

Symposium – 11-12 August 2026

Masterclasses – 13 August 2026

PGCS 2025 Research Proposal

Enabling Improved Outcomes Through Data-Driven Decision Making in Major Projects

1 Background and Problem Statement

Defence and other government agencies are under increasing pressure to deliver complex capability outcomes faster, within fixed cost and schedule parameters, and in strategic alignment with national priorities. The 2023 Defence Strategic Review and recent Ministerial statements have further accelerated the need for reform, especially in procurement agility, speed to capability, and effectiveness of delivery.

Traditional project and program management methods often rely heavily on periodic reporting, lagging indicators, and subjective judgments, which struggle to keep pace with today's delivery environment. The challenges—which include increased complexity, the need for cultural transformation, and the imperative to make decisions with imperfect information—underscore the need for evidence-based approaches.

2 Data-Driven Decision-Making (DDDM)

Data-driven decision-making (DDDM) in Project, Program, and Portfolio Management (P3M) involves systematically collecting, analysing, and applying data to guide decisions across all levels—from individual projects to enterprise-wide portfolios. It enables organisations to improve outcomes by grounding decisions in evidence rather than relying on intuition or experience alone.

DDDM offers a path forward by promoting and leveraging real-time project performance data, performance measurement metrics and techniques, and predictive analytics to support timely, transparent, and informed decision-making, improve delivery assurance, and enhance governance.

3 Research Aims

The research aims to:

- Develop an understanding of the prevalence to which DDDM is used in major projects, the metrics most commonly utilised by decision-makers, and challenges to implementation.
- Provide practical, evidence-based strategies for implementing DDDM within major project, program, and portfolio environments.
- Develop practical recommendations for increasing decision quality, delivery speed, and outcome assurance using data-driven decision-making approaches.

4 Proposed Research Questions

Research questions include:

1. What is the extent to which DDDM is being practiced in major projects?
2. What are the data points and metrics most commonly used by decision-makers at project, program, and portfolio governance levels?
3. What are the key enablers and barriers to effective data-driven decision-making in major project environments?
4. What are the major challenges to implementation?

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5. How can DDDM support accelerated delivery approaches (e.g., “minimum viable capability”) and more flexible procurement models?
 6. What performance measurement frameworks, data analytics, and modern project controls (e.g., EVM, Earned Schedule, risk-informed forecasting) best support DDDM?
 7. What cultural and organisational shifts are required to embed DDDM practices in major project delivery, program management, and portfolio governance?

5 Recommended Research Methodology

To provide credible answers to the research questions, the following research methodology is provided.

5.1 Stage 1

- **Phase 1: Foundational Review and Best Practice Analysis.** This initial phase will establish a comprehensive baseline by conducting a systematic review of academic, government (Defence Strategic Review, Australian National Audit Office and other reports), and industry as well as academic literature on DDDM, P3M, and modern governance project controls practices.

An important expected outcome will be to contextualise the research project report and associated deliverables within current strategic priorities and global best practices.

- **Phase 2: Quantitative Survey - Mapping the Landscape.** This phase is intended to empirically measure the current state of DDDM.

Techniques to be utilised includes a widely deployed online survey covering P3M professionals and stakeholders across Defence, other government agencies, and key industry partners and other interested parties.

The survey should be structured to capture quantitative data on the prevalence of DDDM (RQ1), specific metrics and dashboards being used (RQ2), and perceived barriers and enablers (RQ3).

An interim report and presentation summarising the findings obtained from Phases 1 and 2 will be undertaken at the PGCS 2026 symposia.

Authorisation to undertake Stage 2 of the research will be conditional on the completion of Stage 1 of the research to the satisfaction of the PGCS Directors.

5.2 Stage 2

- **Phase 3: Qualitative Deep Dive - Case Studies and Interviews.** This phase is intended to research and uncover the practical realities and cultural nuances of implementing DDDM. It will involve conducting a series of **in-depth case studies** (aim 4 to 6) of major projects, selected to provide a representative mix of domains and success levels.

The case studies should focus on interviews with key personnel and analysis of project artifacts (dashboards, risk logs, board papers) to the extent these can be provided to obtain the following; insights into implementation challenges (RQ4), metrics being utilised for DDDM (RQ5) support for agile delivery (RQ6), and cultural dynamics pertaining to the use of DDDM (RQ7).

Phase 4: Synthesis, Framework Development and Validation. In the final phase, all findings from the preceding phases will be integrated into the research report and associated deliverables.

Ideally, the draft DDDM implementation framework and recommendations would be validated through a workshop with a select group of senior practitioners and stakeholders to ensure practicality, usefulness and relevance before completion.

6 Research Project Deliverables

The research project will provide evidence-based strategies and solutions that can be implemented by projects and programs which:

- **Answers to the research questions posed.** This will be delivered in the final research report.
- **A practical framework for implementing DDDM** across major project environments with a focus on Defence and Government. This framework should provide a modular, scalable toolkit, including:
 - **P3M Level Guidance:** On recommended key metrics, dashboards, and decision cadences for Project, Program, and Portfolio levels.
 - **Maturity Model:** A recommended simple diagnostic tool to help organisations benchmark their DDDM capability and identify options and pathways for improvement.
 - **Implementation Toolkit:** On a recommended set of templates and checklists, preferably including a sample data governance charter and data quality assessment tools.
- **Recommended strategies to:**
 - **Improve project performance visibility and forecasting;** including guidance on integrating schedule, cost, risk, and performance data to create a 'single source of truth' accessible at all levels.
 - **Support rapid, risk-informed data-driven decision-making;** including strategies for establishing risk-informed decision thresholds to empower teams at lower levels.
 - **Strengthen governance and oversight using real-time data;** including recommendations aimed for shifting governance forums from historical review to forward-looking, predictive assurance.
- **Case-study based insights and lessons learned** from successful (and failed) applications of DDDM led delivery in projects and programs.
- **Guidance and recommendations on the cultural and process changes** needed to embed DDDM. This could be in the format of a practical guide for leaders on the behaviours, communication strategies, and training initiatives required to build trust in data and foster a culture of evidence-based decision-making at all levels.

7 Research Grant Amounts

Stage 1: **\$AUD 20,000** GST inclusive

Stage 2: **\$AUD 20,000** GST inclusive