EDSICO Knowledge Hub eBook

5 Critical Lessons from Delivering Australia's Biggest Infrastructure Projects

What the nation's top project leaders wish they'd done differently — and how to get it right from day one.

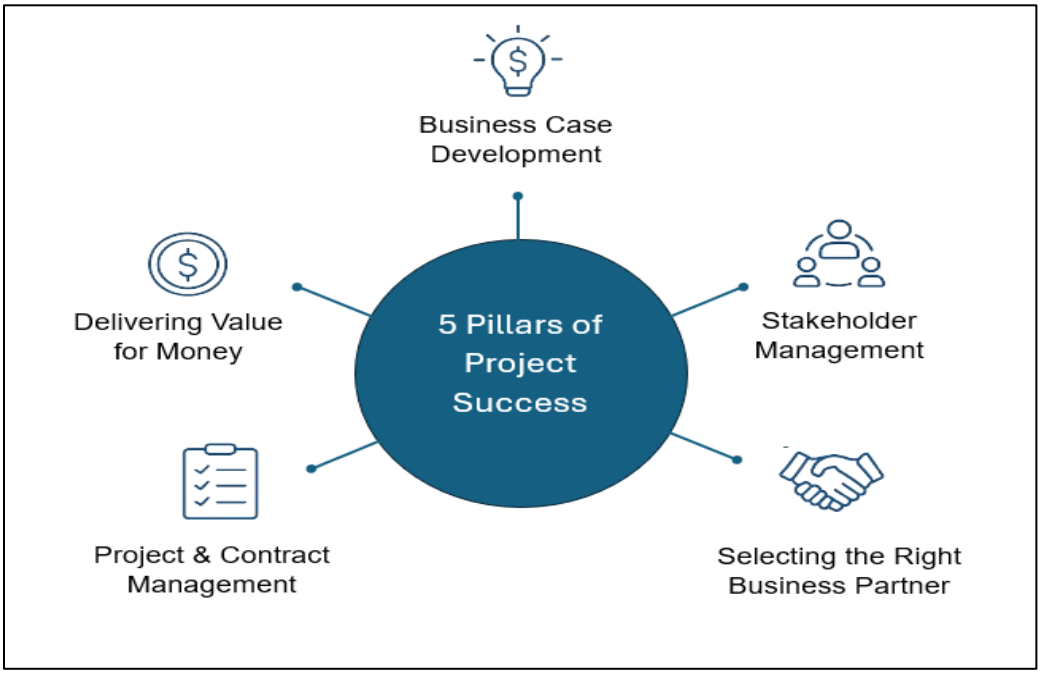
Contents

Executive Summary

This eBook distils decades of hands-on project delivery expertise into five key pillars essential for the successful execution of large-scale infrastructure, mining, and public sector programs. It is designed for project managers, delivery teams, and executive leaders involved in complex capital works. Whether you're preparing a business case, managing stakeholders, or steering a billion-dollar delivery program, these insights provide a practical, proven foundation for project success.

The Five Pillars of Successful Project Delivery:

1. Business Case Development – Ensure every project is viable, strategic, and justified.
2. Stakeholder Management – Engage the right people early, often, and effectively.
3. Selecting the Right Business Partner – Choose partners with capability, reliability, and shared values that align with your own.
4. Contract & Project Management – Align planning systems, deliverables, and teams to the intended outcome.
5. Delivering Value for Money – Prioritise lifecycle benefits, not just the lowest upfront cost.



Chapter 1: Business Case Development

Business case development forms the foundation of any significant project. It provides a structured rationale for why a project should proceed, what it aims to achieve, and how it aligns with broader organisational or governmental priorities. John emphasises the critical importance of this phase.

> **"If you don't define what you want at the beginning, you're not quite sure whether you've achieved it at the end."**

He points out that in large-scale projects like *Sydney Metro*, even the feasibility stage can take years, requiring extensive stakeholder input, technical modelling, and cost refinement. Private companies like BHP and Rio Tinto often conduct a conceptual study first, to weigh the return on investment between competing global projects — for example, a gold mine in Australia vs. an iron ore development in Brazil.

Public vs Private Sector Approaches

- **Government projects** demand transparency, public value, and cross-departmental approvals. Business cases must align with election cycles, interagency priorities, and funding frameworks for infrastructure.
- **Private sector projects** focus on **capital efficiency** and strategic fit. Decisions hinge on internal rate of return (IRR), risk exposure, and long-term operating cost.

Despite different objectives, both sectors apply a disciplined business case process to ensure viability, prioritisation, and alignment.

Key Areas of Viability

According to John, confirming project viability involves five critical assessments:

- **Technical Feasibility**
  Can the project be delivered using current technologies and within the physical site constraints?
- **Financial Justification**
  Are the returns adequate for the capital investment and risk?

- **Environmental and Regulatory Compliance**
  Will the project meet the necessary environmental standards and comply with the relevant approval processes?
- **Legal Constraints**
  Are there any issues related to land ownership, contract enforceability, or policy barriers?
- **Political and Economic Stability**
  Does the investment climate support the delivery and ongoing operation of the asset?

The Four Stages of Business Case Development

Both public and private sector projects typically follow a four-stage business case process, each with a unique purpose and increasing level of detail.

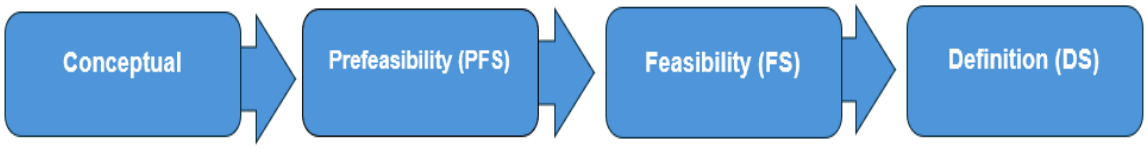


Figure 1 Four stages of business case development

1. Conceptual Stage

Defines the strategic issue or opportunity and outlines potential solutions at a high level.

2. Pre-Feasibility Study (PFS)

Assesses delivery options, broad risks, and costs using multi-criteria analysis. Filters out unviable paths.

3. Feasibility Study (FS)

Provides in-depth technical, financial, and environmental analysis. The outcomes guide procurement and design decisions.

4. Definition Stage (DS)

Finalises scope, cost (+/–10%), risk framework, and delivery method. Ready for funding approval and execution.

Example: In government projects, this process is usually aligned with gateway reviews — independent assessments at each key decision point to ensure readiness and rigour.

Tools Used in Business Case Development

- **Investment Logic Maps (ILMs):** Align investments with clearly defined problems and outcomes
- **Cost-Benefit Analysis (CBA):** Evaluate the net economic value of a project
- **Monte Carlo Simulation:** Quantify uncertainty and risk ranges
- **Scenario Planning:** Model different policy, market, or delivery assumptions
- **Stakeholder Mapping:** Identify support, resistance, and influence networks

Why It Matters

A strong business case does more than tick boxes — it becomes a strategic decision-making tool. It unites stakeholders, minimises risk, and provides a clear basis for measuring success. It also sets expectations regarding delivery scope, timeline, and funding, which reduces the likelihood of scope creep, budget overruns, or political misalignment.

Chapter 2: Stakeholder Management

Stakeholder management is vital in ensuring that project delivery aligns with community, regulatory, and client expectations.

Stakeholders include clients, joint ventures, regulators, local communities, and environmental agencies. John explains the importance of identifying each stakeholder, documenting their needs, and preparing a Stakeholder Requirements Specification (SRS).

> **"Not all stakeholders are going to be a fan of our project... but all of them need to be identified properly and managed**

For example, in a coal mining project, water discharge was affecting local creeks. Stakeholder engagement led to the implementation of demineralisation treatment and pipeline rerouting to meet environmental standards.

Key Elements of Stakeholder Management

Identification and Mapping

Use influence–interest matrices to categorise stakeholders:

- High influence, high interest: Manage closely (e.g. regulatory agencies)
- High interest, low influence: Keep informed (e.g. local businesses)
- High influence, low interest: Keep satisfied (e.g. funding bodies)
- Low interest, low influence: Monitor (e.g. distant observers)

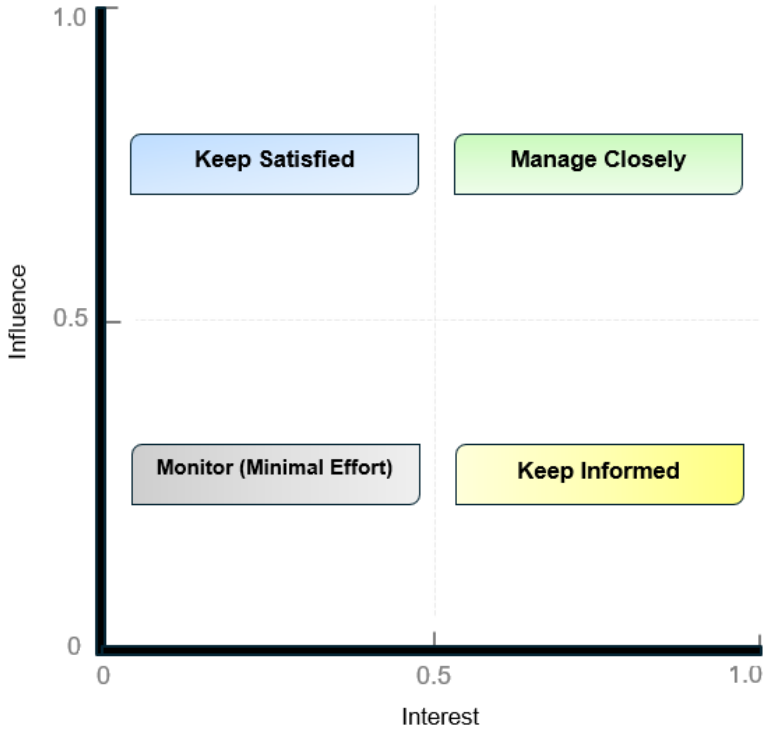


Figure 3 Iinterest matrices to categorise stakeholders

Engagement Strategies

- Develop a communication plan tailored to the stakeholder type
- Choose engagement level: Inform, Consult, Involve, Collaborate, Empower (per IAP2 Spectrum)
- Set clear engagement goals and assign owners (e.g., community liaison officer)
- Ensure feedback loops are built into the project reporting structure

Best Practices

- Start engagement early — ideally at the business case stage
- Hold stakeholder workshops or community panels for high-impact projects
- Document all commitments and follow up with transparent reporting
- Create a stakeholder dashboard to monitor ongoing engagement metrics
- Use plain language and culturally appropriate communication

Tools Used in Stakeholder Management

- Stakeholder Register
- Stakeholder Analysis Template
- Influence/Interest Matrix

Chapter 3: Selecting the Right Business Partner

Choosing the right delivery partner is one of the most critical decisions in major project execution. John shares examples of public and private sector procurement, noting that governments often choose partners with whom they've worked before, while private clients may run competitive prequalification processes.

"With the right partner, you can expect the right outcome—without it, well…

Project Management Skills & Team Availability

A partner may have an excellent reputation, but what truly matters is the actual team they assign to your project.

You should assess:

- The qualifications and experience of key personnel (Project Director, PM, Controls Manager)
- Their availability during the project lifecycle
- Past delivery performance under similar contract types and complexity levels

SWAT Analysis

A SWAT in this context refers to: Strengths, Weaknesses, Ability to Deliver, and Transparency. This gives a more transparent lens on delivery risks and cultural fit. Consider:

- Do they overpromise and underdeliver?
- Have they failed to disclose disputes or poor performance on previous contracts?
- Can they manage large multidisciplinary teams?
- Are they aligned in their delivery philosophy?

Partner Continuity and Transparency

Continuity ensures the same team stays engaged from bidding through to delivery. Inconsistent personnel lead to communication gaps and frustration among stakeholders.

Transparency includes:

- Open reporting of risks
- Participation in joint governance
- Alignment with project values

Key Personnel Clauses in Government Tenders

Many government agencies now insert 'no substitution' clauses into tenders, ensuring:

- The people proposed during the tender must remain throughout the delivery
- Replacements require client approval
- Swapping key staff post-award can breach contract terms

Opportunities for Smaller Firms

Strategies include:

- Joint Ventures (JVs)
- Subcontracting specific scopes with Tier 1 or 2 firms
- Pre-qualification or preferred vendor programs

Contract Clarity & Planning Foundations

Success hinges on a well-defined contract and structured project controls:

- Scope: Clear deliverables and boundaries
- Standards: Technical, environmental, safety expectations
- KPIs: Metrics tied to progress and milestones

- Change Control: A Formal process for managing variations

Work Breakdown Structure (WBS)

A WBS links Scope → Schedule → Cost → Deliverables and Enables:

- Better task ownership
- Clear cost coding
- Easier performance tracking
- Integrated Systems for Control

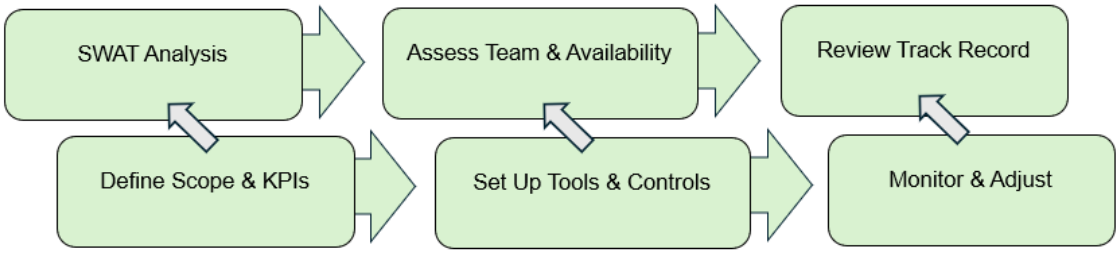


Figure 4 Partner selection and the delivery integration process

Use tools that integrate across disciplines:

- Scheduling: Primavera P6, MS Project
- Budgeting: EVM, Oracle, Deltek
- Quality: Inspection/test plans
- Document Control: Aconex, Procore

Government tenders often include key personnel clauses that prevent the swapping out of the delivery team after award. Smaller firms can partner with larger contractors or form joint ventures to deliver billion-dollar projects.

Contracts must define scope, standards, KPIs, and change processes. A well-structured Work Breakdown Structure (WBS) is crucial for aligning scope, cost, time, and deliverables.

Integrated systems (e.g., scheduling, budgeting, and quality) enhance control and reporting.

Chapter 4: Contract & Project Management

Once the delivery team is in place, success hinges on robust planning, clear scope definition, and disciplined execution control. John emphasises that large-scale projects — particularly those in infrastructure and mining — must be managed with structure and foresight to minimise delays, manage complexity, and maximise value.

At the heart of successful project execution lies the Work Breakdown Structure (WBS). This critical planning tool breaks the project into manageable work packages, enabling precise alignment between scope, schedule, cost, and deliverables.

> **"Failing to plan, is planning for failure"**

Key Elements of Project Control

To ensure accountability and maintain momentum, projects should include:

- **Scope and Design Definition**
  Clear delineation of boundaries, deliverables, and stakeholder expectations to avoid scope creep.
- **Procurement Timelines and Lead Items**
  Early identification of long-lead components (e.g., specialised equipment) and integration into the master schedule.
- **Variation Approvals and Risk Tracking**
  Established change control processes and a live risk register to monitor issues in real-time.
- **Cost Codes and Progress Tracking**
  Budget control systems that integrate with the WBS to ensure accurate forecasting and performance reporting.

John notes that on complex brownfield projects, where existing assets and systems add uncertainty, rigid change control and well-structured coding systems are essential to avoid hidden risks and budget blowouts.

Tools and Systems to Support Execution

A suite of integrated systems should support real-time control and transparency:

- **Primavera P6 or Microsoft Project** for baseline and critical path scheduling
- **Earned Value Management (EVM)** to track cost and schedule performance
- **Document Management Tools** (e.g., Aconex, Procore) to maintain version control and auditability
- **Contractor Performance Frameworks** for ongoing review of quality, responsiveness, and compliance

Routine review meetings, structured reporting hierarchies, and alignment between commercial and delivery teams all contribute to delivery discipline.

Chapter 5: Delivering Value for Money

Value for money isn't just a government objective—it matters to every client. Projects must strike a balance between cost, quality, schedule, and client satisfaction. John highlights how private clients may terminate contracts or cut scope if value expectations are not met.

> **"well-managed contracts, disciplined controls, and value-oriented decision-making drive project success."**

Key factors include:

- Realistic cost estimates and avoidance of over-engineering
- Continuity of key personnel
- Understanding client priorities (e.g., performance vs price)
- Benchmarking and lessons learned

Public agencies use ROI, value-for-money tests, and competitive scoring to validate proposals. Clients need honest delivery partners who will bring their best team to the job, not just to win the bid.

Value for Money (VfM) as a Guiding Principle

Delivering projects isn't just about execution — it's about delivering value. Governments and sophisticated private clients use VfM frameworks to evaluate whether a proposed delivery pathway justifies the investment.

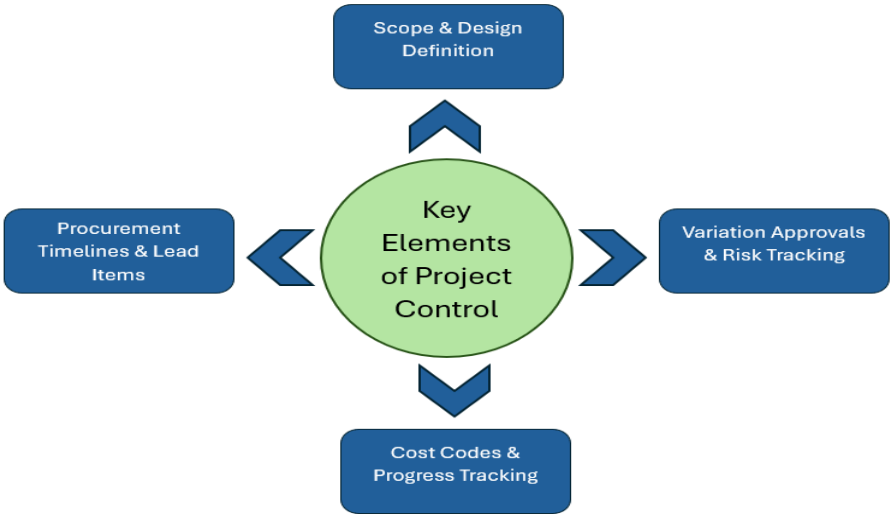


Figure 5 Key element of project control

Standard VfM Assessment Methods:

- Public Sector Comparator (PSC)
  Used by governments to benchmark against traditional procurement costs.
- Discounted Cash Flow (DCF) Analysis
  A financial modelling method to calculate net present value of investment options.
- Lifecycle Cost Modelling (CAPEX + OPEX)
  Essential to ensure that operational costs do not outweigh upfront savings.
- Outcome-Based Contracts
  Payments are tied to the achievement of objective performance indicators, not just milestones.
- Post-Project Audits
  Used to assess whether projected benefits were achieved and where improvements could be made.

Strategies to Optimise VfM

John suggests that private clients often view VfM through the lens of risk exposure, execution speed, and cash flow impact, rather than just net cost.

Innovative contracting strategies like:

- Alliancing – Shared risk and reward model for integrated delivery
- Incentive-based contracts – Bonuses for early delivery or exceeding KPIs
- Bundling – Combining scopes for commercial or scheduling efficiency

These mechanisms can unlock more efficient delivery, especially in capital-constrained or politically sensitive environments.
Whether working with government or private sector clients, project teams must combine the structure of systems with the adaptability of leadership, using tools, data, and insight to stay on course.

The WBS should allow for code-level tracking and be supported by planning tools. Change management systems are critical, especially on brownfield projects with existing constraints.

Conclusion: Final Reflections

John's five pillars—business case development, stakeholder management, business partner selection, contract and project management, and value for money—are cornerstones of large-scale delivery.
These lessons remind us that successful projects start well before ground is broken and rely on thorough planning, transparent engagement, and capable leadership.

What's Next?

At EDSICO, we support public and private sector organisations throughout their project lifecycle, from initial feasibility studies to project delivery, and enhance project delivery through insights, training, and leadership support.

Book a free consultation to explore how these principles apply to your organisation.

Here's how you can go further:

- Visit https://edsico.com.au/ to learn more about our solutions.
- Explore our knowledge Hub for more eBooks and free resources.
- Join the EDSICO Academy and enrol in expert-led training courses.

Biography

About John Szmajda – Commercial Director at EDSICO

John Szmajda is a seasoned professional with over 40 years of experience in project delivery and contract management, spanning both the public and private sectors. His expertise spans the entire project lifecycle, including business case development, engineering design management, and construction oversight.

John's portfolio features significant infrastructure projects, including desalination plants, wastewater facilities, and specialised logistics hubs. He has led complex initiatives for government clients and multinational contractors, ensuring regulatory compliance and stakeholder satisfaction.

Notably, as Contracts Manager for Veolia Water on the Springvale/Mt Piper Desalination Facility, he excelled in project governance, risk management, and stakeholder engagement, all while navigating stringent environmental regulations.

John's ongoing role at EDSICO Pty Ltd involves consulting on medium and large-scale infrastructure and energy projects. His strengths include project and engineering management, contract negotiation, risk control, multi-stakeholder coordination, and governance reporting.

His strategic foresight makes him a trusted advisor for complex, high-value programs. "From concept to contract, John's experience ensures delivery with discipline and purpose."

About EDSICO

EDSICO is a leading Australian project management company with access to global expertise. At EDSICO, we have highly qualified and professional teams who provide a range of services to develop projects from inception to delivery and commissioning.

EDSICO has been operating since 2006, with a primary focus on providing a comprehensive range of integrated project services for infrastructure projects. With 25 Years of experience from multi-billion-dollar projects and serving numerous clients, EDSICO opened its first Australian Branch in Sydney in 2014.

We appreciate that our clients are different, and their projects are unique, so one solution doesn't fit all. This is why we take the time to listen and analyse each client's specific requirements, enabling us to provide tailored solutions that adequately address their needs.

EDSICO's client portfolio includes a range of public and private sector clients, including Australian Federal, State, and local government agencies, as well as tier-one contractors and Consultants.

Further Reading and Standards References

PMBOK® Guide – Seventh Edition

Publisher: Project Management Institute (PMI), 2021

📘 *Core reference for project management professionals. Covers stakeholder engagement, benefits management, tailoring, governance, and value delivery—key to all five pillars.*

🔗 https://www.pmi.org/pmbok-guide-standards

ISO 21502:2020 – Project, Programme and Portfolio Management

Publisher: International Organization for Standardization

📘 *Outlines the full life cycle of project delivery, including roles, governance, business justification, stakeholder coordination, and integrated planning.*

🔗 https://www.iso.org/standard/75794.html

Infrastructure Australia – Assessment Framework

Publisher: Infrastructure Australia, 2021

📘 *Specifically focused on large-scale infrastructure projects. Provides tools for business case development, options analysis, value-for-money evaluation, and stakeholder engagement.*

🔗 https://www.infrastructureaustralia.gov.au/publications/assessment-framework

Project Strategy & Delivery Readiness Checklist

How to Use This Checklist

This checklist is a practical tool designed to help project teams, delivery leaders, and consultants assess their project's **readiness and alignment** with the five strategic pillars outlined in the EDSICO framework for successful delivery.
Each pillar represents a critical component of project success in infrastructure, mining, and capital works. By reviewing each item and marking your status, you will:

- **Identify gaps** in planning, stakeholder alignment, delivery systems, or value strategy
- **Support risk mitigation** by surfacing issues before execution begins
- **Improve team alignment** through structured discussion and shared understanding
- **Track improvements** across time or multiple projects
- **Demonstrate due diligence** in client, board, or funding reviews

Projects that score well across all five pillars are far more likely to be delivered on time, on budget, and with stakeholder satisfaction.

1. Business Case Development

Key Area	Questions	Status
Viability	Have you defined the strategic need and problem statement clearly?	☐ Yes ☐ No
Financial Justification	Have ROI/IRR, funding models, and capital risks been analysed?	☐ Yes ☐ No
Regulatory Fit	Are environmental, legal, and policy compliance needs identified?	☐ Yes ☐ No
Tools	Have you used ILMs, CBA, or Monte Carlo simulations?	☐ Yes ☐ No
Stage Gate	Has your business case passed gateway or executive reviews?	☐ Yes ☐ No

2. Stakeholder Management

Key Area	Questions	Status
Identification	Have you mapped all stakeholders using an interest/influence matrix?	☐ Yes ☐ No
Communication	Is there a tailored plan for each stakeholder group?	☐ Yes ☐ No
Feedback	Are feedback loops and SRS (Stakeholder Requirement Specs) in place?	☐ Yes ☐ No

Community	Have you engaged with high-impact or sensitive groups early?	☐ Yes ☐ No
Tracking	Do you maintain a stakeholder engagement dashboard or tracker?	☐ Yes ☐ No

3. Business Partner Selection

Key Area	Questions	Status
Capability	Have you assessed the actual delivery team's skills and availability?	☐ Yes ☐ No
Cultural Fit	Has a SWAT (Strengths, Weaknesses, Ability, Transparency) analysis been conducted?	☐ Yes ☐ No
Continuity	Do contracts prevent post-award team substitutions?	☐ Yes ☐ No
Transparency	Does the partner provide open reporting and risk disclosures?	☐ Yes ☐ No
SME Access	Are JVs, subcontracting, or vendor programs open to smaller firms?	☐ Yes ☐ No

4. Contract & Project Management

Key Area	Questions	Status
WBS	Is there a well-structured Work Breakdown Structure in place?	☐ Yes ☐ No
Change Control	Do you have a formal variation and risk tracking process?	☐ Yes ☐ No
Planning Tools	Are P6, EVM, or similar platforms used for schedule and cost control?	☐ Yes ☐ No
Document Control	Are systems like Aconex/Procore used for traceability?	☐ Yes ☐ No
Alignment	Are commercial and delivery teams aligned through structured reviews?	☐ Yes ☐ No

5. Delivering Value for Money (VfM)

Key Area	Questions	Status
VfM Methodology	Are PSC, DCF, or Lifecycle Cost Models used?	☐ Yes ☐ No

Cost Realism	Are the scope and design optimised to avoid over-engineering?	☐ Yes ☐ No
Client Priorities	Are client values (speed, flexibility, risk) clearly understood?	☐ Yes ☐ No
Outcome Contracts	Is payment tied to outcomes, not just milestones?	☐ Yes ☐ No
Lessons Learned	Are post-project audits and benchmarking in place?	☐ Yes ☐ No

When projects align with all five pillars, they are far better positioned to be completed on schedule, on budget, and with strong stakeholder engagement."

Summary & Next Steps

After completing the checklist:

- Review your total and per-pillar scores.
- Use the outcome to facilitate conversations or decision-making.
- Revisit the checklist throughout the project lifecycle to assess changes.

Need Support?

If your results show challenges in one or more pillars, **EDSICO is here to help**.

📞 Book a Free Consultation with EDSICO

👉 https://edsico.com.au/
📧 Email: info@edsico.com.au
🔗 Or reach out via LinkedIn

Download the full eBook
Learn how Australia's top infrastructure leaders ensure project success using the 5 Pillars framework.
👉 Download your free copy

Watch the full podcast episode.
Hear directly from veteran project leader **John**, with over 45 years of experience delivering major infrastructure programs, including **Sydney Metro** and mining projects for **BHP and Rio Tinto**.

👉 Watch the full episode on YouTube

Use the insights, tools, and checklist together to strengthen your project planning and delivery.