

Navigating paradoxes in megascale projects



CFE Factsheet

THE CENTRE FOR FUTURE ENTERPRISE

This factsheet provides a short summary of the article, *Surfacing and Responding to Paradoxes in Megascale Projects*, authored by Associate Professor Anna Wiewiora and Professor Kevin Desouza, freely available for download via ePrints at <https://eprints.qut.edu.au/235491>

While megaprojects are challenging to manage, they can deliver significant social and economic benefits - when they go well.

Unfortunately, the media and research literature are saturated with cases of megaprojects going off the rails, leading to significant delays, cost overruns and under-delivering on anticipated goals. Despite their poor track record, organisations continue to be excited by the potential outcomes and impact of successful megaprojects, with substantial investments in megaprojects being witnessed globally. Nevertheless, poor performance of these projects can have severe consequences, potentially impacting thousands or millions of people who rely on the project outcome. Consider two examples:

United States of America

In 2016, the State of Rhode Island launched an ambitious megascale technology project – the Unified Health Infrastructure Project (UHIP). Soon after its implementation, faults in the system quickly became evident, leading thousands of families being wrongfully refused welfare payments or delayed payments for several months. Overreliance on the vendor's expertise, inadequate involvement of the state government and input from the system's end-users were assessed as the main causes of the project's failure.

United Kingdom

After 19 years' planning and construction, on the day Heathrow's Terminal 5 opened, a multitude of issues culminated in widespread disarray, as passengers were unable to check in their hold baggage, resulting in 68 flight cancellations. The turmoil persisted into the weekend, marked by additional cancellations and numerous instances of misplaced luggage. Investigations revealed that management focused almost entirely on technical design while ignoring managerial issues associated with the technical system.

The examples provide evidence of management focusing on one aspect while dismissing others, contributing to project failure. In the case of the UHIP project, overreliance on the vendor's expertise, while undermining input from internal stakeholders and users lead to project failure. In the case of the Heathrow's Terminal 5 project, overemphasis on technical aspects of the project while overlooking managerial considerations resulted in chaos and further project delays.

Megaprojects are laden with complexities and competing demands, known as paradoxes. Paradoxes are contradictory yet interrelated elements that exist simultaneously and persist over time^[i]. Effectively managed, these paradoxes can boost project performance, yet if unattended, they can harm the project.

Unlike conflicts, paradoxes don't require resolution. Attempting to resolve them might lead to temporary fixes that conceal deeper issues. Paradox lens shifts from 'either/or' choices to 'both/and' possibilities, allowing us to explore and manage paradoxes effectively. By surfacing and diagnosing paradoxes, we can better understand them and develop interventions to navigate them successfully.

^[i] Smith WK and Lewis MW (2011) Toward a theory of paradox: A dynamic equilibrium model of organizing. *Academy of Management Review* 36(2), 381–403.



PARADOXES IN MEGAPROJECTS



STAKEHOLDER PARADOX

Including vs excluding external stakeholders in decision-making

Engage public in the project to better understand their preferences and concerns versus retain decision-making role to internal stakeholders to avoid lengthy and costly negotiation process.

Relational vs formal governance approaches

Adopt relational contracts based on trust and risk-sharing to encourage cooperative behaviour between project stakeholders versus formal contracts to mitigate risks, prevent liabilities and verify decisions.

Closed vs open collaboration

Collaborate with a stable set of partners to increase operational flexibility versus select new partners to increase opportunity for knowledge creation and innovation



FLEXIBILITY PARADOX

Flexibility vs control

Reduce control to increase participation and trust between project participants versus impose greater control measures to reduce risk.

Flexibility vs standardization

Promote flexibility and customized approaches to address emerging needs and challenges versus promote standardized procedures to support efficiencies and meet project constraints.

Empowering vs directive leadership style

Empower the project team to increase engagement and participation versus give clear directions to the team to increase control and keep the project on track.



TEMPORALITY PARADOX

Shadow of the past vs promise of the future

Draw from the positive past working relationships with the project partners versus concentrate on the potential future opportunities of working together.

Short- vs long-term focus

Deliver short-term objectives versus focusing on long-term performance.



LEARNING PARADOX

Learning vs performing

Ease of knowledge creation due to interdisciplinary nature versus difficulty to transfer knowledge beyond the project due to temporality.

Exploration vs exploitation

Create new capabilities to address emerging changes and opportunities versus reuse existing capabilities to deal with stable and predictable aspects of the project.



STRUCTURE PARADOX

Specialization vs breadth

Promote specialization to avoid cognitive overload versus foster interdisciplinary collaboration to address task interdependencies requirements.

Autonomy vs embeddedness

Provide autonomy to the project to encourage greater collaboration between interorganisational partners versus embed the project within the parent organisation to clarify its organising context

Power-sharing vs power-keeping

Ensure power balance to promote novel and creative solutions vs exercise greater and visible power to keep the project on track.



DECISION-MAKING PARADOX

Divergent vs convergent approach to decision-making

Allow for divergent opinions to make informed decisions versus allow for convergence to speed up decision-making.



IDENTITY PARADOX

Project vs organisational identity

Create a new project identity versus retain identities of the different organisational values and principles.





Five approaches to deal with paradoxes in megaprojects

Unity approach

Unity approach involves conscious adapting and accommodating two extremes and allowing their co-existence. For example, allowing co-existence of diverse governance models can enable better control of the project progress and, at the same time, allow flexibility to adapt to possible changes, through using a more customise approach for the needs of the project.

Separation approach

Separation approach involves separating two competing extremes either temporarily (emphasising one extreme over other in different phases of the project) or physically (emphasising one over other in different parts of the project). This approach allows both extremes to co-exist, but in either a temporal or spatial dimension.

Paradox mindset

Paradox mindset is an individual level approach to dealing with paradoxes, which focuses on the decision makers' ability to effectively recognise and deal with paradoxes.

Early stakeholder involvement

Early stakeholder involvement postulates that involving stakeholders in decision making early in the project will allow for their input, discussions to take place, and unfreezing of the past deeply held assumptions. Early interactions with stakeholders may lead to 'co-creation' of a new solution that is more likely to be accepted by all. This approach of early involvement is particularly relevant when dealing with the stakeholder paradox and decision making paradox.

Dynamic capabilities

Dynamic capabilities can help dealing with exploration versus exploitation paradox by balancing routine and innovative actions. Dynamic capabilities help megaprojects balance management of the stable and predictable aspects of the project (through exploitation activities) and address emerging changes and opportunities (through exploration activities).

Find out more

This factsheet gives leaders and managers of large-scale projects a snapshot of the knowledge discussed in the full research paper. If you are leading a megascale project, we encourage you to read the full article as it delivers detailed explanations of the tools and information necessary to make informed decisions when learning to navigate paradox. The information produced by QUT's Centre for Future Enterprise on paradox can significantly enhance your capacity to guide megaprojects towards their ambitious goals.

Access the full article via QUTePrints

Surfacing and Responding to Paradoxes in Megascale Projects, by A/Prof Anna Wiewiora and Prof Kevin Desouza

DOWNLOAD



<https://eprints.qut.edu.au/235491>



Partner with us

Researchers at QUT's Centre for Future Enterprise (CFE) conduct highly theoretical and conceptual research on paradox, while at the same time focusing on operationalising it and developing practical approaches and tools to help you navigate paradox. This factsheet provides an overview on just one research project addressing paradoxes in megaprojects.

CFE offers evidence-based insights and tools tested in the real world to help surface, diagnose and navigate paradoxes. Opportunities for collaboration and partnership include:

- **Helping leaders kick-start meaningful conversations about paradoxes in projects**
- **Jointly identifying paradoxes impacting projects and co-creating strategies for navigating them**
- **Co-developing tailored strategies for navigating paradoxes in projects**
- **Delivering bespoke training programs for developing paradox mindset among leaders.**

Contact us to find out more about navigating paradoxes. Don't let paradoxes hinder your project performance.



**Professor
Kevin Desouza**

Kevin is a Professor of Business, Technology and Strategy in the School of Management at the QUT Business School. He is a Non-Resident Senior Fellow in the Governance Studies Program at the Brookings Institution, and is a Distinguished Research Fellow at the China Institute for Urban Governance at Shanghai Jiao Tong University. He has held tenured faculty appointments at the University of Washington, Virginia Tech, and Arizona State University. In addition, he has held visiting appointments at the London School of Economics and Political Science, Università Bocconi, University of the Witwatersrand, and the University of Ljubljana. Desouza has authored, co-authored, and/or edited nine books. He has published more than 130 articles in journals across a range of disciplines including information systems, information science, public administration, political science, technology management, and urban affairs.

Email: kevin.desouza@qut.edu.au



**Associate Professor
Anna Wiewiora**

Anna is an Associate Professor at the School of Management at the Queensland University of Technology, Brisbane, Australia. Anna is using applied research to solve practical problems with the focus on navigating competing priorities within complex and time—limited work environments, such as large-scale projects. Anna has successfully led a number of projects (totalling over 1 million AUD) that have produced practical outputs for organisations including a process model for innovation adoption in mining, training manual to help project managers manage ambiguities in their projects, a catalogue of learning mechanisms to enhance project learning. Anna's work with Project Management Institute focused on creating tangible benefits for its members.

Email: a.wiewiora@qut.edu.au





Navigating tomorrow's business opportunities

QUT's Centre for Future Enterprise (CFE) leads global research to progress economic and social well-being now and into the future. In an era where market dynamics shift at lightning speed, CFE is the compass that helps organisations chart a course to success amidst tomorrow's opportunities. Our research brings together world-leading academics with CEOs, founders, policy makers and industry leaders to help current and future leaders transform challenges into stepping stones toward sustainable growth and competitive advantage.

CFE research focuses on four themes and the nexus between these: the trusted enterprise; the paradoxical enterprise; the algorithmic enterprise and; the robust enterprise.

Find out more:
research.qut.edu.au/centre-for-future-enterprise