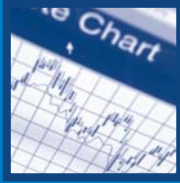


# VALUE MANAGEMENT GUIDELINES

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Department of Housing and Works  
Government of Western Australia



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# Chapter 1: Introduction

## 1.1 Background

Value Management studies, if conducted and managed well, offer significant benefits that aid the capital investment process. Equally, if managed poorly, Value Management studies can be an onerous and, ultimately, a fruitless exercise.

The primary purpose of this document is to provide guidance on how to maximise the benefits of Value Management techniques as part of capital procurement (refer to the Capital Investment Policy). These guidelines highlight to Government agencies not only the enormous benefits offered by conducting well-managed Value Management studies as an integral part of their capital procurement processes, but outline the Value Management process in a way that assists agencies in its use and application.

The Value Management Guidelines are also intended for use by members of the building and construction industry and other professionals, so that they may better understand their role in the conduct of studies, timing, costs and benefits.

Specifically, these guidelines aim to foster an appreciation of the process, to show the possible extent of its use, and to draw up procedures for implementing value studies. Value Management techniques are equally applicable to building, civil engineering, and information and communications technology projects.

## 1.2 Concept of Value Management

Value, in its broadest sense, is the benefit to the client offered by a project. In this guide, value means ensuring that the right choices are made about obtaining maximum benefit for the client within time, cost and quality constraints.

Value Management is a process that gives all stakeholders in a proposed development the opportunity to be involved in the decision-making process. It constitutes an examination of all relevant options for the design and construction of the project, leading to a refinement of the design brief and identification of any budget constraints.

Value Management is a structured, systematic and analytical methodology that seeks to achieve the essential functions of a project at the lowest total cost, consistent with required levels of performance and quality. The underlying assumption to Value Management is that there are always many ways to achieve any function, and that an examination of alternatives may produce a better-value solution.

Value Management concentrates on the *actual* needs of the user to focus its resources. It is different to cost-cutting exercises, which achieve economies by using less or cheaper materials. The Value Management approach involves the use of creative techniques, combined with the latest technical information on materials and construction methods.

The basis of Value Management is the analysis of functions considered within the context of the system as a whole. It is this aspect, in particular, that distinguishes Value Management from other methods of improving value.

Function analysis involves clearly identifying what project components *must* do, in order to achieve project objectives. Through the analysis of functions, it is possible to identify wastage, duplication and unnecessary expenditure, as well as possible alternatives, thus providing the opportunity for value to be improved.

Value Management can be an effective technique to assist in identifying the critical aspects of a Project Definition Plan, and to encourage the client to focus on the real implications of the briefed requirements.

Value Management aims to produce results creatively and economically by:

- identifying unnecessary expenditure;
- challenging assumptions;
- generating alternative ideas;
- promoting innovation;
- optimising resources;
- saving time, money and energy;
- simplifying methods and procedures;
- eliminating redundant features;
- updating standards, criteria and objectives;
- improving team performance and other synergies; and
- consideration of whole of life cycle costs.

Value Management principles can be applied to social and environmental factors in similar ways that it traditionally has to financial and economic factors. Strategic planning processes can also benefit from these principles, as well as from the information supplied as part of a Value Management study.

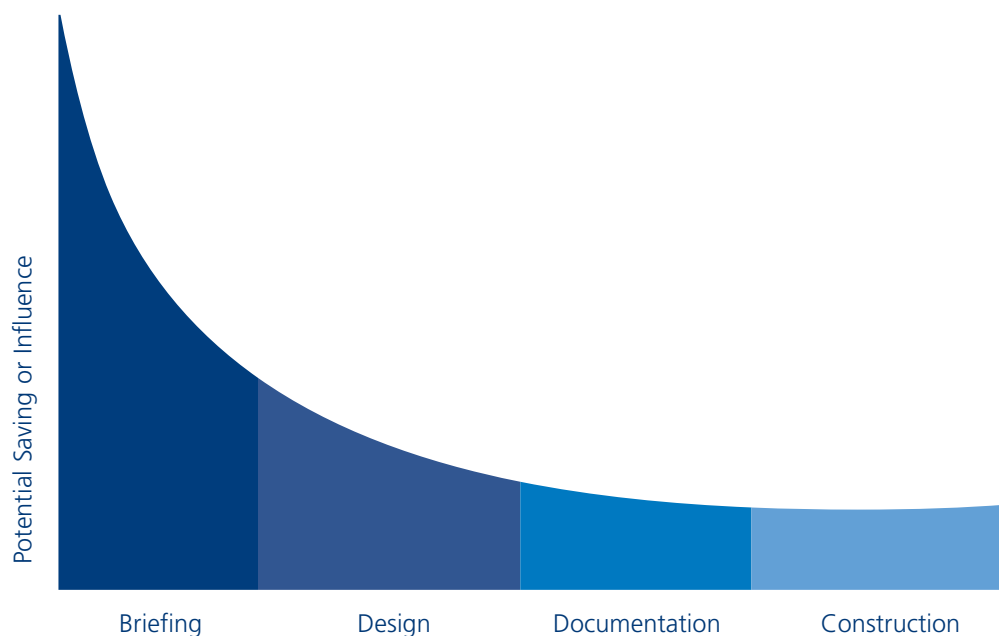
Other benefits that showcase the evolving nature of Value Management as something more than a sophisticated cost reduction tool (i.e. cost savings) are:

- improved communication, teamwork and cooperation;
- increased awareness and ownership by stakeholders;
- time savings through focus of effort;

- aid to the briefing and approvals process;
- enhancement of risk management measures;
- increased quality;
- improved sustainability; and
- promotion of innovative service delivery processes.

The benefits of Value Management techniques are greatest early in the development of a project, with improvement in value gained far outweighing the time and effort involved. This is particularly the case if applied during concept development and the initial design stages, with the ability to significantly influence final project outcomes diminishing rapidly, as the project progresses past the design development stage.

The diagram, below, indicates the relationship between the stage of the project and the extent of benefits that are likely to be achieved.



**Figure 1:** Potential Influence of Value Management

Unfortunately, agencies sometimes undertake value management too late in the project to get the maximum benefit. Applied in later stages of the project, Value Management usually produces limited advantages for the project sponsor, but is likely to have a significant impact on the architect and the design. Changes that result from later reviews often entail re-documentation, delays in construction and can have unforeseen implications on other aspects of the design.

## Chapter 2: Application of Value Management

The Government of Western Australia previously endorsed a policy whereby projects fitting certain criteria should be automatically considered for a value management study:

- projects estimated to cost more than \$5 million;
- a group of projects of similar design, estimated to cost more than \$5 million;
- projects that are unusual in design, construction or maintenance; or
- the Expenditure Review Committee deems a value management study necessary.

While Value Management studies are no longer mandatory, the above criteria should continue to be observed as good practice. Value Management techniques still provide one of the most effective approaches to clarifying project objectives and to focussing on best-value solutions.

Value Management is a powerful means for individual agencies to communicate to the Department of Treasury and Finance and the Expenditure Review Committee the level of planning and analysis that the various components of their Strategic Asset Plan and project business cases have undergone.

### 2.1 Value Management Studies

Value Management studies are typically led by a qualified facilitator, who should be independent of the design team, familiar with the design and construction process and with the roles of the various members of the design team.

The success of any Value Management workshop depends upon having the right mix of skills, key stakeholders, commitment and attitude among the participants.

Appropriate representation of all stakeholders is crucial for creating a holistic perspective, technical expertise and the generation of wide-ranging ideas. It must be remembered that Value Management is not an attempt to 'design by committee'.

Value Management studies may achieve significant results through the consideration of issues such as:

- co-location;
- non-build solutions;
- reduction of unnecessary area;
- concentration of expenditure on investment returns;
- revenue sources;
- rationalisation;
- risk;
- combination; and
- simplification.

## 2.2 Types of Value Management Studies

Typically, there are three levels of value management that can be applied at specific stages in the capital works funding and procurement process:

- **Strategic Value Management** – Before individual projects are considered, Value Management can be used to assist the identification of needs and priorities, in terms of service delivery during an agency's strategic planning processes. The greatest benefits are, perhaps, offered when an agency has undergone changes to structure or service focus.

Once a business requirement has been identified as part of an agency's strategic planning, Value Management is used to help develop an appropriately considered Business Case. At this level, the techniques of Value Management are used to examine the functionality of the total system, and challenge assumptions, and, ultimately, generate a range of potential options to be evaluated within the Business Case.

- **Project Definition Value Management** – Performed prior to the commencement of the delivery phase of a project (i.e. before the current budget year), Value Management studies at this level are concerned with comparing the functionality of the proposed project, as described within the Project Definition Plan, to the service delivery requirements as addressed within the approved project Business Case.

Functional analysis is important, since documentation produced later in the design process will reflect functions identified at this level. Project specific issues, such as environmental and aesthetic requirements, quality, site, size, procurement options, construction methods, functional proximity and budgetary constraints are considered to refine and evaluate options. Both capital and recurrent costs need to be included in comparisons.

- **Project Design Value Management** – These studies are best carried out at the end of design development, and before contract documentation commences. Participants question whether functional requirements, outlined within the Project Definition Plan, have been met by the proposed design, and whether value can be improved by simplifying, combining, relocating or changing *anything*.

## 2.3 Value Management Process

In line with the Australian Standard (AS/NZS 4183:1994 – Value Management), there are five stages in the Value Management process, regardless of which type of study is being conducted:

- **Information Phase** – essentially preparatory work for the study, including items such as the development of objectives, key issues and concerns, background information, key assumptions, cost overviews and study scope.
- **Analysis Phase** – includes functional analysis, establishing system links, testing parameters and rationalising data.
- **Creative Phase** – is predominantly concerned with encouraging divergent ideas, lateral thinking and brainstorming, and generating alternatives for better value solutions.
- **Evaluation Phase** – ideas are assessed, culled and prioritised, to identify viable alternatives.
- **Development and Reporting Phase** – options and rationale are refined and documented into action plans, for recommendation to the appropriate project decision-makers.

## 2.4 Functional Analysis

At the core of the Value Management process is the analysis of functions. Functional analysis involves clearly identifying what project components actually do, compared with what they must do, in order to achieve project objectives.

By using functional analysis, primary and secondary functions can be identified. Primary functions are essential to the achievement of the stated objectives, while secondary functions are non-essential to operations, and often contain unnecessary costs.

Various techniques have been developed to identify the functions of a system and appropriately assess their relative importance. By using Functional Hierarchies as one method, it is possible to move to a lower level by asking 'how?' and to move to a higher level by asking 'why?'. For example, in an office building, one of the functions would be to 'provide comfort'. By asking 'how?' we move to a lower level of hierarchy and get one possible answer, such as 'install air-conditioning'. On the other hand, if we ask 'why?' to go up a level, the answer could be to 'provide conducive working conditions'.

The purpose is to provide the basis upon which alternatives may be generated and evaluated within the whole service delivery system. The level to which functional analysis is taken, will depend on the type of study.

## 2.5 Value Management Workshops

In following the process outlined in the previous section, there are no hard and fast rules regarding the duration of a formal Value Management study, other than sufficient time be allocated, to allow all phases and issues to be appropriately explored and addressed. The total study may take three to six weeks to complete, with the workshop, which is the key part of each study, generally taking between one and three days.

Of course, less formal application of the principles of Value Management can be used in a much more immediate fashion, or integrated into the continued management over the entire life of a project, while still offering great benefits.

As well as the inclusion of key Government stakeholders, the inclusion of the appropriate design professionals and technical experts contribute heavily to the success of Value Management studies. Their involvement, like senior stakeholders, or members of the community, may not cover the entire period of the study, but it is important that they are readily available, when required by the central study team.

The workshop provides the vehicle for bringing together the key stakeholders in a forum which:

- maximises their contribution;
- draws on the combined knowledge of people from a variety of disciplines;
- takes advantage of group dynamics, rather than relying on input from individuals in isolation; and
- helps to bring into perspective the project as a whole, rather than as a collection of independent elements.

For practical reasons, the number of participants should be actively managed so as to not become unwieldy, while maintaining a wide representation. For example, an appropriate number of participants for major public sector projects may be around 17 people.

To gain the maximum benefits from the exercise, it is crucial that at least half of the participants be drawn from outside the immediate project management team. This helps to ensure that decisions made by the project team are appropriately challenged, and divergent ideas are encouraged.

Stakeholders that should be appropriately represented in any value management workshop are:

- project delivery agency (i.e. the Department of Housing and Works, Department for Planning and Infrastructure, Public Transport Authority, and Main Roads Western Australia);
- sponsoring agency (including asset/facilities management and end-user representatives);
- design team and specialist project consultants (e.g. architect and engineers);
- construction representation (to consider 'buildability' ramifications);
- the Department of Treasury and Finance; and
- practitioners from allied fields across Government, or the private sector, or members of the community, may bring a fresh perspective to the process.

A balance between adequate representation of all stakeholders, and the fact that the more participants there are, the less efficient the process becomes, must be carefully managed. All participants should have the authority to make decisions.

It is also important that agency executive management are adequately engaged, to ensure full support of the adoption of study outcomes. In some circumstances, it may also prove beneficial to include some independent technical specialists, to provide an extra dimension and expertise during the consideration of complex or contentious issues.

The Department of Housing and Works maintains a period panel of qualified Value Management facilitators, and can offer professional guidance on individual agency requirements.



## Contacts

Further information is available from the following sources:

### Issue

### Contact

**General Queries**

Assistant Director  
Asset Planning and Management  
Department of Treasury and Finance  
(08) 9222 9380

**Budget Formulation and Monitoring**

**Agency Resources**  
Department of Treasury and Finance  
Reception - (08) 9222 9336

**Building Procurement**

**Evaluation and Risk Management Branch**  
Department of Housing and Works  
(08) 9440 2256

**Asset Disposal**

**Land Asset Management Services**  
Department for Planning and Infrastructure  
(08) 9216 8911

