Procurement in Infrastructure and Capital Works 2015 Conference

Applying value for money methodologies in the total delivery process to improve decision making and enhance performance

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Outline of presentation

- The need for improved value for money (VfM) methodology outcomes
- The total delivery process
- Value for money methodologies
- Value for money performance framework
- Examples of performance failure
- Conclusions and recommendations

- Analogy of the jigsaw puzzle:
  - Unless you have all the pieces you will never finish the puzzle
  - Achieving value for money outcomes is like completing a complex jigsaw puzzle – you must have all the pieces (knowledge and processes) and understand how they fit together to deliver value for money outcomes

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The need for improved VfM methodology outcomes

- Value for money is an obligation to make best use of resources available
- This is important because generally there is a scarcity of material resources available for everyone. We see this for example by poverty, unemployment and the day to day challenges many people face making ends meet. On a world scale we see the scarcity of material resources driving potentially the largest ever mass migration from undeveloped countries to developed countries
- Public infrastructure is needed to assist society meet the requirements of human needs, namely:
  - Essential requirements – water, food, shelter, support families, right to work
  - Supporting requirements – equitable sharing of wealth and suitable facilities and infrastructure to support the essential requirements at lowest cost
- The Australian Government Productivity Commission's 2014 Inquiry into Public Infrastructure final report identified an urgent need to comprehensively overhaul processes for assessing and developing public infrastructure projects
- The report states there are numerous examples of poor value for money arising from inadequate project selection

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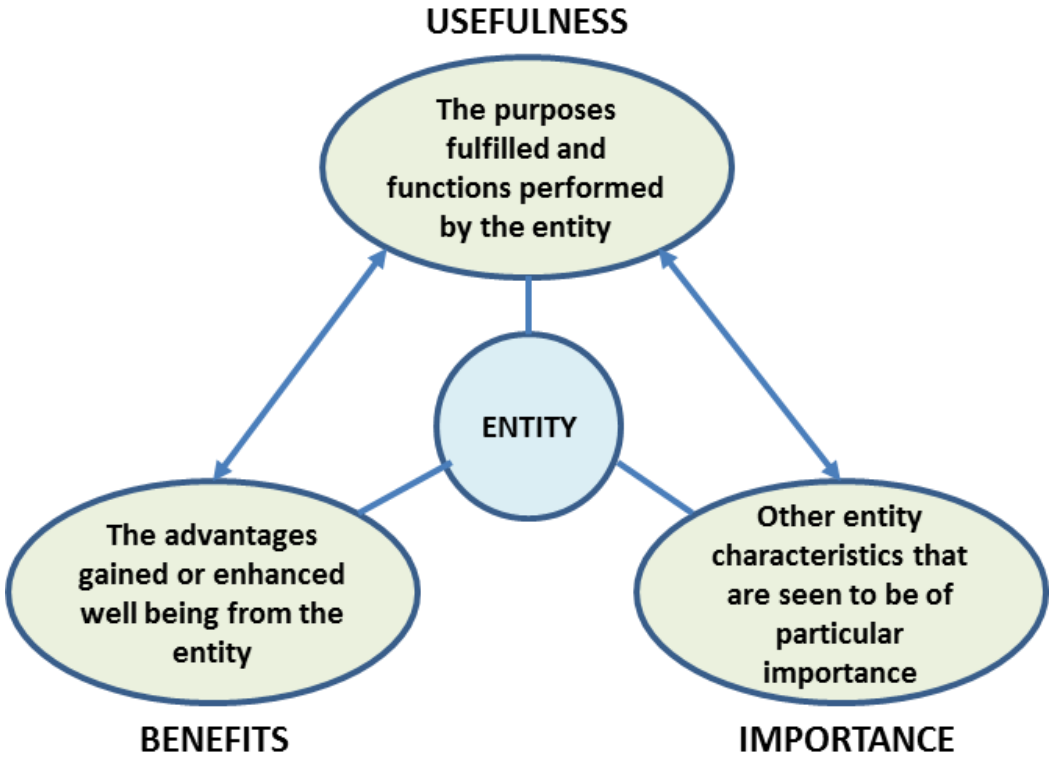
VfM methodologies – context and value of an entity

- Value for money is demanded:
  - Regularly and frequently specified but;
  - Generally not well defined, understood or always achieved in many projects
- AS 4183 - 2007 Value Management defines *value for money*:
  - as a measure used for comparing alternatives based on the relationship between value and total cost but notes value for money is just one measure of 'value for resources used'
  - and identifies the factors that determine the value of an entity to involve:
    - perceived usefulness
    - benefits, and
    - importance



Value of an entity

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VfM methodologies – Common definition

The three E's – economy, efficiency and effectiveness

Element	Description	Result	Project explanation
Economy	Careful use of resources to save expense, time or effort	Maximise inputs per dollar	Project resources are cost competitive and carefully selected to suit requirements
Efficiency	Delivering the same level of service for less cost, time or effort	Maximise outputs per input	The project activities are efficient – e.g. project management, design, procurement and delivery
Effectiveness	Delivering a better service or getting a better return for the same amount of expense, time or effort	Maximise outcomes per output	The project delivers value i.e. usefulness, benefits and importance
Technical	Practical, procedural, methodical	Supports results for efficiency & effectiveness	The project has strong governance and is managed well

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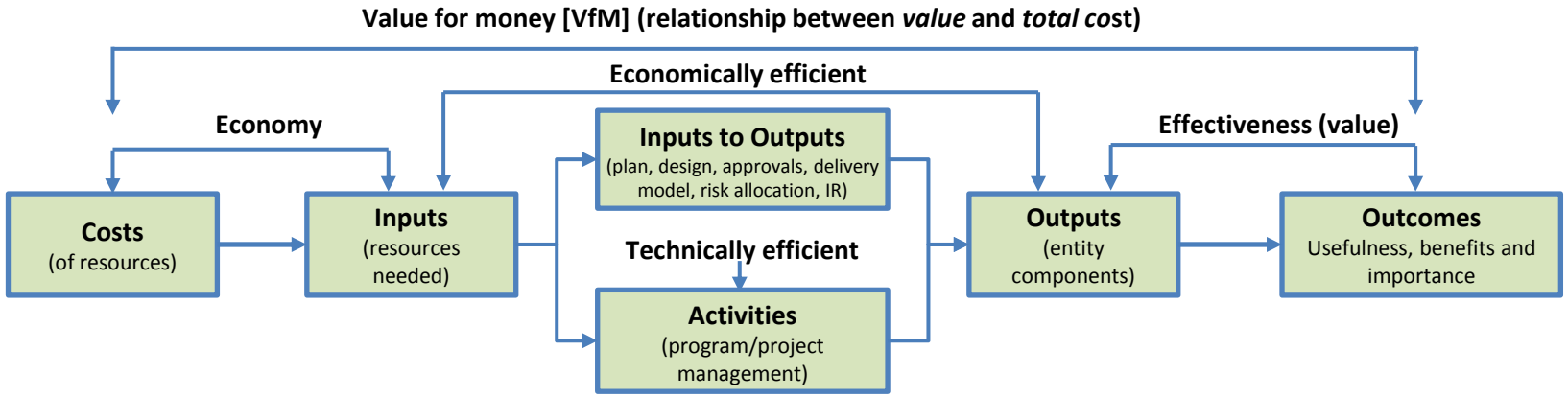
VfM methodologies – relationship value and total cost



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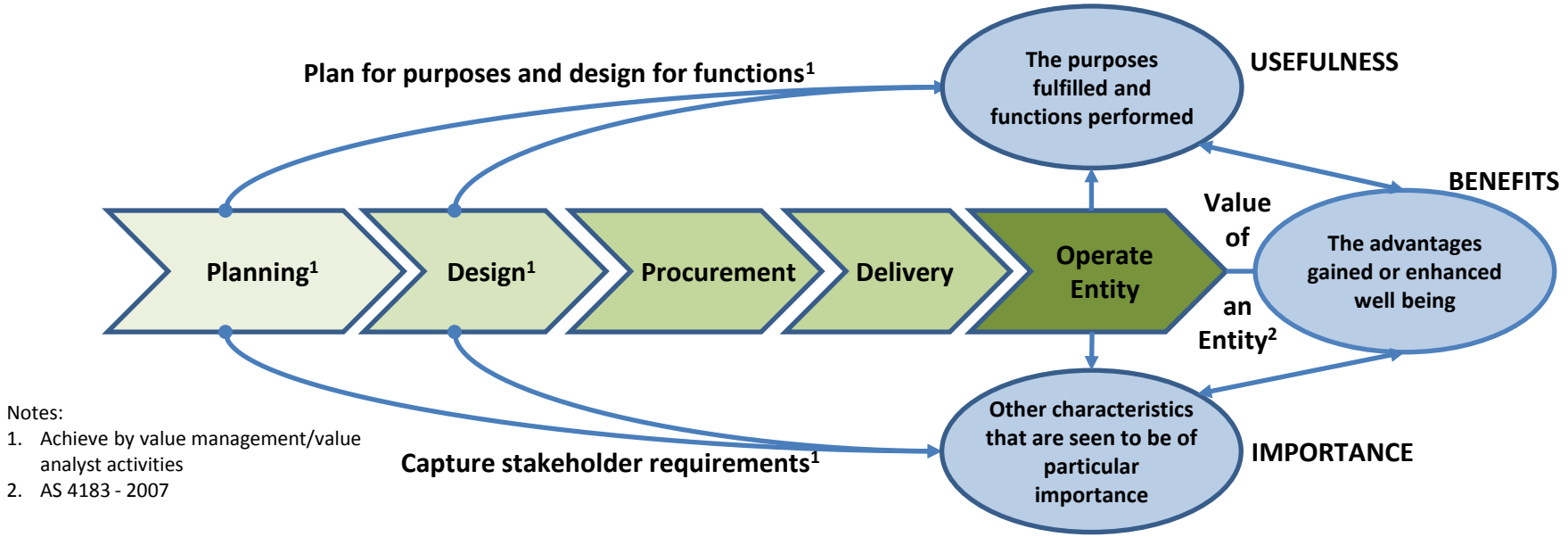
VfM methodologies – total delivery process and VfM

- **Issue:** The value for money concept has often been applied vaguely, so meaning different things to different people, or narrowly, defined as relating simply to cost
- **Solution:** The total delivery process and value for money definition are drawn together to present a holistic value for money concept



Project phases and value of an entity

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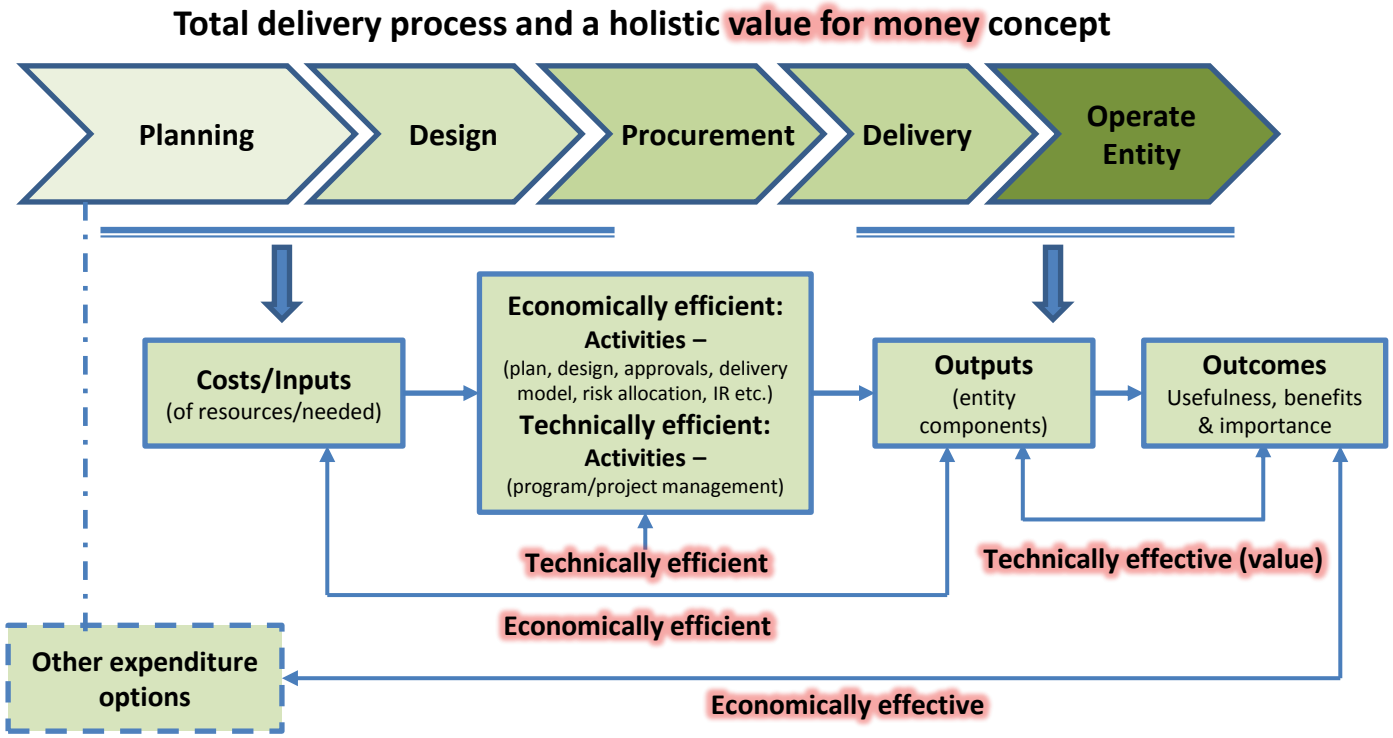
VfM methodologies – total delivery process and VfM



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VfM methodology – typical definition explanation

Knowledge areas / activities to realise a project

TECH EFFICIENCY **Use the resources needed (inputs) in the best technical way to produce a given project output (entity components)**	Technical Efficiency	Economic Efficiency
TECHNICAL EFFECTIVENESS **The project outcomes - features of usefulness, benefits and importance are realised**	Technical Effectiveness	Economic Effectiveness

ECONOMIC EFFICIENCY
Achieving least cost inputs (least cost of resources needed) to produce the project outputs

ECONOMIC EFFECTIVENESS
The project expenditure could not have been allocated to another area which had a higher priority for the community

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VfM – the need for a performance management framework

It is important to differentiate the source of performance failure in order to determine a cure (1 of 4)

Performance failure	Explanation	Challenge/failing example	Proposed solution
Technically inefficient	Arising from resources not being utilised in the technically best way to produce a given output	Difficulties dealing with complexity	Digital engineering
		Significant overruns in either schedule, cost or both these factors; collapse of project	Improvements to project leadership and collaboration, risk management; and project controls
		Risk management measures, flawed risk allocation – failure of Metronet in 2009	Risk and financial management measures – collect and analyse various data

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Value for money – the need for a performance management framework

It is important to differentiate the source of performance failure in order to determine a cure (2 of 4)

Performance failure	Explanation	Challenge/failing example	Proposed solution
Economically inefficient	Arising from resources not being utilised in the most efficient way. i.e. not converting inputs to outputs in best possible way	Economic benefits of better procurement practices	Reallocate resources to specification of project objectives Remove unnecessary contract clauses Stream line compliance processes
		Choosing the best delivery model (Gateway upgrade project)	A government delivery option is a better VfM model than a PPP for a high-profile complex project (on a brownfield site)

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Value for money – the need for a performance management framework

It is important to differentiate the source of performance failure in order to determine a cure (3 of 4)

Performance failure	Explanation	Challenge/failure example	Proposed solution
Technically ineffective	Expenditures are not effective in the sense that although resources may have been allocated efficiently (both in a technical and economic sense) to provide a certain product/service, the product or service itself does not satisfy the objectives it was designed to meet.	The SE Qld water grid: ▪ Water assets provided water security but at significant cost casting doubt on VfM ▪ Other expected benefits not achieved	Guidelines and procedures at the time should have been followed
		▪ Failure to meet stakeholder expectations or needs ▪ Failure to meet performance, technical or functional specifications	Shaping the project and defining criteria for success in consultation with all internal and external stakeholders before the project is launched

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Value for money – the need for a performance management framework

It is important to differentiate the source of performance failure in order to determine a cure (4 of 4)

Performance failure	Explanation	Challenge/failing example	Proposed solution
Economically ineffective	Expenditures can be efficient (resources are allocated to produce the maximum output of a certain product at least cost), and effective (the output has the desired outcome), but overall effectiveness in the use of resources could be increased by reallocating resources elsewhere, i.e. becoming more allocatively effective	Australia is not well served by mega projects	Prevailing assumption is something needs to be built, without proper consideration of other options
		Capital productivity is the major drag on Australia's productivity performance	▪ Transparent cost benefit analysis ▪ Better data collection ▪ Apply user charges ▪ Credibly reserve corridors but allow alternative use ▪ Displacing bad projects with good ones

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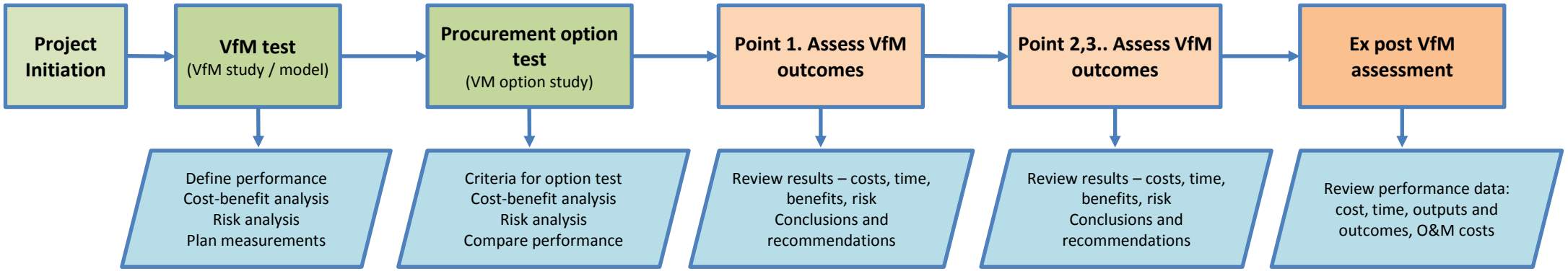
VfM - Performance management framework

- A performance management framework is important to achieving value for money
- Performance defined by measures of the effectiveness of outputs produced (i.e. outcomes)
- Move from performance measures to performance management



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Value for money test

Activity	Purpose	Comment
Cost-benefit analysis	Broad assessment of the costs and benefits of the proposed project.	The process needs improvements and wider involvement of stakeholders.
Risk analysis modelling and decision making	Understand the uncertainty with the different options and the key components of the cost-benefits analysis.	Important to addressing optimism bias and ensuring a more robust comparison between procurement options.
Value for money study	Complete the value for money test milestone including qualitative and quantitative measures involving stakeholder engagement.	Recommended process to quickly and effectively achieve the value for money test milestone including stakeholder input and ownership.
Define performance	Document the components and features which define performance.	Performance measures should be based on outcomes and therefore defined by measures of effectiveness of outputs produced.
Plan measurements	Develop a plan for the measuring performance.	The plan should include the timings for measures and the measures or results to be reviewed.

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Procurement option test

- A fundamental of best practice is best fit procurement
- Important considerations include early contractor involvement, engaging the operator in the project team and flexibility to adapt to possible change over the life cycle
- Procurement option test completed as part of a value management option assessment workshop involving the multi-criteria decision analysis process
- Outcome will provide a guide in selecting which mode of procurement will deliver the most value for money
- Decide between traditional procurement and PPP options
- Suggested criteria for assessing procurement options

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Assessment of value for money outcomes

- Actual performance should be assessed against ‘what good performance looks like” to draw conclusions and identify recommendations
- Should consider results for features including costs, time, risk and benefits
- Assess in terms of outputs (and outcomes) and operating and maintenance cost
- Assessment can be completed by an analytical framework to assess how well resources are used
- Draw on the traditional approach for assessing value for money – economy, efficiency and effectiveness
- Recommend that a guide for measuring value for money progress and outcomes should be developed involving a comprehensive framework structured under the value for money elements of:
  - Technical efficiency
  - Economic efficiency
  - Technical effectiveness
  - Economical effectiveness

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Key conclusions and recommendations

- Like completing a jig-saw puzzle the components of value money must be defined and all the necessary processes and activities implemented to achieve value for money
- Overarching value for money concept involves four components – technical efficiency, economic efficiency, technical effectiveness and economical effectiveness
- Value for money activities as part of a total delivery process including a performance management framework
- A key challenge to achieving value for money is the gaps in responsibility and accountability for achieving value for money. To overcome this it is recommended:
  - Overall responsibility and accountability for value for money be identified
  - Similar to other management plans a value for money management plan be developed including sub plans by the various parties
  - Individual responsibility, authority and accountability be identified for value for money objectives
  - Professional associations such as the Institute of Value Management Australia are active and supported to champion and develop the value for money concept

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