Major Projects, Major Decisions, Major Impacts

Taking a strategic approach to procurement in Australia's large-scale capital projects
In recent years, Australia’s resource riches have made the country a focal point for major capital projects. In 2012, the Australian resources sector invested more than A$95 billion in capital projects – four times the investment seen in the next biggest industry, manufacturing.  

Capital investment slowed in the second half of 2012 up to 2013, with large mining companies shelving long-standing projects in response to lower commodity prices. It is unlikely this decrease will continue, as the predicted demand for Australia’s resources from China and India will lead to a substantial number of new capital projects in late 2013 and beyond, driving larger project expansions.

As a result of this expected investment activity, the demand for products, materials, services and specific skilled resources has increased substantially, causing pricing volatility, escalating costs and resources competition. Due to this increased demand and limited resource availability, construction costs have increased dramatically and are becoming a serious threat to future capital program investment. Companies also need to take a more dynamic approach to managing their capital programs, as the environment they operate in becomes increasingly unstable.

Based on a recent Accenture studies on capital projects, high-performing companies are responding to these pressures by taking a more strategic and dynamic approach to capital procurement (sometimes referred to as project sourcing).

Traditionally, capital project teams have used tactical procurement to support their projects. This tactical approach, though good for small, well-defined projects, can be restrictive for larger, less defined projects in a market with limited resources. A lack of strategic procurement experience has meant that project teams fail to focus on the benefits of involving procurement in the initial design and do not recognise the challenges of changing markets or the need to integrate a strategic approach throughout the lifecycle of a capital project. This traditional approach of applying tactical procurement principles for projects of any size can be costly, leading to inefficient buying arrangements that are not aligned with the goals and objectives of the project. It can also prevent capital project teams from using the full range of commercial contracting and procurement leading practices available.

This paper is designed to help companies understand the benefits of taking a more strategic and comprehensive procurement approach in their capital programs. This method, known as ‘Project Sourcing’, is a systematic, fact-based approach that aligns the goals of the procurement organisation with those of the capital project team. This approach has already been used around the world to reduce costs, help keep projects to schedule and decrease risk in acquiring the necessary goods, services and skills required to successfully complete capital projects.

We have identified a number of key areas where organisations can apply strategic, dynamic procurement principles to drive successful capital projects. These key areas are the following:

- establishing project partnership structures with suppliers early in the design stage;
- identifying, managing and mitigating supply-chain risks;
- managing demand by developing technical specifications and commercial terms;
- selecting contract types that blend risk and are aligned with the project vision;
- improving materials management in the extended supply chain;
- managing supplier development and selection; and
- adopting a total lifecycle approach to project contracting.

By taking a more strategic approach to procurement across each of these areas, companies can increase the efficiency and effectiveness of the overall capital project and create a capital project team that acts as a centre of excellence which is in control of cost, schedule, quality and risk.
The Australian capital projects landscape has changed markedly over the last decade. In 2012, capital expenditure was dominated by mining, with approximately A$95 billion spent on new projects. This 800 per cent increase in the capital expenditure over the past 10 years has substantially increased the demand for materials, services and the skills required for capital projects and programs.

During 2012, capital investment decreased due to a drop in China's economic growth rates, lower commodity prices (including iron ore, coal and copper), and concern that the cost of capital project materials and services would increase.

This decline has prompted high-performing companies to rethink their approach to procurement, and develop strategic ways to mitigate the costs of materials and services, which are predicted to rise again as capital project growth increases.

Accenture recently conducted a study of major resource industry companies in Australia to understand the challenges they face in developing and executing capital projects. This study highlighted the increasing need for a new approach of procuring materials, services and specialty skills for major capital projects.

Our experience in working with several Australian clients is that this new approach – where capital project teams work according to strategic procurement principles – has helped resource companies manage escalating costs, increasing supply-chain risk, and challenges involving labour relations and availability.

* Investment for Oil and Gas was low prior to 2009 and no data is available
Source: Australian Bureau of Statistics
Figure 2: Major industry challenges for resource companies

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of labour (78%) and problems with industrial relations (26%)</td>
<td>78%</td>
</tr>
<tr>
<td>High costs of construction in Australia compared to the other regions, jeopardising investment in Australia</td>
<td>42%</td>
</tr>
<tr>
<td>Uncertainty about Australia’s regulatory environment</td>
<td>42%</td>
</tr>
<tr>
<td>Unpredictable and onerous government approvals process</td>
<td>38%</td>
</tr>
<tr>
<td>Maintaining efficiencies and keeping costs down</td>
<td>21%</td>
</tr>
</tbody>
</table>

Note: Total percentages may not add up to 100 as participants were invited to provide more than one answer.

Source: Accenture research – “Charting a New Course for Capital Projects in Australian Mining and Energy”. 5
One way for resources companies and engineering, procurement and construction (EPC) businesses to meet these capital project challenges is to increase their use of strategic procurement in the initial design and EPC processes. In the past, major project organisations and EPC companies have taken a tactical approach to procurement. This means that the procurement team was only effective in completing the tactical and administrative purchasing tasks required to meet corporate or government procurement requirements.

In some cases, procurement became a separate support function rather than part of the integrated project team. In the future, capital project teams will need to take a more dynamic, strategic and integrated approach to procurement to achieve their goals. Accenture’s global experience shows that companies already applying this approach overseas have been able to cut costs by 20–30 percent for materials and services, and to reduce the time it takes to procure materials by 50 percent.

So what are the differences between tactical and strategic responsibilities for capital projects?

**Tactical responsibilities for capital procurement include:**

- managing the tendering and contracting process for services and materials;
- negotiating the terms required to meet project needs;
- managing contract administration;
- using incumbent suppliers to speed up the tendering process; and
- getting the procurement team involved on an ad hoc basis, focusing on providing contracts or orders as directed by the project and engineering teams.

**Strategic responsibilities for capital procurement include:**

- developing the project strategy using market intelligence;
- developing procurement and contracting strategies when identifying and selecting initial design and engineering firms;
- developing and managing a portfolio of global suppliers to increase competition and improve project performance, which includes seeking and building new relationships, especially those with the potential to add value or reduce risk and/or cost;
- developing supplier strategies that are aligned with the project’s short-term capital needs and long-term operating and maintenance needs;
- clearly defining the project’s real material and service needs, then converting them into accurate supplier specifications;
- engaging alliances or strategic suppliers early on, with the intention of bringing outside innovation in-house to influence the design and add value to the project;
- identifying EPC suppliers that have the full range of required capabilities and are capable of managing complex projects as well as the complexities of multiple joint venture partners;
- establishing commercial agreements that are aligned with the changing technical and project management needs arising throughout the project lifecycle;
- developing risk profiles that enable the project team to mitigate supplier and logistical risks and the subsequent impact on the project’s schedule and cost;
- identifying supply-chain opportunities at the program and project level. This includes determining which service and material opportunities exist within the company’s operations and maintenance (O&M) strategies, to ensure a best-in-class approach to procurement.

Figure 3 illustrates the new roles and expanded services provided by strategic procurement activities. These new roles involve integrating procurement within the project team and allows procurement to participate and add value to other capital project processes.
These new expanded responsibilities also align with the direct improvement areas identified in Accenture’s study of Australian capital project needs. As you can see in Figure 4 the activities associated with strategic procurement help drive high project performance. They act as a catalyst to enable the project to resolve problems early. They are aligned with market intelligence and the ability of procurement and contracting to add value to the overall project team.
Role of tactical procurement

Expanded engagement of strategic procurement activities

- Determine project drivers and needs
- Identify long leads, critical paths and strategic material requirements
- Define the partnering relationship, and the roles and responsibilities of each party
- Identify cross project needs
- Develop partnership structures
- Align project management and engineering needs with supply-chain activities
- Identify key areas of risk, as well as the likelihood and consequences of risks eventuating
- Define management and mitigation strategies
- Establish performance metrics
- Work with project management, engineering and construction teams to define commercial needs in support of technical and project goals
- Merge technical plans, commercial strategies, and pricing and contract requirements
- Define a process for tendering, evaluating and awarding contracts
- Evaluate available contract structures to balance project and supplier risks
- Modify contract structures to eliminate contracting gaps and encourage competition
- Define and conduct fact-based negotiations based on in-depth market knowledge of market and industry trends
- Implement excellent material controls
- Increase the use of Vendor managed inventory, Just in Time and other sequencing techniques
- Conduct statistical analysis of existing quantities and workflows
- Develop optimised physical flows from point of consumption to point of origin
- Create total visibility across all positions at all times
- Have a fully optimized cost base at each stage of flows
- Define supplier needs and areas where supply deficiencies exist
- Evaluate opportunities to outsource business processes
- Develop prequalification criteria that cover commercial, quality and technical needs
- Conduct global, regional and local request for information to identify suppliers
- Select suppliers based on project needs
- Evaluate and select optimal contract format
- Define contract clauses and definitions aligned with project needs
- Establish contract management system
- Ensure contract alignment between project teams
- Define standard approaches to contracts, pricing, administration and claims, contract performance monitoring and enforcement
By taking a strategic approach to procurement at the start of major capital projects, companies have a greater chance to meet or exceed their timelines and overall goals. This is because the strategic procurement approach can help organisations achieve:

- a clear definition of internal and external project team roles, responsibilities and performance measures;
- a better understanding of the risks involved, and the risk management and mitigation measures required;
- a clear definition of the scope of supply based on combined commercial and technical needs;
- an aligned approach to contracting that considers risk as well as the project vision;
- an approach to managing suppliers that emphasises expanding the potential pool of partners and selecting suppliers based on global trends and performance; and
- an integrated approach to contracting throughout the total lifecycle of the project.
Delivering value through strategic procurement

We have identified several areas that have a high potential to deliver value to resources companies in the Australian market. These strategic activities have allowed high-performing companies to rethink their approach to procurement, and mitigate and delay the effects of rising materials and services costs as capital project growth increases.

1. Establishing project relationship structures with suppliers early in the initial design of a project

A relationship structure defines the association, responsibilities, expectations and scope of each owner, client, material supplier and contractor involved in a major capital project. Each party needs to confirm that their relationship responsibilities are aligned with the overall project goals and objectives. Every party needs to provide a governance structure that allows for open communications and flexibility, and confirms that decisions are well documented and promptly made.

By taking a strategic approach to procurement, all parties can actively work to reduce their costs and enhance the operation of the relationship. This confirms that the work done by each party is aligned with the overall project goals and does not delay any other party’s contribution to the project.

Flawed relationship structures lead to poor communications, contractors making claims for additional payments, delivery delays, the need to redo tasks and missed opportunities. Making the initial effort and choosing the most appropriate procurement contracting arrangements help confirm that all expectations within the project are aligned toward achieving a common goal.

2. Identifying, managing and mitigating supply-chain risks

Over the past five years we have witnessed a growing focus on risk in major capital projects, particularly within supply chains. Supply-chain risks can include:

- suppliers being unable to meet agreed milestones or work within agreed costs;
- logistical problems delaying the movement of goods and services;
- increases in the cost of basic and specialty materials;
- skills shortages restricting the ability to meet staffing needs;
- labour management conflicts;
- changes in utility costs (such as energy and water); and
- fluctuating exchange rates.

By following the strategic procurement approach, companies can establish robust processes to manage and mitigate these and other risks. This process – which starts at the initial design and continues throughout the project lifecycle – is intended to identify opportunities and challenges. By having a formal strategic process in place, all parties can work towards the common goals of increasing quality, reducing cost, and minimising or eliminating schedule delays.

3. Managing demand by developing the scope of technical and commercial supply

The scope of supply defines the needs of each party in relation to the project goals. It can be functional or descriptive, depending on the project and the needs of each party.

Under traditional procurement approaches, engineering teams determine the specific requirements suppliers need to fulfil. In strategic procurement, the capital procurement project team should collaborate closely with engineering teams and suppliers to define clear supplier specifications and scope. Balancing the cost-benefit equation is a critical part of this process.

A strategic approach to procurement can help companies develop a detailed commercial and technical scope of supply that:

- aligns responsibilities with technical and commercial goals;
- defines the specific scope of supply needs in the context of the overall project;
- clarifies the technical requirements and enables more open communication with suppliers;
- identifies new global suppliers;
- establishes payment milestones that protect both parties;
• defines logistical needs and risks; and
• establishes clear performance measures for all parties.

By addressing each of these areas in the scope of supply, companies can construct effective procurement frameworks that help control costs and keep projects on schedule. This approach facilitates competition and drives clarity, flexibility and visibility throughout the procurement process.

4. Selecting contract types that blend risk and are aligned with the project vision

For a major capital project to succeed, project management, technical, finance, risk, supply chain, construction and operations teams need to work together to establish the right contract types and structures. This vital process establishes the framework for the project and guides relationships between stakeholders far beyond the completion of one capital project.

The challenge is that these contracting decisions are typically made early in the project’s lifecycle, often based on limited strategic knowledge of the overall goals, market conditions and suppliers.

The relevant teams should begin by developing extensive risk valuation models to guide operational risk management. They should also use real-options models in supplier contracts and value-at-risk models for critical flows, as well as working closely with finance teams.

In the case of strategic procurement and contracting approaches, companies and EPC businesses have a range of contract types to choose from, including:

• separate engineering, procurement and construction (E,P,C) contracts;
• combined engineering, procurement and construction (EPC) contracts;
• engineering, procurement and construction management (EPCM) contracts; and
• procurement, engineering, procurement and construction (PEPC) contracts.

Each of these contract types has advantages and disadvantages and needs to be evaluated against the complexity of the project, staffing requirements, pricing needs, and the capabilities of the owner and suppliers. No single solution is appropriate for all projects due to the diversity of needs and objectives in each capital project.

The choice of contract type is needs to take into account the pricing arrangement being selected and the associated risks.

For example, when there is a firm-fixed contract price (a turnkey arrangement), the contractor takes on the majority of the contract risk and cost increases are not passed on to the client. However, under a time and materials (TM) contracting arrangement, the client bears the majority of the risk. This type of contract is based on the actual labour hours and cost of materials required for a project – both of which can be hard to estimate accurately.
We have observed that contractors are reluctant to take on risk, preferring instead to shift the risk to the buyer. In the Australian market, contractors often demand higher fees for taking on this risk.

The strategic procurement approach can help parties select the most appropriate contracting arrangements by encouraging the integrated project team to work together to identify all the dimensions to be considered in selecting a contractor and increasing the competition between contractors. Moreover, this approach can be applied throughout the project lifecycle, when selecting engineering, EPC, materials and services suppliers.

5. Enhancing materials management in the extended supply chain

There is a clear need to effectively manage and use materials across the project supply chain. Project supply chains are often complicated by complex inbound logistics resulting in high inventory costs.

These complex logistics can become even more challenging in remote or environmentally locations where the supply chain visibility is essential to making sure the right materials are available at the right time.

Materials flow from many different (often international) sources to multiple (often outdoor) temporary warehouse locations without proper control mechanisms in place.

Organisations may need to rapidly reconfigure their supply-chain models to prevent interruptions in the supply chain. In addition, the supply-chain model may need to accommodate materials flowing into new project locations or back to the supplier base, to reduce costs and avoid wasting surplus materials.

Capital project supply chains should therefore:

• establish excellent material control measures;
• increase the use of vendor managed inventory, just in time and other sequencing techniques;
• be based on a statistical analysis of the existing quantities and material flows;
• set out the reasonable or mutually agreed way to confirm materials move from the point of origin to the point of consumption;
• create total visibility at all stages and at all times; and
• set out a mutually agreed enhanced cost base at each stage of the supply chain.
Developing a supplier base and selecting suppliers will continue to be a challenge in the Australian market as capital projects multiply and the demand for materials and service suppliers increases. To address this, organisations will need to explore new procurement strategies that respond to their cost, schedule and quality requirements.

Capital project teams need to develop a truly integrated cross-functional approach to managing their suppliers, based on joint teams, collaboration initiatives and investments sponsored at a senior level. This approach should include automatic monitoring and assessment of supplier performance, supported by early warning indicators that signal possible time or cost overruns.

Australian companies are already using a number of successful supplier management strategies, including:

- developing a demand plan to identify the key resource and supplier gaps that need to be filled;
- responding to environmental, heritage and labour issues by developing contracts that mitigate these concerns and help increase locally sourced materials and services;
- reviewing opportunities to outsource, especially where numerous companies can share common resources;
- identifying global suppliers that are capable of meeting supply needs;
- assessing supplier capabilities in areas such as finance; health, safety, security and environment; legal; and capacity and capability;
- evaluating markets to determine the project backlog, quality, productivity and labour availability of each supplier.

This strategic procurement approach helps companies engaging in major capital projects gain a more balanced understanding of markets, contractors' skills and the suitability of various suppliers for specific scopes of work.

For example, Accenture's clients have:

- used our service centre in the Philippines to support Microsoft's project planning and program management for a major South African mining company;
- used our Global Talent and Innovation network to provide off-site market intelligence and tactical procurement support to multiple on-site strategic procurement teams;
- established in-country industry hubs designed to support multiple clients' capital projects through the use of common in-country resources; and
- used procurement centres in low-cost countries such as China, Brazil, India, Korea and Vietnam, to identify and develop new supplier opportunities.

Performance management is another area where teams can develop their supplier base. By using key performance indicators (KPIs), leading companies can align their supplier's goals with the project goals. This allows both parties to focus on fulfilling the project requirements.

Typical measures for tracking a project’s progress in line with contractor performance include:

- average slippage (measured in A$), calculated by total planned project costs as a proportion of actual costs incurred to date;
- average slippage (measured in milestones), calculated by comparing the main planned milestones against the actual milestones achieved to date; and
- average slippage (measured in people days), calculated by the total planned people days as a proportion of the actual people days achieved.

Major projects present numerous challenges throughout the contract lifecycle which, if managed properly, can provide substantial value to all parties. Capital project teams can strategically manage these challenges and achieve desirable outcomes by:

- developing contract clauses that are aligned with the project needs;
- implementing systems that help manage the complexities of contract development, management and execution;
- using fact-based negotiations and risk management strategies to obtain reasonable value from contracts;
- enabling contracts to be transferred from development to execution, administration and close-out;
- developing a disciplined process for managing claims on contracts – such as a loss of revenue due to contractor-related delays; and
- defining standard approaches for dealing with contracts, pricing, administration, claims, contract performance monitoring and enforcement.
Conclusion

Procurement is one of the most important and complex factors in delivering successful capital projects. Taking a strategic approach to procurement allows businesses to better define project roles and potential risks, to clearly identify what needs to be supplied and who should supply it, to select the most appropriate contracting arrangements for the projects, and to increase the likelihood of meeting or exceeding timeframes and project goals.

In our experience, using a strategic procurement approach can cut material and services costs by 20–30 per cent and half the time it takes to procure materials. By adopting this approach, companies can mitigate or delay the impact of rising costs as the rate of capital project growth accelerates.

However, it takes time to implement the right procurement strategies, including selecting high-performing suppliers and integrating the strategic approach across the project lifecycle. Companies should explore strategic procurement approaches now, before activity in the resources industry increases. The businesses that take these approaches will be best to benefit from Australia’s resource riches.
About Accenture

Accenture is a global management consulting, technology services and outsourcing company, with approximately 261,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world’s most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments.


Appendix


4. Ibid.


Further information

To read more from Accenture on the themes discussed in this document, please visit:


- Developing Strategies for the Effective Delivery of Capital Projects: Accenture Global Survey of:


To discuss these issues and your requirements in more detail, please contact the authors listed.

Authors

Amrish Bhatia is a Sydney-based Managing Director and part of the Operations Management Consulting leadership team. He leads Accenture’s Sourcing & Procurement Business Services for ANZ, and can be contacted at amrish.s.bhatia@accenture.com.

Dr Rajat Dhawan is a Sydney-based Senior Manager with the Operations Management Consulting practice. He works with business leaders to improve operational effectiveness of supply chains and can be contacted at rajat.dhawan@accenture.com.

Fred Vitale is part of Accenture Global Capital Project Services Practice and has over 33 years of experience in developing and managing capital projects in more than 25 countries. Fred is also responsible for developing and managing Accenture’s project sourcing offering, which Accenture has used to apply strategic procurement principles in organisations around the world. Fred is a member of the North American Sourcing and Procurement Leadership Team and is based in Washington DC in the US. He can be reached at fred.m.vitale@accenture.com.

Olaf Schatteman is based in Sydney and is the Managing Director for Accenture’s Operations Consulting Business in Asia Pacific. He is also a recognised thought leader in the field of operations consulting; has published numerous articles and contributed to several supply-chain management reference books; and regularly presents at conferences. Having previously worked for Philips and Accenture in Europe, Olaf has extensive experience helping clients improve operational performance and bottom-line results, particularly in the areas of supply-chain strategy, service management, operations management, and sourcing and procurement. He can be contacted at olaf.schatteman@accenture.com.

Contact

For further information, please contact: amrish.s.bhatia@accenture.com.

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