

## Comment – John Grill Institute for Project Leadership, University of Sydney

### Comment

We provide input to the Inquiry on behalf of the leading voices in research, reform and innovation across the Australian major project sector. We are drawn from industry, academia and government through the 'Productivity' working group of the Major Projects Leadership Forum, hosted by the John Grill Institute for Project Leadership.

Productivity was identified as a major issue as we launched the Major Projects Leadership Forum with the Australian Constructors Association (ACA) and Consult Australia. The working group has mapped the definitions and measures to clarify and standardise productivity metrics across six levels: Individual, Project/team, Program, Firm, Industry/sector, Economy.

We find there is a disconnect between understandings of productivity at macro and micro level of analysis. Micro-level indicators include behaviours and assessments (individual level); earned-value, cost performance, schedule adherence and internal customer satisfaction (project/team level). Macro-level indicators include output and input measures, where construction is as defined in The Australian and New Zealand Standard Industrial Classification (ANZSIC).

Over the past year, we have collaborated to identify critical opportunities to improve the performance of the Australian major project sector. A major priority for government, industry, academia and the innovators within them is the better alignment and measurement across levels between government industry policy and project goals.

At present, the priorities of government are confused between legislation at the State and Federal level, as well as Federal, State and local government regulation. Indeed, the major project sector is not specifically identified in official data or statistics, but bundled into construction and operational activity in industry.

This matters because linking productivity metrics across levels allows governments and industry to target reforms more effectively, where projectbased industries like construction depend on data-led decision making. Clear priorities on the focus for productivity reform, at the nation, industry, organisation, project, team or individual level will guide measurement and action. Reforms must be connected to national benchmarks and economic indicators. Better measurement across levels supports accountability and enables smarter investment in skills, systems, and technologies. These are important to understand the productivity implications of digital technologies such as AI-enabled Building Information Modelling (BIM) and the new opportunities of Modern Methods of Construction (MMC).

Better alignment between project-level actions, business-as-usual operations and industry-level strategy is key to reduce waste and ensure efficiency, and productivity. More consistent procurement, commercial, contracting and delivery models; support for digital and systems-based approaches (e.g. BIM, MMC); and stronger feedback loops between practice and policy are key elements of unlocking productivity. There is

an opportunity for targeted workforce strategies (i.e. social procurement) that promote social inclusion. These targeted initiatives would help addressing labour shortages, and align with broader Queensland state objectives related to equity, regional development, and productivity uplift.

Please find attached a summary of the research, with reference to associated research and case studies. Members of this working group are from the Productivity Commission, Infrastructure Australia, Roads Australia, Australian Institute of Quantity Surveyors, Bentley Systems, Bechtel, Crystal Consulting, Fitzgerald Services, Modifica Advisory, Thomas Telford, Mott MacDonald, University of Sydney, UTS and Monash Universities.

## Achieving Productivity across Levels: Improving the Australian Construction and Infrastructure Sectors

### Major Projects Leadership Forum, Productivity Working Group.

#### Research Summary, June 2025

In response to the Queensland Government Construction Productivity Inquiry, this research summary provides additional evidence to support the key issues raised in the *Major Projects Leadership Forum* submission. It includes 1) recommendations from the work, 2) a summary of the six levels of analysis and case study examples, and 3) a bibliography of policy and research documents for further reading; and 4) information about the Forum.

#### 1. Our Recommendations from the Research

We mapped the definitions/measures/work on productivity across the different levels from individual, project/team, program and firm to sector and whole of economy to help policy work on the interconnections and identify levers for change. Thus, recommendations include:

- 1. Standardise and Align Productivity Measures Across Levels:** Develop a nationally coordinated framework to align productivity metrics across individual, project, organisational, and sector levels, enabling targeted, data-driven reforms and smarter investment decisions. Review ANZSIC codes to reflect construction-related activities and align with modern industry practices.
- 2. Reform Policy and Regulation to Support Coherence and Data Visibility:** Clarify and streamline regulatory responsibilities across federal, state, and local levels, and ensure the major project sector is distinctly identified in official data to better support evidence-based policymaking.
- 3. Modernise Industry Practices Through Digital Innovation and Inclusive Workforce Strategies:** Promote consistent procurement and delivery models, support adoption of digital tools like BIM and MMC, and implement targeted workforce strategies (e.g. social procurement) to address labour shortages and enhance social and regional outcomes.

#### 2. Summary of the Six Levels of Analysis and Case Study Examples

Our work has examined how productivity is defined and measured at the level of the individual, project/team, program, firm, industry/sector, and economy (Figure 1). Considering two of these:

**Industry / Sector:** There is an opportunity to **shift from traditional productivity metrics** to include multifactor productivity (MFP) and non-tangible outputs (e.g. sustainability, social outcomes). Since 2001–02, Australian construction productivity has fallen 8% (ACA, 2023). The estimated \$56 billion in lost value (Oxford Economics Australia) prompts calls for greater focus on innovation. Industry bodies advocate a coordinated national strategy, while recent research criticizes traditional metrics for overlooking early project stages and ESG factors (Gutierrez-Bucheli et al. 2025).

**Project / Team:** There is an opportunity to **connect measures at the sector level with those at the**

**project / team** (and firm, program, and individual) level to identify levers to improve productivity and motivate and track drive productivity improvements. Research by Crawford & Pollack (2021) identifies 17 productivity metrics for project settings—ranging from cost and schedule to team transparency. Effective governance, resourcing, and communication are highlighted as key drivers.

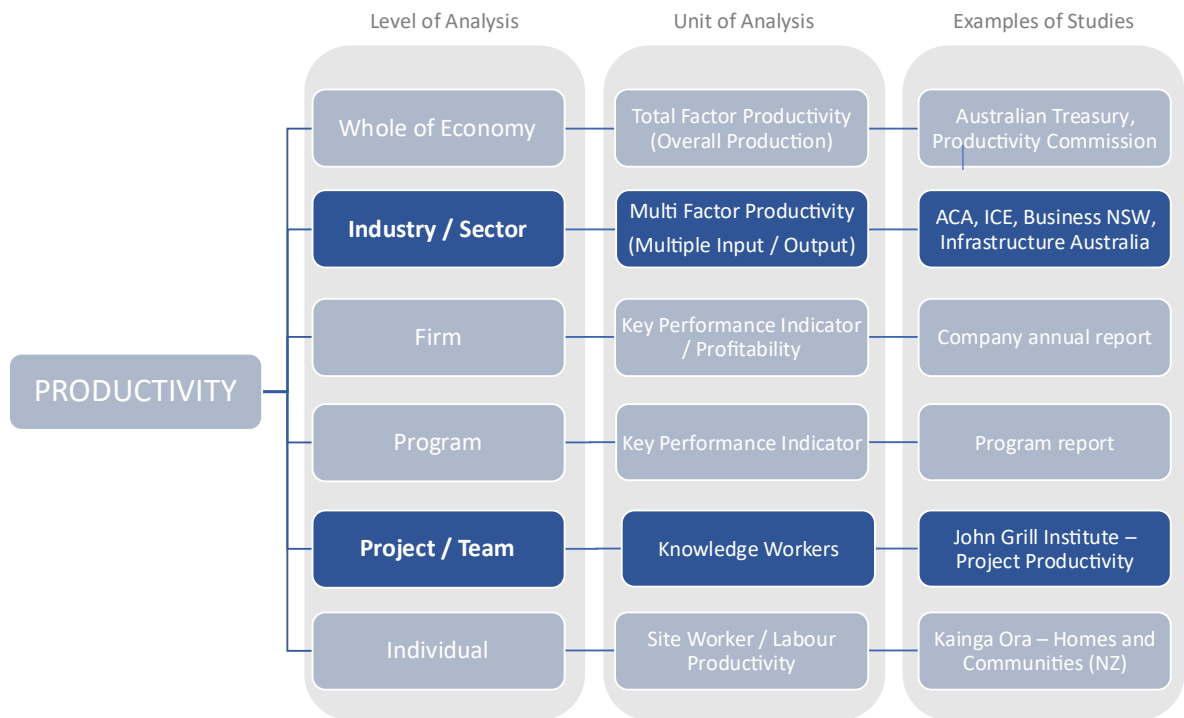


Figure 1: Productivity – Level of Analysis, Unit of Analysis and Example Studies

3. Bibliography

Selected Policy Documents

ACA (2023). Nailing Construction Productivity - A Blueprint for Reform, Australian Constructors Association. [https://www.constructors.com.au/wp-content/uploads/2023/08/Nailing-construction-productivity-FA\\_web.pdf](https://www.constructors.com.au/wp-content/uploads/2023/08/Nailing-construction-productivity-FA_web.pdf)

Armstrong, G., Gilge, C., Max, K., & Vora, S. (2023). Familiar Challenges, New Approaches: 2023 Global Construction Survey. KPMG. <https://assets.kpmg.com/content/dam/kpmg/br/pdf/2023/10/2023GlobalConstructionSurvey.pdf>

ICE (2024). ICE Green Paper: How can infrastructure delivery productivity in Australia be improved? <https://www.ice.org.uk/news-views-insights/policy-and-advocacy/policy-insights/ice-green-paper-infra-productivity-australia>

Jansen van Vuuren, T., and C. Middleton. (2020). Methodology for quantifying the benefits of offsite construction. Rep. No. C792. London: Construction Industry Research and Information Association. [https://www.ciria.org/CIRIA/Books/Free\\_publications/C792F.aspx](https://www.ciria.org/CIRIA/Books/Free_publications/C792F.aspx)

Oxford Economics Australia. (2023). The opportunity cost of long-term poor productivity performance in the Australian construction industry - An updated briefing report for the Australian Constructors Association. <https://www.constructors.com.au/wp-content/uploads/2023/08/BIS-Oxford-Economics-Australia-ACA-Construction-Industry-Productivity-Report-13.6.23.pdf>

### Selected Research Studies

A good starting place in the research literature is **Rathnayake and Middleton (2023)**, which summarises the state-of-the-art on construction productivity:

- Bellocchi, A., & Travaglini, G. (2023). A quantitative analysis of the European construction sector: productivity, investment, and competitiveness. In *Digital Transitions and Innovation in Construction Value Chains* (pp. 18-48). Edward Elgar Publishing.  
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- Chancellor, W. (2015). Drivers of Productivity: A Case Study of the Australian Construction Industry. *Construction Economics and Building*, 15(3), 85-97. <https://doi.org/10.5130/AJCEB.v15i3.4551>
- Crawford, L., & Pollack, J. (2021). Project Productivity, John Grill Institute for Project Leadership, University of Sydney. <https://project-leadership-eng.sydney.edu.au/project-productivity-report/>
- Durdyev, S., & Mbachu, J. (2011). On-Site Labour Productivity of New Zealand Construction Industry: Key Constraints and Improvement Measures. *The Australasian Journal of Construction Economics and Building*, 11(3), 18-33.  
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- Gutierrez-Bucheli, L., Perera, S., Couper, R. and Maxwell, D. (2025) Practices and Challenges in Measuring and Monitoring Construction Productivity, CIB World Building Congress WBC2025, West Lafayette, Indiana.
- Hasan, A., Baroudi, B., Elmualim, A., & Rameezdeen, R. (2018). Factors affecting construction productivity: a 30 year systematic review. *Engineering, Construction and Architectural Management*, 25(7), 916-937. <https://doi.org/10.1108/ECAM-02-2017-0035>
- Rathnayake, A., & Middleton, C. (2023). Systematic review of the literature on construction productivity. *Journal of Construction Engineering and Management*, 149(6), 03123005.**  
<https://doi.org/10.1061/JCEMD4.COENG-13045>
- Rojas, E. M., & Aramvareekul, P. (2003). Is construction labor productivity really declining? *Journal of Construction Engineering and Management*, 129(1), 41-46.  
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### 4. About the Major Projects Leadership Forum

The **Major Projects Leadership Forum** was launched with the Australian Constructors Association (ACA) and Consult Australia in 2024. It is hosted by the **John Grill Institute for Project Leadership** at the University of Sydney.

Members of the **Productivity Working Group** are from the Productivity Commission, Infrastructure Australia, Roads Australia, Australian Institute of Quantity Surveyors, Bentley Systems, Bechtel, Crystal Consulting, Fitzgerald Services, Modifica Advisory, Thomas Telford, Mott Macdonald, University of Sydney, UTS and Monash Universities.

This **research summary** was prepared by Professor Jennifer Whyte, Director of the John Grill Institute for Project Leadership, based on the ongoing work of the group, and underpinning research conducted by Yolanda Zhou. Contact [john-grill.institute@sydney.edu.au](mailto:john-grill.institute@sydney.edu.au) for further information.