

# FROM VALUE MANAGEMENT TO VALUE ASSURANCE

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## ABSTRACT

*Established users and practitioners of value management need no convincing of its power and potential. However newcomers to the field of value management may be confused over the array of definitions, interpretations, approaches and methods of application. On top of this, there are the relatively new, industry applied, value improving practices.*

*What do senior client personnel really want, as opposed to what a variety of proponents of the value methodology think they should have? Should the outcomes be consensus building, problem resolution, improvement of functionality, cost reduction, schedule acceleration, reliability enhancement, or other? Should value management be applied as a quick intervention in the project development process, or as a continuum over the long term?*

*The value assurance approach is a business and technical performance improvement process. Due to a broad focus, it does not seek to compete with any of the other techniques, but to harvest their advantages and provide an approach that is all encompassing and strategic in nature. The comprehensive VA approach provides a balanced, consolidated system for achieving performance gains and delivers significant return on investment, while focusing on lasting results and stakeholder satisfaction. This is achieved through a more acceptable, Third Millennium, approach to fitting in with complex multi-stakeholder systems, demands and constraints.*

*An example application is the guidance of programs of multiple projects, whereby value assurance is accomplished through the use of a comprehensive and integrated suite of interactive templates and tools, with smart*

*links to data bases and an overall value assurance index. Within this co-ordinated framework, value management is used to enhance program/project performance at key points. In this way, value management is elevated to a more recognizable level and achieves sustainable relationships through longer term, structured, stakeholder collaboration.*

**Key Words:** Cost Management, Project Management, Stakeholders, Value Assurance, Value Management,

## 1. INTRODUCTION

In some jurisdictions, value management is the broad term that includes the application of value analysis and/or value engineering. In other jurisdictions, the terms value analysis, value engineering and value management may be used interchangeably. In yet other jurisdictions, value management or value analysis are used early to define clear objectives and scope, whereas value engineering is used at a later stage to ensure that those objectives are achieved efficiently and cost effectively. Generally, the value management (or value analysis / engineering) procedure is viewed as an intervention conducted at one or more stages of a project. Over time, the value management process has become somewhat compromised through misinterpretation and dilution. In this regard, the paper argues that value management is a key tool for multi-application within an overall value assurance framework.

Value assurance is an overarching and proactive approach for ensuring and demonstrating to higher management that anticipated business returns are being obtained for programs and large projects. It is a holistic process applied over the whole program /

project life, and it provides both a forward-looking management framework and an ongoing audit trail.

Value assurance starts as early as needs analysis, development of the service delivery model and formation of alliances. It works through strategic planning, concept definition, design and through construction, commissioning and post occupancy to comparison of outcomes with the originally approved aims.

It is applicable to various forms of business process refocusing, construction, environment, facilities & infrastructure management, government, health care, industry, manufacturing, transportation and utilities. Value assurance encourages a holistic approach and team synergy. Value assurance generates and continually updates the project value file.

## 2. BACKGROUND

Around the world and even within similar jurisdictions, there are many value related terms and differing definitions of interpretations of each. The following definitions set the scene for the discussion on the transition from value management to value assurance.

**Value** takes into account the total cost of ownership as well as compliance with users' requirements, reliability of performance, appropriate quality and functionality, along with after-sale support where applicable. Rather like beauty, value is in the eye of the beholder and may be quite different for different stakeholders. For any group of stakeholders, value is determined by reviewing a subject / project against a selected series of both quality and business terms, as assessed with specific criteria and benchmarked against comparable reference projects or systems.

**Value analysis** is the early application of a systematic exploration of a system, product or facility to understand current or designed functionality and performance for the purpose of identifying potential areas for improvement.

**Value engineering** (according to US Public Law 104-106) is “*an analysis of the functions of a program, project, system, product, item of equipment, building, facility, service, or supply of an executive agency, performed by qualified agency or contractor personnel, directed at improving performance, reliability, quality, safety, and life cycle costs*”.

The formal **Value Methodology** is a highly structured, group thinking process and is the primary technique by which value analysis, value engineering and value management are applied.

**Value improving practices (VIPs)** are utilized in the process industry. Value engineering is one of 17 VIPs, which are typically applied over a very short timeframe.

A US research focused institute has listed 44 **value management practices**. These are required to be unique, documented, optional and not part of everyday management tools.

**Value assurance** is an overarching and proactive approach for ensuring and demonstrating to higher management that anticipated business returns are being obtained for programs and large projects. It is a holistic process applied as a continuum over the whole program / project life, and it provides both a forward-looking management framework and an ongoing audit trail. For a program of multiple projects, value assurance is ideally accomplished through use of a comprehensive and integrated suite of interactive templates and tools, with smart links to data bases and an overall value assurance index. Value assurance generates and continually updates the project value file.

Within traditional value analysis and value engineering, the **value index** is a numerical ratio of function-worth to function-cost. The **value assurance index** is a broader measure of stakeholder group assessment of a suite of selected business terms plotted, on a value matrix, against a suite of selected functionality terms.

### 3. WHAT DO CLIENTS REALLY WANT?

The question “what do clients really want?” has different answers depending on the level within the organization from which the answer is derived.

Consider now the following value management needs as to how they might apply to your particular current program / project situation:

- Establishing unambiguous strategic direction
- Identifying a comparable range of concepts for comparison and selection of the most appropriate to a given situation
- Optimizing functionality of the selected concept
- Reducing program / project development time
- Balancing capital and whole life costs
- Rescuing a stalled program or project
- Optimizing an ongoing process
- Assurance to stakeholders /shareholders of best overall value, managed risk and continuing value / performance improvement.

Several project approval considerations and their interrelationships are involved. Quite often a key “piece of the puzzle” is missing, but the project proceeds regardless, only to founder seriously at a later stage. Different client personnel and other stakeholders have varying expectations of a value management exercise, depending on their individual circumstances, biases, previous experiences and required end-results. However, in general, it would seem that the more senior project clientele, chief executives, managing directors, mayors and the like, are seeking assurance that their projects can demonstrate best overall value and cost certainty. In other words, their common need is to have assurance the program or project will accomplish what has been promised and thereby avoid embarrassment / loss of face.

Increasingly, clients are basing decisions on an understanding of the full cost of ownership or other implications of an asset. Particularly in complex business environments, it is important that managers are able to have a reference

framework for ensuring confidence in program and project delivery to suit projected and changing conditions. Properly applied, value assurance is a pro-active and holistic approach to preventing or mitigating such problems, while delivering superior results in a timely manner.

### 4. ISSUES RELATED TO MANAGING VALUE

In today’s world of rapid change, faster communications and emerging technologies, there are widely differing stakeholder needs and expectations for clients and their project managers to reconcile. Many well-intentioned undertakings have led to costly overruns, disruption in service, over-complexity, disputes, poor overall value for money and slower than expected pay back. Due to changing business dynamics and world events, the business need(s) may change before project completion.

Projects may fit into virtually any part of an organization. Consider the range of scope of the budgetary areas in a large infrastructure ministry. There is a wide spread of interests and required expertise. The various stakeholders need assurance that these projects (often competing for funding) will perform satisfactorily in terms of cost, on-time delivery, appropriate quality, longevity, functionality, risk management and best value. This is also particularly so for “mega projects” funded by a number of collaborating organizations.

A problem with value management is the way in which it is presented and / or perceived. Some proponents of value management have taken a powerful management process and re-packaged it in such a way that the process appears to be very simple and quick. Potential clients and their stakeholders are led to believe that limited input and time commitments are required. In turn, the value management practitioner may be forced to compromise the process. Subsequent value management exercises are referenced to this and in turn similar or further compromises are forced. A downward spiral of resource commitment to the practice of value management ensues. It is self-defeating to present value management as a quick and easy

process, when in practice it requires “soak time” for stakeholders and considerable expertise to orchestrate and bring about successful change.

A well orchestrated, formal, value improvement process is extremely powerful, but it needs to be very carefully planned and controlled for complete success. The Value Methodology provides an excellent vehicle for accomplishing this. It encompasses tools and techniques to address the interrelated aspects of:

- Stakeholder issues & concerns
- Stakeholder values
- Project functionality
- Operations & maintenance requirements
- Costs (capital and whole life)
- Implementation schedule
- Implementation obstacles
- Critical decisions.

However, value management is very often applied as a quickly forgotten, solitary intervention, rather than as a part of an overall, deliberate and continuing value improvement program. Such a program should provide a comprehensive framework for program planning, solving of complex problems, issues resolution, concept development, project implementation and follow-through. The program should guide formulation of strategies as well as the development, implementation and optimization of a range of various types of projects, products and services. It maximizes team performance and profitability while managing risk at the appropriate comfort level for different organizations, project teams; integrated supply chains; change management and lean delivery. This integrated approach should provide an efficient management framework for strategizing, conceptualizing, developing, executing and for continuous performance/value improvement.

A broader and longer term view of programs and projects is required. One person’s view of a successful project can be quite different from that of another. Focus varies with the role of the particular stakeholder. A project may satisfy criteria for schedule cost and quality parameters, but still not succeed through loss of political or customer support. From a customer and executive perspective, the real

issue is that of performance to expectations and, often, changing external factors. The fundamental issues of project need, scope, exclusions, values, priorities, constraints, organization, roles, responsibilities and control procedures should be addressed early, with a robust framework in place to ensure strategic performance alignment and delivery to plan.

## 5. APPROACH TO ASSURING VALUE

So often, project development and / or implementation teams are unaware of the value expected from their undertakings. For example:

- Business people are often absent during project development
- Return on investment (R.O.I.) criteria are not evident and therefore not necessarily attained
- Key knowledgeable people are lost to the next critical project
- Information may not be passed on and many assumptions are made by the next wave of project people.

Also, many problems are typically addressed internally, whereas resolution of critical problems or improvements tends to utilize resources from across the whole organization. Accordingly, value assurance should involve a wide range of roles drawn from wherever necessary, over a continuing period of time. Unlike quality assurance, the skills to perform value assurance must be drawn from the key performance people who are responsible for charting a program or project’s success.

The value assurance approach is a business and technical performance improvement process. Due to a broad focus, it does not seek to compete with any of the other techniques, but to harvest their advantages and provide an approach that is all encompassing and strategic in nature. The comprehensive VA approach provides a balanced, consolidated system for achieving performance gains and delivers significant return on investment, while focusing on lasting results and stakeholder satisfaction. This is achieved through a more acceptable, Third Millennium, approach to fitting in with complex multi-stakeholder systems, demands and constraints.

Value assurance ensures, and demonstrates to senior management / stakeholders, that the most appropriate aspects have been addressed adequately and that best value for money is obtained within controlled risk parameters. Activities extend across a broad range of activities and timescales, from strategic alignment of stakeholder expectations and business plans, through confirming best overall fit of developing project proposals to optimizing an in-service system or facility.

The process promotes a balanced, “bottom-line” performance approach through equitable treatment of considerations of:

- Finance
- Functionality, effectiveness and quality
- Output performance (budgetary and scheduling)
- Environment
- Social aspects
- Security & safety
- Stakeholders’ needs and wishes.

Value Assurance is a natural adjunct to good program and project management.

## 6. VALUE ASSURANCE FRAMEWORK

The process and outputs of a value assurance program are proof to senior management and stakeholders, over the longer term, of attainment of best value at the program level, and comprise:

- Strategic choice – the formulation of clear, unambiguous, strategic direction to enable approvals, funding and subsequent orientation of the development/implementation team.
- Value enhancement and continuing value improvement for finessing proposals to optimum quality, functionality and cost parameters.

The tools and processes used include stakeholder analysis, trends analysis, value engineering, risk matrices and registers, scenario building, sensitivity analysis, technology reviews, economic modelling and stage gate reviews at critical approval points.

Key stages involve the following activities, preferably at senior management level:

- Conducting a strategic diagnosis and committing appropriate resources
- Setting value standards, metrics and targets
- Developing value profiles\* and integration of these to a value assurance index\*\* for measuring project performance
- Analyzing specific needs, exploring options and developing creative solutions
- Formulating sound recommendations and charting a path through the approvals process
- Implementation and controlling of long-term outcomes
- Monitoring overall progress and adjusting to suit changing conditions.

\* A value profile is a graphical representation of stakeholders’ views on how well a particular situation or proposed project serves its purpose. The criteria are typically identified at an early stage so as to guide project development in accordance with stakeholder expectations. The criteria are scored against an agreed scale. Two value profiles are constructed to represent:

- a) quality and functionality aspects (e.g. suitability to satisfy users requirements)
- b) business terms (e.g. cost, risk, schedule etc.)

\*\* The value assurance index is an amalgamation of the two value profiles to demonstrate overall performance. This index is used to measure and adjust stakeholder satisfaction / project performance as development proceeds or to compare various project options or scenarios.

At its highest level, the value assurance process supports senior management decision-making to focus on projects that yield the highest value and to assist in the planning and control of strategically important improvement initiatives. By contrast, focusing only on lower-level, sub optimization projects is unlikely to contribute to overall performance improvement goals. Value assurance is a long-term commitment and ensures that the

appropriate processes are in place to achieve the business goals, and how well they are being applied, as well as what is necessary for the processes to remain effective to suit changing conditions.

Value assurance manages internal and external relationships. It provides an effective framework and process for defining and measuring value as a contribution to organizational performance. It also provides means for reconciling the different needs of various stakeholders over a continuum. A particularly valuable attribute is its capacity to bring about effective change within or between organizations. As well as ensuring best overall value and performance, value assurance encourages team results, with smoother decision-making and faster delivery of outcomes. It is conducted through an integrated and systematic program of best practice techniques with continuing application and is much more than just another project improvement process.

## 7. COST MANAGEMENT PROGRAM

Value assurance may be effected through different methods. One example is the development of an interactive and comprehensive program for the management of costs across a large program of government expenditure (more than US\$2Bn. annually) applied several ministries and their granted funded agencies.

Through the application of value management thinking, a value assurance program has been developed – providing a comprehensive suite of electronic, interactive templates, worksheets and optional support tools that assist in:

- a) Developing robust project budgets more easily
- b) Monitoring costs and agreeing any corrective actions in a timely manner
- c) Capturing cost information for feedback to the corporate data base (for use in the planning of future programs and projects)
- d) Providing consistency of approach and reporting for the management of costs by the agencies and their consultants

- e) Providing accurate and timely program information for management. Provision of appropriate levels of detail for both program management and project management.
- f) Assuring the government of appropriate and reliable program and project cost information
- g) Achieving a “target cost driven” and risk-managed program / project development approach

This has resulted in:

- Reduced project approval times
- Reduced number of problem projects
- Reduction / elimination of design rework and streamlined stakeholder consultation process
- Increased number of projects processed
- Increased value for taxpayers dollars
- Significant leverage of staff resources to process more and higher quality planning, approval and monitoring work
- Speed of application
- Ability to “roll-up” all projects information to allow interrogation through different fields and to facilitate examination of “what if” scenarios such as changing escalation rates or acceleration of schedules and changes in funding levels
- Automatic reports generation
- Relative accuracy of budgets
- Better basis for progress monitoring and correction of variances
- The formal value management effort moved upstream to early scoping/definition exercises
- Increased stakeholder collaboration
- Shift in emphasis from traditional project management toward service delivery and managed outcomes focusing on program outcomes (student learning, patient health, etc. accomplishments)
- Commencement of development of a smart data base and corporate memory
- Transparency and auditability.

The cost management program is much more than its name implies. It accomplishes the

following, for a wide range and large number of projects:

- Budgeting
- Cost control
- Project management
- Program management
- Value and risk management.

In short, it is a value assurance program.

## 8. CONCLUSION

Value assurance builds on traditional value analysis/engineering skills to encourage an enhanced management approach for achieving performance gains and delivering significant return on investment, while focusing on lasting results. It encourages participants to focus on the aspects of the ultimate service delivery rather than just the short-term objective of project implementation. Also, value assurance synchronizes proceedings with the natural pace of specific organizations and projects. Additional attributes of the process are:

- Accelerates program / project progress
- Clarifies issues and available choices
- Builds consensus amongst stakeholders on issues and areas of concern
- Identifies & develops creative options
- Enables informed decision-making for sustaining results
- Improves communication between “shop floor” and the executive
- Provides a systematic and measured response for the choices of incremental or breakthrough performance improvement.

In essence, this holistic process integrates traditional project management and value analysis / engineering techniques and process across the complete business cycle, as appropriate to a particular or overall situation, rather solely at one point in time. It provides a program and project navigational aid for making faster, more confident decisions, while satisfying stakeholders and optimizing capital and /or life cycle costs. In addition, it provides a mechanism for identifying and exploiting risks/opportunities, together with more realism / improved level of confidence in estimates of outturn cost and delivery date for capturing

lasting results. It is useful to compute a value assurance index that is linked to the outputs of applications such as value profiling, risk assessment, life cycle costing, project readiness index, etc.

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