self-centred view on the Employee Value Proposition. Whilst onshoring mitigates risk and is increasingly occurring, in practice the shortage of candidates is often leading to increased usage of consultants and contractors. As noted jointly by Craig Ryan of Citipower and Stephen Murray of Powercor, we need to look differently at resources, as candidates are now often looking for different outcomes.

The talent strategy should focus on the business requirements which could vary, from specialists with engineering and design knowledge to people managing supplier relationships, contracting, and innovation. We must make use of the business partnering skills in place and work with People and Culture (used as a generic term to cover the human resources function) teams to find and keep the best talent. A consideration is to take on the expense of entrylevel graduate program to provide a pipeline of talent into the function.

Internal mobility is one of the key trends through which teams retain their talent. Internal mobility would allow employees to move to different parts of an organisation both horizontally and vertically. This mobility also helps in finding the right skills necessary as per the team's requirements. Hiring from an internal stakeholder group can improve category knowledge as well as the trust of the internal team. Permeating your organisation with procurement and supply chain 'awareness' also benefits your efforts in change management.

"Attitude as well as aptitude. We need super keen smart people even if they have not done procurement before. We need some people who know procurement inside and out (process) and others who know the industry well. An attitude of 'I will figure it out' is what we should be looking for and adopt millennial ways of thinking – want to do more, move, do new things, then move on."

Jodi Huebert, CIPS Leader of the Year 2021

f. Talent Management — Extraordinary Outcomes Require Extraordinary People

The change in the perception of procurement and supply chain (towards a commercial, value-driving function focusing on Supplier Relationship and Risk Management), has created an increased demand for soft skills such as communication, stakeholder management, and influencing skills. The need for cultural adaptability will also rise as many organisations are moving towards global sourcing strategies.

With rapid digital transformation projects happening, and organisations forced to comply with the latest policies, there will be an increased demand for leadership skills to spearhead these changes. ESG awareness is an expanding skillset as procurement and supply chain has become a driver of sustainability.

With the need for new skills and competencies in procurement, the selection and recruitment criteria also must adapt to attract the next generation of procurement talent. The position the organisation holds within the industry plays a huge role in attracting talent. As most of the next generation of talent would like to work for an organisation that has a positive ESG footprint. With procurement and supply chain delivering value through sustainability, the team must be able to show its ESG targets and results in attracting talent.

While salary remains the number one motivating factor when switching roles, there are many factors beyond remuneration when it comes to retaining talent. These include the values and culture of an organisation, opportunities for training and progression, and more flexible work arrangements (now normalised because of COVID-19 workplace changes).

As Sarah Chopping from Transgrid notes, the right people provide capability and a positive impact on the organisation's culture. Getting and retaining the right people is a key focus, particularly with Transgrid's workforce expected to expand rapidly over the next 10 years.

Be clear about what you need from your candidates.

Rate and score the candidates against the skillsets that you require, and continuously update the skillsets that matter. Consider consultancy-style simulations as part of the recruitment process, for determination of soft skillsets.

Technical skills can be taught more easily than soft skills.

Skills gap analysis can then address any skills deficiencies once you have the 'right' people.

Be clear about your retention strategy. Why would someone want to stay in your organisation?

06

)2

)3

Does your Employee Value Proposition match what research says genuinely matters to the candidate market?

"In procurement and supply chain, we need relationship skills; you can teach tech skills."

Jacinta Taliauli, CIPS Young Professional of the Year, 2021.

With an increased focus on agile supply chain management, rapid digitisation, and unknown supplier risks, the teams of the future must have a robust change management process in place. Managing change correctly can be more important than the change itself being implemented.

Whilst we expect procurement and supply chain to be agile, change management must be led by Chief Commercial, people at the top. Procurement or Supply Chain Officers must be able to clearly show what changes look like, and what impacts they would have in the organisation's value chain. Change can create a fear of the unknown, failure, and criticism. It is important that leaders manage fear, uncertainty and doubt associated with changes.

Assessing the current landscape is often underdone during the change management process. This includes assessing the full range inputs and influences to current organisation culture, people, and technology that is available before proposing innovative solutions to implement a change.

The change-management process required in the function must necessarily revolve around people, technology, and process. Like digital transformation, a clear strategy and road map is vital for any change management process, whether it be responding to a global pandemic, or complying with a new policy. Communication is a key factor in change management. Identifying suitable communication channels and showcasing the benefits to your stakeholders can help the team adapt to the changes more effectively. Make sure you incorporate the changes to existing standardisation rules to prevent old habits from hindering the positive outcomes of the change.

Change should not stop at the end of the project, it must be reinforced through proper training, end-user support, and measuring success through KPIs. These include but are not limited to short and long-term objectives under your budget, how challenges were overcome, and how stakeholders reacted to the change.

There is a science and an art to effective change management.



Images below describe a well-used formula to guide you in preparing for and executing change:

The science of Change Management

The failure of every change initiative, large or small, can be attributed back to this simple formula to explain why the change failed...

For change to occur... **D x V x P > C**

What do I do about it?

D is the level of Dissatisfaction with the status quo ... You can create a new understanding that something is totally undesirable and not in your stakeholders best interests

V is the vision of the future

...and better pass the test of a good vision... (3 tests of a good vision... motivating...believable...personally desirable)

P is the Plan to get there

The way to get the vision...(3 tests of a good plan...it better look do'able...logical...and 'in my lifetime'.)

> is must be greater than (simple maths)

C is the Cost of change, in emotional or financial terms



Why does the formula work?

If any of the D, V or P are zero, then the whole left-hand side of the formula becomes zero (basic maths)

As there is ALWAYS a 'cost of change', if you have a zero result on the left side, your change fails (because it is less than the 'cost of change')

Change management is an art and a science, make sure you understand both and their points of difference.

04

Manage change on a project management basis using relevant project management tools.

Provide training in change management to those that will lead and those that will participate.



06

Adopt Change Management formulae (or similar guiding models).

Get executive endorsement and an executive champion on each change initiative. Learn how to tune into WiFM (what's in it for me?) the 'me' being your stakeholders. **"Understanding the** importance of a transparent **Integrated Supply Chain** approach, from Demand Planning to Source of Supply - the end-user / customer need; what you are buying, for what purpose, when, why, and how much, where are you going to hold and store stock, what are the costs and risks in holding stock. Procurement must not be done in isolation and must be aligned to a need - not driven by cost."

Michael Cook, Head of Logistics, Sun Cable

h. n-tier Supply Chain Transparency — More Than Just Visibility

Supply chain transparency has become imperative. Not only for procurement and supply chain teams, but at Board level driven by organisational values. It is underpinned by compliance requirements such as ESG and the Security Legislation Amendment (Critical Infrastructure Protection) Act 2022 (SLACIP Act) (which implements amendments to the existing Security of Critical Infrastructure Act 2018 (Cth) (SOCI Act)). Supply chain transparency is no longer just gaining visibility into the extended supply chain. It has become the process by which organisations manage risks by taking actions on the insights gained through greater visibility of their supply chain. Transparency has become the new customer loyalty, as more than 70% of global consumers say they would change their consumption habits to reduce the impacts on the environment.¹⁰

The pathway to supply chain transparency starts with identifying, prioritising, and visualising the risks in your supply chain. Most supply chains today have a number of types of risks, so it is significant to identify which risks you should focus on. This decision can be made by creating a comprehensive list of risks and mapping that with organisations overarching targets and goals (such as ESG compliance). Failure Modes and Effects Analysis is one of the commonly used techniques to prioritise supply chain risks.

Once the risks are mapped, organisations can make use of various levers to generate value and close information gaps. Some of the most commonly used levers are surveys and feedback, making use of third-party intelligence service providers, and asking for appropriate supplier certifications. The procurement and supply chain team must be able to create a database containing all this information and map it to various supply chain risks to sort suppliers and make decisions based on real-time data. An advanced supply chain transparency system will be able to integrate macroeconomic risk indicators as well as cutting edge technol-ogy like blockchain and predictive analytics into their systems.

Rather than seeing transparency as a challenge, companies can make use of supply chain transparency to make strategic decisions, identify areas for improvements, promote ESG awareness and strengthen their brand. Supply chain transparency is a great opportunity to generate more value for organisations if coupled with the creative use of technology and a strong framework.

Supply chain transparency is not just about getting visibility, but it is also about using the information for effective risk mitigation plans. Identifying, prioritising and visualising risks in your organisation is key to supply chain transparency. Technologies such as blockchain and analytics will assist n-tier supply chain transparency. Supply chain transparency can help achieve ESG targets and attract more customers in the future.

¹⁰ The path to supply chain transparency | Deloitte Insights

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6. Opportunities for Procurement in the Energy Sector

Speed and Agility — leading teams have a brand, or competitive advantage, based on:

- Velocity of action and results
- Ability to define change requirements and then change fast and sustainably
- Being part of the business solution, and not a barrier by:

01

Simplifying procurement



Identifying the strategic imperatives and continuously evolve



Focusing on Business Values NOT Procurement Savings



Harnessing supplier innovation

"Mentoring and developing top talent is needed, providing a foundational understanding of the business. In smaller businesses, sales and purchasing are often combined. New professionals need the skills to do both, especially within platform ecosystems ... " Stu Philpot, Co-founder and CEO, Upowr

OPPORTUNITIES FOR PROCUREMENT IN THE ENERGY SECTOR

Nature of the opportunity	Why is it good?	How do we seize it?	Roadblocks
Driving value through Sustainability	Ensure your ESG objectives align and stem from the board objectives Identify the special 'task elements' in the white paper	Include in the master workshop on strategic alignment. Identify those that suit your organisation's sustainability maturity and appetite for ESG more broadly	Must include this topic in the objectives workshop you will sponsor Need to Initiate the team discussion on which sustainability elements from the white paper you wish to adopt
Addressing Cybersecurity threats in the critical infrastructure	Legislation like the Security Legislation Amendment (Critical Infrastructure Protection) Act 2022 (SLACIP Act) (which implements amendments to the existing Security of Critical Infrastructure Act 2018 (Cth) (SOCI Act)) is pushing for cybersecurity across the supply chain.	Have a proper supply chain mapping process to identify the potential risk areas Work closely with suppliers to share cyber intelligence both ways	Procurement alone will not be able to make an impact because of the technical expertise required in the cyber area Suppliers might not be able to share cyber intelligence due to internal data security policies.
Tackling the skill shortage by contracting for contingent labour	An opportunity to tackle the skill shortage in your organisation Helps cut costs and risks associated with one of the fastest-growing categories.	Perform a gap analysis with your stakeholders to identify the skills in demand Work closely with HR for their long-term support Have an automated and user- friendly onboarding and offboarding experience.	Often late engagement from your stakeholders can lead to maverick spending and the use of non-preferred suppliers The number of niche players in the market can be challenging to convince businesses to make use of preferred suppliers.
Procurement as a Facilitator in your organisation	Provides an opportunity to learn more about the business. Opportunity to gain more trust and build relationship with your stakeholders.	Make yourselves known for your facilitation soft skills such as influencing and negotiation. Showcase your capabilities through your team values and strategies.	Lack of business knowledge. Business units might have their own policies to keep information within their teams.
Black Belts in Risk Management	An opportunity to build a strong relationship with your business and learn more about them Can lead to procurement having a strong say in organisation's wider and longer-term strategies.	Provide proper risk management training for your team Make organisation wide risk- management a part of your values and long-term strategies	Risk-averse vs. risk managers Procurement generally does separate risk analyses - needs to be part of enterprise risk management No history of effective scenario planning
An expert at networking	Ideas absorbed from networking can often solve existing problems in your organisation or lead to something innovative.	Build a strong network with your suppliers and other organisations Make the connection beneficial for both parties Full participation in EPSA	Confidentiality policies in place can limit the amount of information that can flow between the organisations. Many parties may be reluctant in sharing information without anything in return.
Strategic Business Partnering	Close and positive internal relationship underpins collaboration and constructive debate.	Examine the case study in the white paper for a step-by-step explanation and the rationale for the program	Absence of an executive sponsor Procurement leader not committed and participative Absence of job objectives and KPI on the subject Absence of measures of success
Promoting Supplier innovation through Supplier Relationship Management	The opportunity to raise the level of discussion and topics with the 'special few' key suppliers to a strategic plane on innovation and future mutual success	Utilise the case study in the white paper that shows a step-by-step approach to SRM Become a customer of choice	Nominate a team member to champion the cause and establish a plan (guided by the case study) History shows professional facilitation allows the procurement leadership to participate and not just 'run the workshop'

In the Energy industry, there has been a significant focus on sustainability, as governments have implemented policies including a shift towards Net Zero and ESG. It is mooted that there is a strong possibility of having a law by 2030 which would require organisations to meet specific ESG targets. This is an excellent opportunity for procurement and supply chain to generate value by helping organisations achieve their ESG targets. We refer to the previous EPSA Sustainable Procurement in the Energy Industry White Paper of 2018, and guidance within ISO 20400 - Sustainable Procurement.

Many consulting firms believe that on average twothirds of the average organisation's ESG footprints lie with its suppliers. Procurement and supply chain teams who take bold actions can make a huge difference in sustainability as well as generate additional value for the organisation. Data on how much an organisation buys, where it comes from, who makes it, and how it is used and disposed of is the foundation for taking a holistic approach to sustainability.

Understanding the organisation's current ESG footprint is the first step towards sustainable procurement. This involves identifying the most significant risk areas and improvement opportunities, in accordance with the organisation's overall ESG targets. Once the areas of improvement are identified the function must be able to define policies and metrics that they could integrate into the organisation's standard source to pay process.

Supplier Relationship Management (SRM) practices can enhance sustainable procurement by collaborating with partners on focusing on a number of ESG themes like decarbonising emissions. Continuous training of the procurement and supply chain community on sustainability and tracking of performance against targets are also required. This will allow us to capture the maximum value added through sustainable procurement. While some sustainability initiatives like modern slavery are mandatory, other initiatives like supporting First Nations Peoples businesses are an additional value generator in many organisations. It is vital that procurement complies with the organisation's wider ESG strategies first, then if there is an opportunity to drive additional value, procurement must take leadership in bringing these initiatives to the organisation's ESG programs.

¹¹ Buying into a more sustainable value chain | McKinsey & Company

ESG targets can be procurement and supply chain's greatest value driver, as there is an increased ESG consciousness among customers. With the right technology, the function can make a massive change as two-thirds of an organisation's ESG footprint l ies within its suppliers. Make sure the function complies with the organisation's wider strategies and goals before making sustainability their top priority.

"

"We have strong focus on ESG – including modern slavery and supply chain transparency. We have a specific focus on supporting Aboriginal businesses. This is regionally focused and comprises supporting Tier 2 and Tier 3 suppliers so they can then get accredited for larger mining work in WA."

Mike Houlahan, CFO Horizon Power

b. Addressing Cybersecurity Threats in the Critical Infrastructure

Another area where procurement and supply chain can aid the resilience of the energy industry is by helping manage cyber risks. Cyber threats can occur at various points including generation, transmission, distribution, and networks. The increased reliance on technology and data in the energy industry has also led to cyber threats in suppliers who offer cloud services.¹²

Some of the recent cyberattacks that demonstrate the threat to energy industry supply chains include:



The 2016 attack on Ukraine's Power Grid where half of the population of the Ivano-Frankivsk region was left without power due to a malware attack. The hacks utilized a variety of techniques such as malwares, spear phishing and remote access exploits for this attack.



The 2021 attack on Colonial Pipeline where one of the largest US pipelines that supplied gas, diesel and jet fuel was forced to shutdown its entire network and operations due to a ransomware attack. The hackers were able to get hold of data from the company servers, and the control was handed over to Colonial only after getting paid US\$ 5 million in cryptocurrency.



The 2017 attack where hackers breached utility ICS through various supply chain partners by gaining access to IT service providers. The attack resulted in a breach of control system designs and vulnerabilities and a loss of configuration information and interface screens.

Recent cyberattacks on the suppliers that demonstrate the threat to energy industry supply chains include¹²:



The 2017 NotPetya attack where the attackers hacked into the servers of the accounting service provider and sent malware that infected at least six local electrical utilities.



The 2018 attack on small cloud service providers that impacted the US energy sector. The attackers froze the organisation's computers resulting in at least five natural gas pipelines shutting down their communications and slowing down the gas flow.



The 2017 attack where hackers breached utility ICS through various supply chain partners by gaining access to IT service providers. The attack resulted in a breach of control system designs and vulnerabilities and a loss of configuration information and interface screens.

Most organisations do not have a definition of who takes ownership of cyber-security in their supply chain. Cyber risks are challenging, but procurement teams can start to make an impact by identifying and mapping critical assets across their supply chain and the suppliers associated with those assets. Companies must start to collaborate with their suppliers to share cyber intelligence, participate in cybersecurity exercises and develop and monitor new standards and frameworks. Furthermore, procurement can ensure that the suppliers have all safety and regulatory protocols are in place and are referenced in contracts.

Some of the major cyber-attacksin the energy industry were targeted at third-party service providers.

Identifying and mapping critica assets across the supply chain is vital.

Collaboration with suppliers is required to share intelligence, and make sure they comply with the right security protocols.

¹² Managing cyber risk in the electric power sector 2019 |Deloitte Insights

c. Tackling the Skill Shortage by Contracting for Contingent Labour

While organisations continue to innovate strategies to attract and retain permanent talent, there will be an increase in the use of contingent labour and service providers. As the use of this non-employee workforce continues to rise, organisationsmust revisit their strategies to stay competitive by managing the risks, value, and flexibility that contingent labour can present.

There are several options to better manage this category in future. Procurement should focus on building a contingent workforce strategy together with People and Culture. This strategy should include partnerships with contingent labour firms and should also include a pipeline of talent for future needs. Talent pooling is one of the ways in which the function can proactively work with People and Culture to identify and build a list of candidates that may be used for future talent gaps. By automating a proper onboarding and offboarding experience, organisations can stay ahead in attracting good talent faster.

One of the key challenges of managing this category is the lack of clarity about who owns the process. Is it People and Culture or Procurement? Both must find a balance as the category is often considered as one with many risks, such as loss

of intellectual property (IP), financial penalties, and legal liabilities, which could damage the organisation's culture and reputation. This balance between People and Culture and procurement might be possible if procurement takes ownership of managing this category to mitigate the risks associated, while People and Culture can help in identifying and regulating the organisation's overall talent needs.

Some organisations can see business units bringing in their contingent workers own bypassing both People and Culture and procurement. Therefore, a single repository to track and manage the contingent workers is vital to create workforce strategies and control unaligned spend. The repository must be able to include a variety of information such as the location of the workers, and whether the workers would have access to facilities, systems, and IP.

For companies making changes to their workforce operating model because of the effects of COVID-19, containing costs associated with human capital is more important than ever, and the function can help organisations source the best resources at best prices, and establish checks and balances to comply with workforce policies and protection of IP.

The use of contingent labour workforce is expected to increase, especially for technological skills.



Procurement should work together with HR to tackle the challenges in the contingent labour category.

The contingent labour category is one of the most risk-prone areas, and a long-term strategy is required.

d. Procurement as a Facilitator in your Organisation

As procurement and supply chain teams are constantly searching for ways to differentiate their role, it is worth exploring required skillsets, especially soft skills such as communication, stakeholder influencing and negotiation.

Building expert facilitation skills in individuals within the function, if not the function as a whole, can position the procurement and supply chain team as the 'go to' group when your business colleagues seek facilitation. This positions procurement and supply chain as an enabler. The fully equipped procurement and supply chain professional is an expert in the art of facilitation, regardless of the topic, regardless of the function or department, and regardless of the type of business issue, problem or opportunity that is at hand.

01

Decide if you want the procurement team to be known for its elite facilitation skills.

02

Train those who will be available for facilitation engagements with your peers and colleagues.

03

Offer the service and your expert facilitator to your colleagues in other functions and departments for their workshops that require facilitation.

EPSA Procurement and Supply Chain in A Changing World



Building the skills of risk management within the members of the procurement and supply chain team is a prerequisite for the function. To position the team as the 'delivery' group when your business colleagues seek a solution, knowing that you will do a deep dive into the risks associated with that solution, is highly desirable.

This positions the function to help protect your business colleagues in their dealings with third parties and wider market risks. Risk management trained procurement and supply chain professionals are experts in discovering inherent risks, developing credible mitigations, and guiding their colleagues through effective action steps that will bring the mitigations into place.

01

Train all those in the procurement and supply chain team in risk management even those that are on the periphery of face-to-face interaction with suppliers and the market.



For each procurement exercise or sourcing project decide on the complexity and therefore the need for a risk management assessment step and from that, the mitigations to protect the project from failure.



The risk matrix is a 'living document' and needs to be re-visited and refreshed throughout the life of the project, and a procurement professional can help your organisation take care of it.

f. An Expert at Networking

Working with numerous stakeholders across the organisation and supplier market has made procurement and supply chain professionals expert at networking. The effort required to engage in proactive networking is not significant, but it does require an investment of time and in absorbing the learnings you collect from mixing and sharing ideas with peers from other organisations.

Often, a problem your organisation is trying to solve has already been solved by somebody else, somewhere else. By networking with others, you expose yourself to expanded and extended learning and thereby building your own capability. With ongoing involvement in various conferences and forums, procurement teams continue to find ways to overcome their organisational challenges, as well as identify new areas of potential revenue generation.

See section 9(a) of this Paper for a list of external networking resources.



Build a professional network one connection at a time Be patient in its growth. Drop poor connection choices and nurture good connectio choices.

Initiate occasional contact and have one pre-agreed topic or problem to discuss. Make it beneficial both ways over the passing of time Respect legal and ethical rules and protect genuine confidentiality.

There are great ideas, not in the energy sector, that can be applied in the energy sector. Procurement and supply chain teams are seeking to get closer to the business than ever before by creating partnerships to meet strategic imperatives. Strategic Business Partnering (SBP) has evolved to become a marker of procurement maturity, with other markers such as supplier relationship management, and digitisation. SBP suggests that the organisation has moved away from traditional stakeholder engagement to generate more collaboration, harmony, and value with internal stakeholders

While the concept of business partnering is not new, there is a lack of frameworks and guidance within procurement and supply chain teams on how to design and implement this partnership effectively. The functional team must have attained maturity in other areas such as technology and change management before they could generate the most value from SPB, as having a smooth stakeholder experience is key.

There must be a mechanism within the function to generate insights and ideas with which they could work with business on a regular basis. Procurement and supply chain must be able to successfully get stakeholders to leverage the expertise procurement and supply chain brings to enable the outcomes of the business. Taking lessons from sales and marketing functions, we can adapt their account management approach to business partnering. Similar to listening to the selling proposition of its suppliers, procurement and supply chain must craft its own value proposition stories on how it can help their own organisations drive value.

The ability to talk the language of the internal business and the ability to lead the projects as an equal partner are the most sought-after skills when it comes to strategic business partnering. For example, some organisations have started running personality profile analysis, which is used to find the perfect match of a business partnering relationship at the individual level. Understanding the technique of 'Tune into WiFM' (what's in it for me) is helpful in learning to speak the language of your stakeholder.

Conducting annual business engagements with the internal business teams to be involved in planning, sharing key initiatives, and discussing feedback on supply chain performance can create a strong relationship with the business, while the teams become a 'learner' rather than a 'knower'. Most organisations do not have the capacity to afford a separate role dedicated to business partnering. Often there is a single point of contact such as a category manager who leads business partnering.

Business partnering is a perfect opportunity for us to also analyse our relationship with our suppliers. In setting up interfaces between stakeholders and the supply market, having deeper understanding of business teams can then be an input to supplier relationship management.

Case Study

A Procurement Case study in 'Strategic Business Partnering' between SA Power Networks (SAPN) and Enerven.

• SAPN and Enerven proactively engage with their internal stakeholders to gain feedback on a biannual basis.

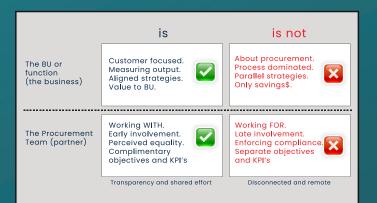
• The Stakeholder performance score was at about a level of 85% but our team were still receiving comments like:

- 'Procurement as a whole could show an increased level of service and support to the groups that use this service'
- 'There can be too much red tape. Contract process sometimes gets bogged down'

• Behaviours within the Procurement team were seen to 'police' the processes. This was the catalyst to introduce a Procurement Business Partnering approach as Procurement evolves into the future.

• Seeing other departments like IT and HR introduce Business Partnering into their departments and as a stakeholder to those departments we could see the improvements in their service levels.

• What is Business Partnering for Procurement?



• A business partner model was developed and professionally workshopped with the procurement team.

During the workshop we invited key stakeholders to provide their feedback in person and participate in the future approach.

The focus with the approach was around these 5 areas below and the team spent time thinking about 'what must change to be successful'. Each of the 5 areas was 'unpacked' based on the workshop attendees' deeper thinking in respect of each of the 5 topics. 'What was the old way? What is the new way'? These 5 were dealt with as separate topics, one after the other.



• The team also workshopped how Procurement Business Partnering aligns to the Strategic Corporate values and objectives of SAPN and Enerven

 e.g. Collaboration – We always collaborate across our business and with our customers and partners to make the most of our extensive experience and expertise.

Procurement response – 'We are aligned with common goals and objectives to provide tangible business outcomes.'

This allowed us to show senior management that were mindful of the values and the overall organisational objectives, and that procurement has a position to respond and to support each of those goals.

This allowed Procurement to be 'strategically aligned'.



· What does success look like in the future?

• One team aligned approach where Procurement partners are aiming to meet business needs by being involved (early) in enough strategy and initiative details, that these business needs are clearly understood – after all, we are partners.

• Willingness to balance governance, flexibility, and speed for best outcome rather than perfect outcome.

• The 'them and us' becomes 'we'. The special restraints and circumstances of each party are understood and appreciated by the other party, this then invites empathy and understanding as well as patience and resolution

• Out of the box thinking for a solution customised for the situation with dual input

From both sides...Tell us what we don't know
we are keen to hear ideas

• These successes are now embedded into people's thinking and as we develop, we are beginning to see improvements in our engagement with stakeholders.

• At the end of 2022 we have set an objective to achieve a stakeholder performance score of 95%.

'The journey needs to start somewhere, and the procurement profession needs to continually develop and improve in the future with a focus on 'Procurement Business Partnering'.

h. Promoting Supplier Innovation Through Supplier Relationship Management

The changing marketplace, customer demands, organisational outlooks, and government policies require an agile relationship with suppliers. An effective supplier relationship must be able to create significant value and help supply chains become more resilient. Supplier Relationship Management (SRM) must be able to bring suppliers and buyers together to develop innovative products that generate revenue for both parties. Together, ASRM can lead to an integrated approach to optimising supply chains to reduce waste or jointly purchase raw materials. Collaborating for forecasting, and planning can improve service levels, mitigates risks, and strengthens the supply chain.

Sourcing new suppliers is often a long task and involves a supplier-collaboration model to manage your supply chains. The existing practices of end-toend service management and supplier performance management are still key to effective ASRM. For better relationship management, Service Level Agreements (SLAs) can be tied down to desired outcomes rather than just performance. It is important to consider the supplier's overall performance rather than focusing on service delivery. Some areas to focus on are having measurable KPIs, measuring the value delivered by the supplier, and the importance of value delivered to your organisation. KPIs should not only focus on product performance but also on relationship, support, and conduct in delivering the products. Some of the significant KPIs include:

• Compliance Rate which helps assess supplier's compliance with business requirements. This KPI tracks a variety of factors under the supplier agreement including delivery time, exclusive discounts, and reaction time in case of delays. A drop in this KPI can result in maverick spending.

• Supplier Quality Rating which assesses the quality of goods delivered by suppliers, monitors the damaged or returned goods, and defect rates.

• Supplier Availability which keeps track of how effectively suppliers can respond to urgent or unplanned orders. This KPI determines the reliability that can be placed on various vendors.

• Survey scores from collecting the views and opinions of your internal stakeholders on several aspects of our internal procurement performance.

The scores give an empirical indication of how they see the relevance and quality of our work which in turn allows them to perform their functions in our organisation. The qualitative and quantitative feedback being scores plus comments is a credible set of data to plan continuous improvement that is relevant to your stakeholders.



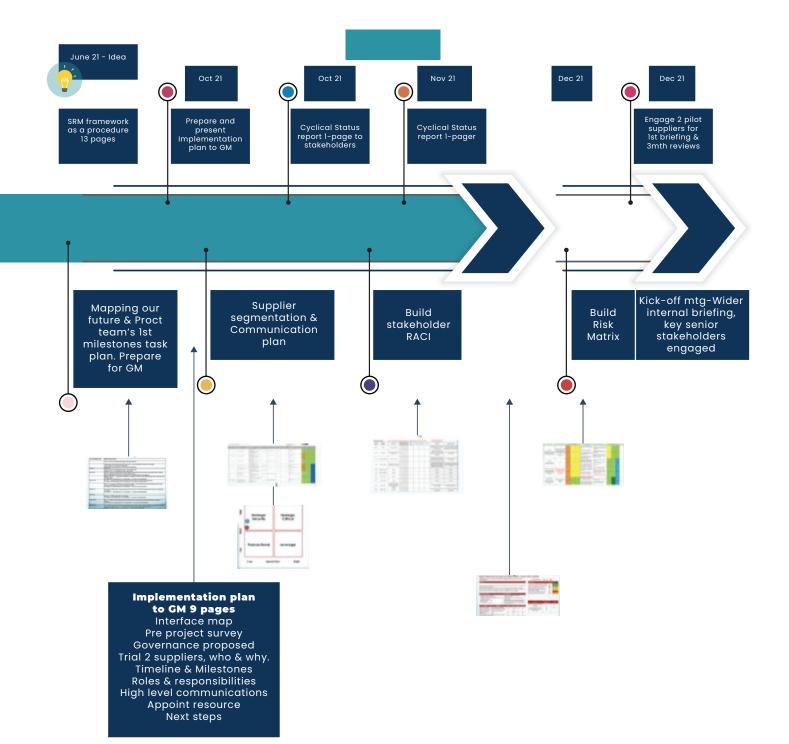
Conversely, collecting the views and opinions of your suppliers on the joint relationship and performance is also useful. These scores give an empirical indication of how they see the quality of their relationship with us as their customer. It also gives us an indication of what we might try and do differently that would strengthen the relationship for the benefit of both parties. The qualitative and quantitative feedback is a useful set of data for you to plan continuous improvement that is relevant to your supplier. SRM should drive us as a customer of choice, jointly harvesting innovation. and be based on strategy alignment.

In addition to the traditional Performance and Service management activities, SRM has now moved to assess the value generated from the relationship. Some of the key areas of value assessment are risk management, ease of working relationships, ease of sourcing other suppliers, improving productivity, innovation capabilities of the suppliers. Furthermore, having flexible contractual terms that can enable change without additional costs is becoming a key driver for future supplier relationships. Research has shown that people and soft skills are the core of SRM, so it is vital to have people in your organisation who are responsible for the SRM process.13 To facilitate a higher level of engagement from suppliers a well-documented SRM process must be in place from the beginning stages of supplier sourcing.

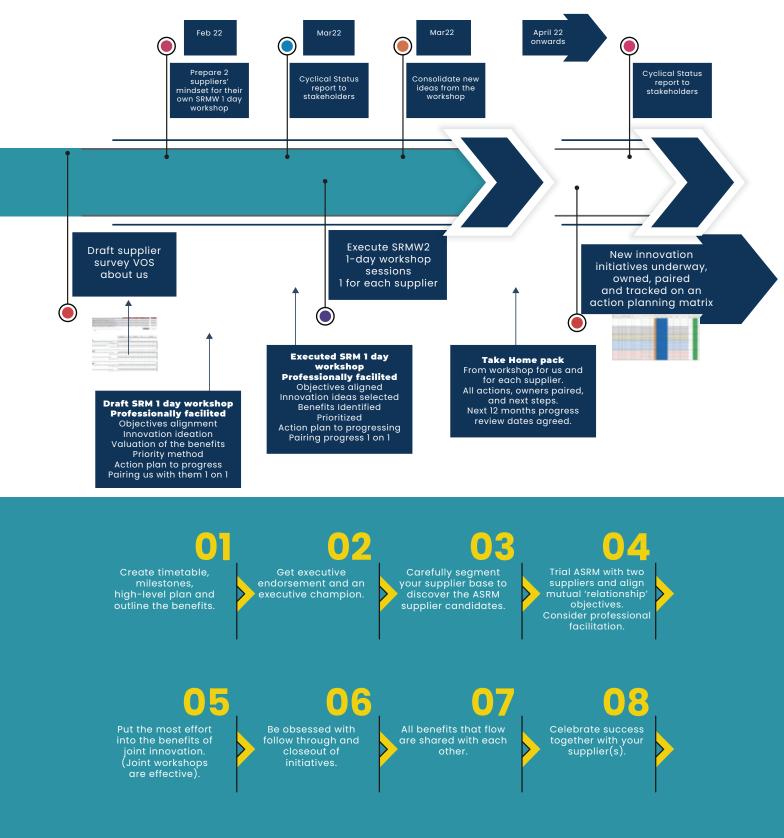
¹³ Supplier Relationship Management: How key suppliers drive your company's competitive advantage | PWC

A Procurement case study on Advanced SRM – APA's SRM Journey

APA's journey to elite level Supplier Relationship Management with 2 key suppliers (as pilot) The journey SRMW... Supplier Relationship Management & Workshop



APA's journey to elite level Supplier Relationship Management with 2 key suppliers (as pilot) The journey SRMW... Supplier Relationship Management & Workshop



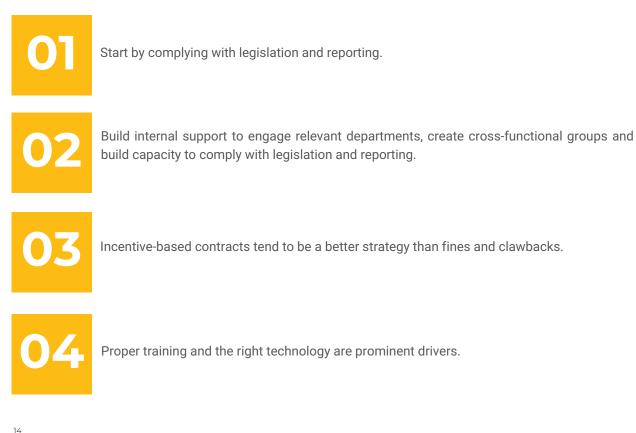
i. Procurement and Supply Chain's Role in Combating Modern Slavery

Similar to taking the environment into consideration, the rapid energy transformation must also ensure that human rights are not compromised. Some of the most common modern slavery practices connected to the energy industry are – human trafficking, child labour, unpaid work, and bonded labour. Some of the red flag areas where you could spot modem slavery include work in conflict zones, jobs that don't require any specific skills, and jobs where there is a high intake of migrant workers.

Complying with the legislation and reporting will be the ideal place to start your journey against Modern Slavery. Make sure you have team members with Emotional Quotient (EQ) to understand the human aspects of the problem.

Searching for modern slavery and acknowledging its presence might be the hardest step for most organisations. If you have identified modern slavery in your supply chain you must immediately take steps to protect the victims, before moving on to making changes to the business model or the supplier relationships. Also, make sure that these steps are part of your organisation's policy. Collaboration is one of the keys to combating modern slavery, make sure you become transparent about the identified risks and collaborate with suppliers, competitors, governments, and Non-Governmental Organisations (NGOs) in sharing the right information.

For more information on Modern Slavery, you can refer to the previous EPSA White Paper on "Respecting Human Rights in Our Supply Chain".¹⁴ You can also look into KPMG's report – "Resources, Energy and Modern Slavery", which offers guidance on how to approach modern slavery issues in the energy sector in Australia.¹⁵



Respecting Human Rights In Our Supply Chain 2019 | EPSA White Papers | EPSA

15 Modern slavery risks in the resource and energy sector 2021 | KPMG Australia

7. Emerging Technologies in Procurement

EMERGING TECHNOLOGIES THAT COULD GIVE YOU AN EDGE

Nature of the technology	Why is it good?	How do we approach it?	Roadblocks
Advanced Contract Lifecycle Management	Helps tackle the challenges of the increasing volume of contracts in the industry Better search capability to pinpoint the right contracts Reduces value leakage. Increases spend under contract	Maintain data hygiene in your organisation and identify good quality data that has to be uploaded into the system.	Uploading legacy contracts into the system might be tricky Need proper data hygiene to make sure the master data is capable of the advanced functions Poor change management framework
Al and Robotic Process Automation.	Takes out human error, and helps organisations focus on strategic activities Can speed up the procurement process and reduce the coasts, while creating a better experience for your stakeholders	Have a clear model of your current procurement process, to identify areas that can be automated Choose the right automation software tools that fits your procurement model Make sure you include your stakeholder's input while creating the workflows	Legacy systems and decentralised procurement processes that need an update before RPA can be implemented Resource constraints for process mapping and building workflows Poor change management framework Poor change management practices
Blockchain and Technologies for Supply Chain Mapping	Can help you comply with legislation, and achieve your ESG targets through proper mapping Can help identify potential risks in the supply chain	Have a matured procurement process and process map in place before implementing technology like blockchain	Will require changes on your supplier side to get the most out of technologies like mobile services and blockchain Blockchain is still at the experiment stage in many large organisations Poor change management framework
Cloud-Based Micro-Services	Can provide your organisation a look into how disruptive technologies can be beneficial Easier to implement compared to large-scale digital transformation projects	Work with providers who can build custom solutions without making changes to your current processes Identify providers with long-term commitment in mind	Compatibility with legacy systems Poor change management framework Poor cyber security Not using COTS products causes complexity
Future of Procure to Pay and Materials Requirements Planning	Better user experience for the procurement team as well as its stakeholders. P2P solutions will be cloud based which would be easier to maintain in the longer term.	Work with your suppliers to identify platforms which would be easier to integrate into your supply chain. Ensure that only accurate, quality supplier data is input into the new system.	Consolidating data across the business can be challenging. Failing to unify systems and processes can result in inefficiencies and errors.

a. Artificial Intelligence (AI) and Robotic Process Automation (RPA)

Al and RPA are the emerging technologies most organisations have either adopted or must adopt soon to move away from time-consuming transactional activities. These can often be a constant repetition of mundane tasks. Deploying RPA can reduce human error as well as save costs associated with transactional activities. Some of the common procedures that organisations have automated so far include processing purchase orders and purchase requests, procure-to-pay functions, and spend analysis.

RPA can also contribute to enhancing Supplier Relationship Management by scanning supplier emails and highlighting interactions that need urgent attention. Contract Management is another area where RPA can help by running performance tracking mechanisms for contract usage to identify and calculate discounts, rebates, and tiered pricing.

Al-powered systems will be in high demand due to their advanced analytical capabilities. Alpowered analytical systems can improve predictability allowing organisations to have an agile supply chain in place. While the current technology of predictive analytics can predict future trends, the upcoming capabilities of predictive analytics will help companies in making the right decisions. By using category and supplier analytics, AI can predict changes based on market knowledge, and create negotiation strategies based on the suppliers. As Karen Stafford, General Manager Procurement and Supply at Energy Queensland notes, an important impact of such technology is data quality and reporting, as it supports decision making and strategy. Data cannot just be analysed but most importantly be interpreted to provide insights to stakeholders.

Al-powered analytics now enables procurement to improve compliance by integrating analytical models in requisitioning and invoicing process. These models can identify the correct buying channels, and predict fair-market-value, thus enforcing the right supplier selection and appropriate contract frameworks. RPA can play a big part in moving from transaction to strategic procurement.

Al-powered analytical systems will be in demand, as they can help in a variety of activities such as supplier sourcing and category analysis.

"

"Procurement systems are complex and expensive, and it can be hard to sell a business case to improve due to ROI. Is there a better way to automate, simplify?"

Jodi Huebert, CIPS Leader of the Year 2021.

b. Advanced Contract Lifecycle Management (CLM)

Contract Lifecycle Management tools with AI and Machine Learning capabilities will be in demand in the coming years. The current contract management process of many organisations has a strong human element at every step and is managed with a mixture of office products such as word processors, spreadsheets, and intranet sites. The advent of CLM software has enabled the industry to push contract management to a technology-centred process.

One of the biggest challenges of modern contract management is the sheer volume of contracts that an organisation needs to keep track of. With the current upcoming trends of multi-sourcing and new category developments, this number is expected to increase over the next few years. Managing legacy contracts and extracting information from the metadata of the documents often requires a human eye and is a tedious process.

Search capabilities are another challenge of traditional contract management tools, as searching often requires strict parameters for the query to successfully locate the correct document. However, with the help of AI the new generation CLM software is able to understand the meaning of search based on natural language processing algorithm, and the user's history. This search capability can also pull contract details not only from the contract repository but from cloud storage, emails, messenger boxes, and more, making sure there is an audit trail for every contract and amendment.

Looking ahead to 2030, many technology giants claim that CLM software would be able to replace the need for an actual person to read the contract. The Al contracting process would be able to completely take care of low-risk agreements and contract templates like Non-Disclosure Agreements. Al contracting process combined with Machine Learning would be able to predict commercial outcomes, of different contract models.

Additionally, Al-powered CLM tools will be able to make sure that the contracts are legal and comply with your organisation's policies, as it would be able to point out discrepancies that require attention and suggest appropriate contract clauses during negotiations. Next-generation CLM software can help tackle the challenges such as legacy contracts and the huge volume of contracts in an organisation.

Equipped with AI and machine learning, CLM software would be able completely to automate low-risk agreements.

CLM addresses issues of value leakage and contract risk management.

"The procurement and supply chain management industry needs a genuine service or product that can help them get a better understanding of demand management, security of supply, sustainability, tech and through-life management."

Adam Hughes, Senior Director, Group Commercial & Procurement, CLP Holdings.

c. Blockchain and Other Technologies for n-tier Supply Chain Visibility

Blockchain has been a revolutionary technology that will disrupt practices within the entire supply chain for some time. Blockchain can play a big part in enhancing supply chain visibility. The technology can handle components such as permissions, dates, and data access which is significant while enabling a transparent supply chain. Blockchain can also come to the rescue of firms that are nervous about increasing the transparency in their supply chain to third parties. For example, many businesses would like to keep their supplier base hidden to stay competitive in the market but are still required to share relevant information about their supply chains for complying with legislation. This is because blockchain allows multiple parties to exchange information without the need to trust each other because the technology can handle verification on its own from the data available.

However, blockchain alone cannot be the answer to improving supply chain visibility, it needs to be used alongside other technologies like AI and machine learning. For example, audits and certificates of origin are critical factors in supply chain visibility. Although blockchain would be capable of verifying the authenticity of such documents, you will still require other technologies such as AI to tell you which areas require the necessary audits and certificates.

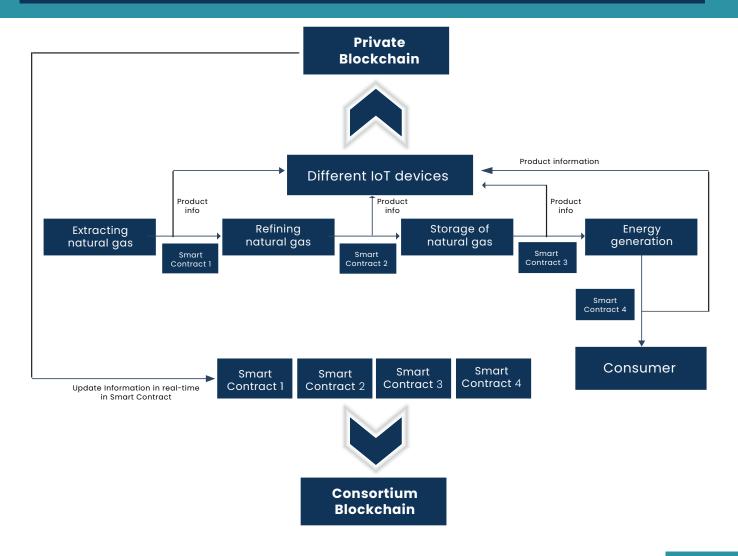
Other key technologies that organisations use to improve their supply chain visibility are mobile services, where messengers and bots are used to replace traditional audit services. These mobile services offer the advantage of real-time data, confidentiality, and reduced costs.

Blockchain can play a significant role in enhancing supply chain transparency. Blockchain would be able to handle permissions and data access which can enable supply chain visibility. Other technologies such as AI and mobile services are necessary to work together with blockchain in improving supply chain visibility.

RELEVANCE OF BLOCKCHAIN IN OTHER AREAS OF SUPPLY CHAIN MANAGEMENT

Blockchain features	Relevancy to SCM practices	Relevance to operational performance
Real-time information sharing	Critical for improving supply chain integration and developing strong relationship with supply chain functions.	Helps reduce lead time, improve planning and forecasting.
Cybersecurity	Provides secured transactions platform and leads to increase the trust level among supply chain stakeholders.	Improves inter and intra organisational privacy and trust level.
Traceability	Provides the finest traceability system and expands the transparency and auditability about material, product and information among SCM practices.	Provides traceability for inventory, an effective resource planning platform which leads to enhance the cost- saving, forecasting, and flexibility of the firm.
Reliability	Improves the reliability of the supply-chain functions such as close relationship with suppliers and customers, outsourcing, etc.	The Blockchain ensures the security and reliability of data, increasing trust in the firm, which is helpful to boost operational efficiency.

Conceptual Framework for implementing Blockchain in your Supply Chain



This framework makes use of IoT devices, sensors and smart contracts to run the system. The function of the system is described as follows:

- 1. First the natural gas extraction company will initiate a smart contract with the refinery factory mentioning the conditions, quantity, and product-related information (Smart Contract 1).
- 2. Upon approval from both parties, the shipping will start, and the smart contract will start collecting data from IoT devices.
- 3. Both the refinery and extraction company can check if there is any violation of any parameters from the smart contract for tracking.
- 4. Then the refinery company will initiate its own smart contract according to the product information with the storage company (Smart Contract 2) and can check for any violations.
- 5. The storage company can then initiate its smart contract with the energy producer (Smart Contract 3) for procuring the natural gas for energy production.
- 6. Finally the energy producer can create its own smart contract (Smart Contract 4) for selling energy to its consumers.
- All the smart contracts will hold the information of its previous smart contract for violation in quality from tracking smart contract (Consortium Blockchain). But the product-information smart contract will only be accessed by the permissioned participants (Private Blockchain).

Traceability and Tracking Procedure: This framework uses IoT devices and sensors to collect tracking and tracing data. The sensors can also be used for detecting any leakage or measuring the weight. If there is a situation where leakage takes place, then IoT sensors will instantly update the information in blockchain and smart contract. Any participant can audit the blockchain later for tracking if there was an issue at the time of transporting or at any phase of the product cycle. RFID enables the receiver to authenticate the purchase. Moreover, blockchain technology will provide the complete security to the product information. The actors can also choose to differentiate among the information to open for all or hide. Eventually, the actors will have the advantage of keeping internal information secured and required information to be disclosed.





d. Cloud-Based Microservices and Low-Code Platforms

We have already seen a variety of cloud computing and Software-as-a-Service (SaaS) products support procurement and other business operations. This widespread use of cloud products makes it cost-effective and easier for companies to leverage microservices for a variety of applications. Organisations can integrate various applications within their current system without tedious coding work at a very low cost. Low code APIs can lead to connectivity and integration of various activities such as vendor onboarding, inventory analysis, and P2P processes.

This allows companies to mix and match various applications to suit their needs or trial how AI or advanced data analytics can help without making considerable changes to the existing systems. Additionally, these low-code platforms can also help companies mitigate the risks and costs of updating legacy solutions. Cyber security needs to be a prime consideration in using cloud solutions.

¹⁶ Haque, A. K. M., Hasan, M., Zihad, M., & Mondol, O. (2021). SmartOil: Blockchain and smart contract-based oil supply chain management.

e. Future of Procure to Pay and Materials Requirements Planning

While we have seen how automation can make P2P more efficient, the future of P2P is not only about automation. The same can be said of Materials Requirement Planning (MRP), building on capabilities within major ERP systems and independent inventory optimisation and freight management systems. Future P2P and MRP solutions would be able to bring more transparency and control over spend and create a collaborative relationship amongst stakeholders. The move to cloud will make P2P tools more affordable and will provide them with the ability to update functionality and innovate continuously with less hindrance to the daily operations.

The future P2P environment will be collaborative, autonomous, and more interactive. It will be autonomous by taking control of routine tasks such as forms management and processing, and collaborative by providing better compatibility with other systems such as MRP. P2P and MRP will be more interactive with bots assisting through a variety of activities which would make the experience more user-friendly for all the stakeholders. The system will provide an environment for networking with suppliers and other stakeholders as well as an ability to integrate external services such as market intelligence feeds. Machine Learning and Artificial Intelligence will enable the system to proactively learn and make improvement recommendations to various P2P activities and processes.

8. The External View – What are CEOs and Executive Teams Looking For, and How Do I Influence Them?

The time of asking for 'a seat at the table' is past. Procurement and supply chain will only get visibility from executive teams and Boards by delivering what the organisation needs to achieve its mission. This has moved beyond cost reductions to a broader value equation. Let's look at what some industry leaders have to say:

urement and Supply Chain in A Changing World

"How do we use procurement and the procurement team for cultural and capability transformation. We need that cultural mindset. The commercial nature of organisations is not as high as it could be, and includes social value, ESG, and sustainability focus. Procurement teams are partners in that culture and capability change."

Jo McConnell EGM People and Sustainability, AusNet

"

"In the short term,

markets will become even more accessible to smaller consumers of gas and electricity. Since the commencement of the NEM, most end users engaged set and forget contracts, these have now been shown not to work as technology and markets avail opportunities. End users are considering how to co-optimise fuels onsite and their own renewable energy production; and no doubt, in the future, how hydrogen can interact in the marketplace. The liquidity of the market and advisors such as RM Hedge and CQ means smaller players can now be active participants, rather than onlookers. Energy Procurement or procurement teams in general that have a mandate to manage energy risk (not just contracting) have an incredible opportunity to add value to their businesses, beyond just sourcing a lowest-cost contract." Marc Barrington, CEO SIMEC

15

"Commercial acumen. Do we understand what drives value, can we build business cases? We move from project phase to safe and sustainable operations with multi-decade lifecycles. How do we transition from project to operations and drive value - not just be process driven. We must understand the business, and this includes data and understanding the bigger picture. Everyone should have commercial and financial understanding including ROI capex, EBITDA, cash."

Jodi Huebert, CIPS Leader of the Year 2021.

"The future procurement and supply chain person is not like someone out of the past function, they need:

Risk planning therefore not just Understand coming in at end Good of matters geo-politics and Partnering with commercial how to integrate needs to be part business acumen supply chains of team culture and decision making

When I sit in front of executives, need to present geo-political understanding of my business and applying strategy as opposed to just hedging risk – this is in vogue due to the challenges faced globally ... and understanding energy in a global context."

Mark Shortman, Partner, Control Risks



"Procurement has been good at screwing down suppliers, and the efficient procurement of goods and services, but lacks long term strategies. The function has been segregated out too much, there is a yin and yang of 'the business knows best but they can't write contracts'. Scenario planning is lacking."

Doug Jackson, ex-COO AGL Energy

There is no magic solution. The hard work of aligning the function with the organisation's objectives, setting the right culture, getting the right talent, pushing for tech improvements over time, focusing on resilience, being change managers, and driving growth and sustainability are the key. Communicating and proving that to Boards, CEOs and executive teams will then give you organisational influence. "Procurement and supply chain functions must integrate with the product and commercial teams. Buy price is important, but it is **not** the end game. We need to look beyond price and focus on:

Time & certainty

Sustainability

Relationship-based partnerships, especially in times like COVID. (Good business partnering)

Leadership capability and talent at every level. Fewer people, better paid, highly skilled.

Removing the barriers to entry for talent. Promote on merit and understand constructs like time-based promotions are dated.

Business and risk strategy

Revenue security

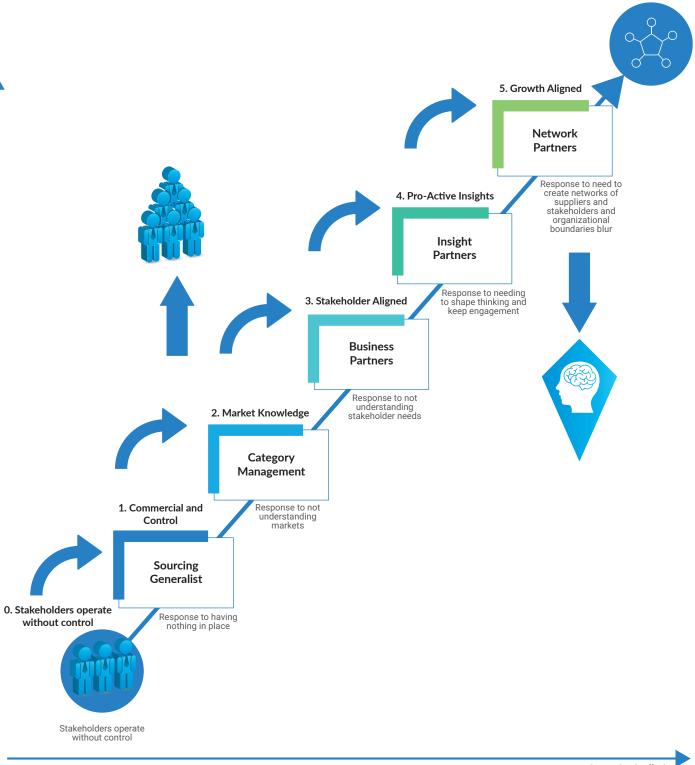
A holistic approach is necessary to win, people, partnerships & planning."

Stu Philpot, Co-founder and CEO, Upowr.

Procurement and Supply Management is changing as a result of these trends involving practices, methodologies and operating models

Procurement evolves by being constrained by the limits of its previous version

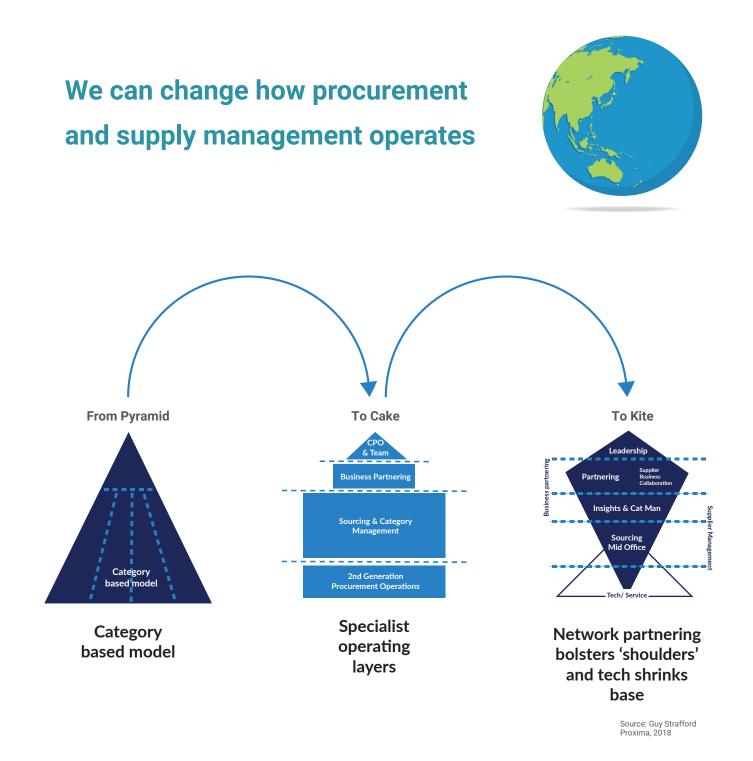
The model below, created by Guy Stafford of Proxima in 2018, aligns closely to our research on what constitutes a successful procurement and supply chain functional vision to provide your executive team.



Sophistication and closeness to business growth

Source: Guy Strafford Proxima, 2018

Maturity and Business Influence



9. What's Next?

Of all industry sectors existing across the private and public industry, the energy industry is experiencing more change and transformation than almost any other. There are strong indications that by the nature of the impacts from technology, investor and customer expectations, digitisation, talent shortages and other disruptive and innovative impacts, its transition is not a short-term journey but one that will extend over the medium and long-term before it reaches a new steady state. If indeed there is a future steady state as the industry continues to evolve.

It will need procurement and supply chain to embrace this change and transformation to be successful, and in some areas, for the function to lead that change. To do that, procurement and supply chain must itself evolve and be ready.

We hope the insights and views in this Paper stimulate thinking and conversation, provide a guide to be being prepared for change in an uncertain world, and show that what you do now will fundamentally shape the future.

a. Snapshot: Procurement and Supply Chain Industry Helpful Resources

PROCUREMENT AND SUPPLY CHAIN INDUSTRY RESOURCES

Name of resource	What does it do?	What benefits do I get from it?	Tips on how I get it, and use it
Beroe	One of the leading providers of procurement intelligence and supplier compliance solutions.	Can provide intelligence and analytics for supplier sourcing through category intelligence, advanced benchmarking, and R&D catalogues.	You can request reports and insights according to various industries, in different categories. Subscribe to Beroe LiVE.Ai for real-time, Al-powered data and intelligence services
Bureau Van Dijk	Leading intelligence provider on organisation information which include financial information, risk scores and sanction lists.	Helps identify your risk areas. Ability to screen suppliers against sanction lists, and benchmarks, and adverse news	Make use of various tools such as Procurement Catalyst, Orbis, Review, or Grid, according to your requirements. A free trial is available.
CASME	Another networking platform for procurement professionals to share best souring practices	CASME helps you to connect directly with other members who are willing to share the knowledge and experience you are after Provides a safe environment to share and test your strategies with	Make use of the networking services to ask for recommendations, review your strategies, suggestions, new tools, and templates etc Also make use of the benchmarking and insights services provided by them

Chartered institute of Procurement and Supply (CIPS)	Brings together its members for sharing best practice and provide global reach Provide procurement training and skill building services Sets the global standard of procurement & supply and is an awarding body Provides a qualification framework from 'Introduction' through to 'Advanced professional' To meet its royal charter and as a not-for-profit 'it does public good'	Access to all 5 components in what 'does it do' Members can utilise the global reach and maximise their own personal and professional network	Online joining on www.cips.org Participate in the many events, webinars, seminars, panels, and common interest working groups Select the preferred training course online Access the online resources, data, reports, insights, and discussions to build knowledge and stay up to date on current trends and news
Gartner	Gartner conducts research and analysis on various technologies for your organisation	Provides industry best practices on technology implementation Recommend pricing and packaging options for various techs	Make use of research reports such as Magic Quadrants, and hype cycles Work with your account managers and analysts to set up alerts Make sure you brief your analysts about your requirements, and also take the opportunity to ask them questions
PASA - Procurement and Supply Australasia	One of the largest providers of information and education to procurement and supply chain professionals across Australia and New Zealand	Provides a rich list of resources including articles, whitepapers, webinars, training, and educational content Events to build your network as well as explore on how to tackle the current challenges in the industry	Make use of the available webinars, educational content, white papers etc Use PASA Connect for peer-to-peer networking and development Attend PASA conferences
Procurement Leaders	Provides strategies, and benchmark- ing services to CPOs and leadership teams	An exclusive approach to solve your procurement challenge with proper benchmarking, mapping, and prioritising, building a value plan, and progress measuring tools	Once you sign up for the membership, you can make use of the research and insights, successful case studies, practical guides, ready to use tools etc
Procurious	Social network for procurement professionals	Provides a platform to expand your procurement network Access various articles, forums, and online learning content Join various events and discussion groups	Similar to LinkedIn, create a strong profile and connect with other procurement professionals Join events and discussion groups
Spend Matters Solution Map	Provides a ranking of various solution providers Can help you asses provider capabilities according to your needs	Coverage of latest procurement trends Buying recommendations on various solutions Articles on how a vendor excels including customer scenarios	Once you sign up, you can choose the software category you want to explore and then pick a persona for what type of business you are. Then the solution map will provide a market overview of various tools that fit your organisation
State of Flux	Procurement and SCM consulting firm specialising in contract lifecycle management, category management, and supplier management services.	You can access case studies, operating models, and benchmarking reports. Also, offer supplier management services through software called SupplierBase.	Free research reports are available on the website including SRM surveys, COVID-19 supplier operating standards, etc A free demo of SupplierBase is also available on request.
World Commerce and Contracting	World Commerce and Contracting is a not-for-profit association for promoting standards and raising capabilities in commercial practice.	Provides research and analysis on contract design and simplification. Provides advocacy services on improving commercial capabilities, and simplify contract designs, and capturing social values. WCC hosts regular conferences and summits, provides resources, and certifications for improving individual as well as team's commercial capabilities.	Provides individual memberships starting from 1 year. Can also provide memberships at discounted fees for corporates. Once subscribed you can make use of reports, and frameworks to improve contracting capabilities. Join WCC community, as well as access various learning resources to complete certifications.

Some of the procurement podcasts worth tuning into.

Websites for latest news and insights on supply chain management.

1- Art of Procurement 2 - World of Procurement 3 - Decision that matters 4 -The Sourcing Hero

1 - Supply Chain Brain 2 - Spend Matters 3 - Supply Chain Digital 4 - CPO Rising 5 - Future of Sourcing

1. Digitisation/Technology

- How vital digital transformation is Message to the leadership team, make funding available, Demonstrate ROI, automating and standardizing transactional activities.
- Latest Technologies that are available in the market for the procurement industry.
- Adapting to industry standards v/s custombuilt solution which is fit for the organisation.

2. Policies and Compliance

- Modern Slavery Provide Framework/checklist.
- Security Legislation Amendment (Critical Infrastructure Protection) Act 2022 (SLACIP Act) (which implements amendments to the existing Security of Critical Infrastructure Act 2018 (Cth) (SOCI Act)) – Importance of Cybersecurity in the supply chain.
- Supply Chain Mapping/Visibility is vital for the above policies, and how technology can help?

3. ESG/Sustainability

- How procurement can deliver value generate more value.
- Promoting local suppliers, circular economy etc. (this helps with modern slavery compliances).
- Lifecycle management of assets. –Generating more value at same price.

4. Renewable Energy/Net Zero targets

- Future energy market trends, battery supply chain, green gas/hydrogen etc.
- Procurement of new commodities, new suppliers, and new technology.
- Closure of coal plants?
- Data-driven industry. Strong IT procurement strategies required.

5. COVID-19 impact

- Supplier risk management. Ensuring contracts are fit for the future, Economical changes, inflation, increasing commodity prices.
- Understanding market and supplier capabilities.
- Moving away from single sourcing.

6. Organisational Changes

- Business partnering with stakeholders.
 Educating business on forecasting, budget, and planning.
- Pros and cons of centralised/decentralised/ hybrid procurement
- 5-year revenue/budget.
- Better delegation of power.

7. People and Talent

- Attracting and retaining talent.
- Pros and cons of an agile workforce.
- Strategic and agile mindset, and cultural intelligence.
- Capability, and understanding of engineering, tech, and design aspects of the business.
- Business acumen understanding global economic risks, inflation, CPI etc.
- Losing talent for digital transformation and to comply with policies.
- Knowledge management in agile workforce.

8. Supplier Relationship Management

• Promoting innovation, fewer tenders-more RFPs.

9. Other Themes Identified

- Managing tail spends, IT portfolio, and small suppliers.
- Ensuring the right contracts and purchasing frameworks for the above-mentioned categories

SUPPLIER PREFERENCING

Originated by Paul Steele and Brian Court in the mid-1990s, the model enables procurement functions to better understand the relationship between organisations and their suppliers.



Supplier Preferencing is a two part tool that helps you better understand the supplier/buyer relationship **Part 1:** Supplier Segmentation helps you to view your business from the supplier's perspective **Part 2:** Supply Positioning helps you view the supplier in relation to your business's priorities of controlling risk and spend



Supplier Preferencing is an effective tool that helps you both formulate a strategy for your business and better understand a supplier's possible strategies with regard to your business

WHEN WILL I USE IT?

The tool is useful when you are:

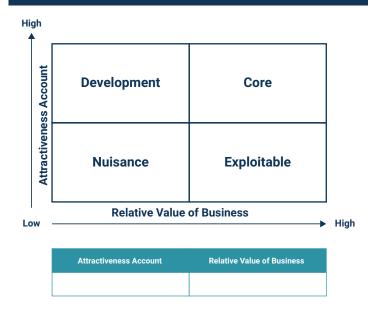
- Developing supplier strategies
- Preparing for negotiation with a supplier
- Evaluating a potential supplier partnership
- Selecting a supplier for a long term contract



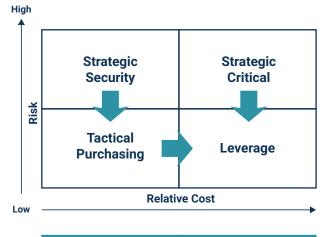


SUPPLIER PREFERENCING TOOL

MARKET SEGMENTATION BY SUPPLIER



SUPPLY POSITIONING



Relative Cost	Supply & Business Risk

APPLY THE SUPPLIER PREFERENCING TOOL

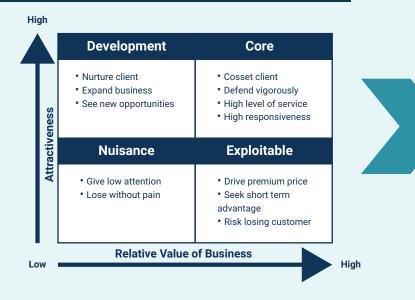
Step 1. Estimate where the supplier sees our account in terms of the Market Segmentation by the supplier Matrix - Development, Core, Nuisance, Exploitable.

Step 2. Where is our supply spend in regard to the Supply Positioning Risk and Spend Matrix – Strategic Security, Tactical Purchasing, Leverage, Strategic Critical. **Step 3.** See next page "Supplier Market Segmentation by Supplier Positioning" for the implications of dealing with this supplier.

Strategy & Tactics

SUPPLIER SEGMENTATION





The attractiveness and value of the account leads the suppliers to view your business's account in the following ways:

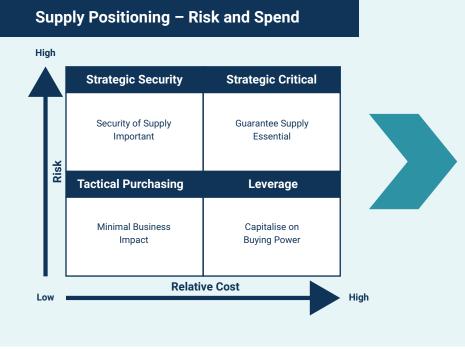
• Nuisance – low value, not very attractive. Supplier usually will show little interest and support and may cancel account.

• **Development** – low value but attractive. Supplier may believe it leads to additional business or contract growth.

• **Exploitable** – high value, forming significant part of his business but not attractive. Supplier might try to increase prices or gain other benefits.

• **Core** – high value, highly attractive. Supplier will work hard to keep and provide a high level of service.

SUPPLY POSITIONING



The risk and relative cost of the supply category determines your business's strategy:

• **Tactical acquisition** – minimise attention needed; potentially turn over to supplier.

• Strategic security – ensure security of supply; it is very high risk if supplier views your business as a nuisance.

• Leverage – drive profit and increase bargaining power to reduce cost.

• Strategic critical – manage supplier closely; ensure security of supply while obtaining leverage benefits.

SUPPLIER SEGMENTATION

Strategic Security

Development	Core
POTENTIAL RISK * Raise Mutual Dependency * Offer Inducements	GOOD MATCH * Long Term Contract * Closer Relationship
Nuisance	Exploitable

Strategic Critical

Development	Core
POTENTIAL MATCH *Work Closely with Supplier to Develop Business	GOOD MATCH *Potential Partnership
Nuisance	Exploitable

Tactical Purchasing

Development	Core
GOOD SUPPLIER INTEREST * Offer Incentives * Raise Mutual Dependency	GOOD MATCH * Maintain Long Term * Be Prepared to Offer Other Contract Opportunities
Nuisance	Exploitable

Leverage

Development	Core
SUPLIER DEVELOPMENT OPPORTUNITY * Encourage Participation	COMPATABLE SITUATION * Encourage
Nuisance	Exploitable



EPSA Procurement and Supply Chain in A Changing World

10. Reading

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For more information about the contents of this paper or the Energy Procurement Supply Association:



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