Pearls and Irritations

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Wasted Capital in Major Project Development.

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The establishment of the Australian Public Service (APS) Review Panel is a powerful opportunity to examine the state of play of project development at the federal government level and kick-start a positive step change in performance. This will apply pressure to state governments and business to achieve similar step changes in performance.

The inability to shape, define and build sound business cases on which to base project investment decisions, and then execute projects in accordance with the time cost quality and functionality set out in the approved and documented business case, is an endemic problem in Australia across business and government.

Research (by PwC and others) has shown that business has wasted hundreds of billions of dollars in capital project development and that 70% of capital projects fail in terms of cost, schedule or functionality (or all three).

Similar research would show that public projects have a similar or lessor rate of success. We know that projects such as the NBN, various defence projects, various infrastructure projects, and most IT projects suffer from poor to non-existent shaping and definition and control during execution and operation. The resultant capital wasted represents a great financial cost to the taxpayer; lost opportunities to the community; and an overall drag on our standard of living.

The first step is for everyone to agree that as a country we must do much better and get widespread recognition that there is indeed a problem, a cultural problem – and it must be corrected.

The next step is to get acceptance that something can be done about it and that acceptance must be in the right places before meaningful change can occur.

The scale of the problem could be as much as \$20 billion per annum wasted, in each of the government and private/corporate sectors, when both the capital and maintenance/through-life-support/operating cost exceedances are considered. Consider, for example, that it appears the Department of Defence has not considered the through-life cost in the evaluation of recent vessel purchases.

An even greater cost to the economy and community is incurred due to the lack of delivered capacity and inefficiencies in infrastructure and essential services. This has demonstrably driven up the underlying costs in our economy/society through increased congestion, higher energy prices with poorer reliability, and poorperforming communications infrastructure. All businesses and government services are less cost-effective (with many moving offshore) as a result.

In the business world it is apparent that boards of directors and senior management have a distinct lack of specific capital project shaping and development experience. As individuals they might have been responsible for business case development but they are unaware of the many pit falls in the development of a project development execution strategy and the required level of integrated project support documentation to demonstrate a sound business case.

It is apparent that government agencies and their managing politicians suffer the same severe shortcomings.

The business case for major capital works should reflect a stage-gated approach as, for example, articulated by the Association of American Cost Engineers in its Guidelines to capital cost estimation. The same level of rigor should be applied to operating (and all other) cost inputs. Cost estimation must get the highest level of attention and scrutiny because that is what the taxpayer will be directly exposed to.

It is folly to think that some scribbles on the back of an envelope will suffice "at high level". Politicians, ministers with capital approval responsibilities and senior bureaucrats must become informed and disciplined in their thinking and their public use of language around capital project development and this new culture should disallow loose use of project definition language.

Capital project development is complex and the language around it can be unwieldy but the country must make a step change improvement where more cost-effective agency spending will in fact be a huge innovation.

We suggest that there is a path to reducing or eliminating wasted capital in major project development (focussing here on the Australian Public Service and its role in publicly-backed major projects) and it is one that the APS Review Panel should consider.

We recommend re-skilling the APS to be a highly effective "Owners Team" and to become world recognised for shaping, defining and executing major projects. We are advocating that the APS Review Panel include the following in their planning and recommendations to achieve this.

- APS agencies to adopt a capital project development procedure which is common across the APS and use a skills-based work force to build sufficient project shaping, technical, estimating, cost control, contract/procurement, financial, execution strategy, management expertise and corporate memory to be able to shape and manage projects effectively.
- All agencies to have organisation charts, personnel selection processes and staffing numbers which reflect capital project development as part of their core ongoing business and specifically represented at senior management level.
- APS agencies learn and use the consistent language of project development and execution.
- APS use of external consultants only under specific conditions which are not business as usual. Current use of external consultants is uncontrolled (ref Report 19 ANAO Dec 2017).
- Understand each APS agency's history of success (and failure) in project development.

- Each APS agency to implement systems (based on APS wide framework) to control project shaping, definition and execution and produce project close-out reports which summarise actual vs planned performance and capture and use lessons learned.
- Understand how each agency will tackle the next project and why will it deliver a successful outcome.
- Use the understanding gained of each agency's current performance in capital project development and execution to inform specific actions to be taken to reduce/eliminate wasted capital.
- Aim for the APS to set a world benchmark for shaping, definition and execution of major project development.

Effective capital spending via major project development is a fundamental role of the APS

Understanding how this should be reflected in overall APS and agency organisation structures, personnel, policies and procedures is a prerequisite to the overall APS Review Panel findings and we have set out our thoughts on how to achieve this.

Rebuilding sufficient capability may eventually require a few thousand professionals at a billion or so dollars per annum across government. This is a tiny fraction of the, for example, average annual \$8 billion spent by the public service on consultants in "Management and Business Professionals and Administration Services" category over the last 5 years (refer ANAO report 19 Table 3.1).

Arguably, this will more than pay for itself in reduced consultants' costs but more particularly save, say, half of the waste identified above in the government sectors (let's say \$10billion/annum). This saving will flow through, by example, to the private sector and we could also see economy-wide reductions in underlying operating costs that will deliver productivity gains and growth, and more tax revenues. So, we could conservatively double the benefit to the economy (GDP) – let's say \$20 billion/annum net benefit.

This is a good return on a relatively small investment in the re-skilling of the Public Service organisations.

- Dr John White has a civil engineering degree from Adelaide University and a PhD from Cambridge University.
- Peter Farley has degrees and economics and mechanical engineering. He built a world-leading machine tool company which exported 70% of its production, competing successfully against German, Japanese and US competitors. Peter also worked for large companies including Boral, BOC and Westinghouse and the Department of the Navy.
- David Gillett is a mechanical engineer and accountant who has spent a working life since the 1970s in the assessment and development of projects mostly related to the mining/mineral processing industries as well as infrastructure and building. This work was mostly carried out while employed with engineer-constructors, consultants and mining companies.
- Chris Stoltz is also a civil engineer with broad engineering leadership experience in water utilities, manufacturing, agribusiness, the Murray Darling Basin, geospatial information technology and Australia's national broadband network.