The Promise

of all projects should be

Value for Money

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This presentation will …

- Show why understanding value is critical to the proper scoping of projects
- Show the close relationship between value and risk
- Introduce value management
- Provide examples of where value management has been used globally .

What are organisations worried about?

What could we do?

Strategy

more often than

How could we do it?

Tactics

What are organisations worried about?

What should we do?

Strategy

more often than Why?

Value

How should we do it?

Tactics

Concepts of Value

- Aristotle
  - Ethical, judicial, religious, political, social, aesthetic, economic
- Economic distinctions
  - Use = utility
  - Esteem = desire, perception
  - Exchange = market, cash .

What is Value?

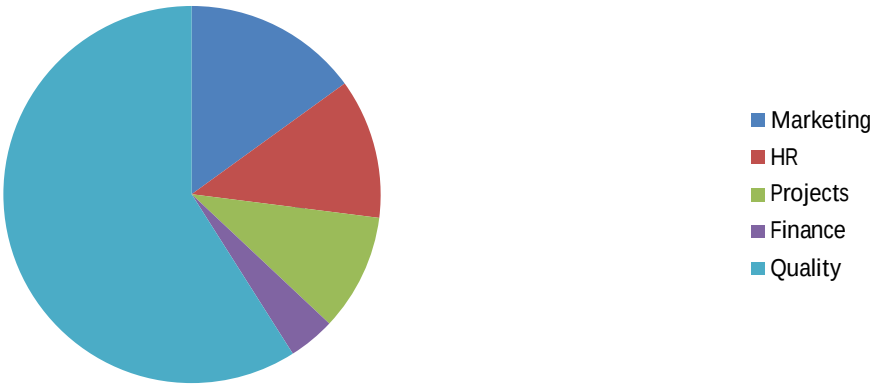
$$\text{Value} \equiv \frac{\text{Satisfaction of needs}}{\text{Use of Resources}}$$

Alternative forms:

Value = Benefits / Expenditure

Value = Function / Cost

Where do senior managers invest their time …



Thought *Action*

According to a survey conducted in Saudi Arabia, Dubai & USA, 1996

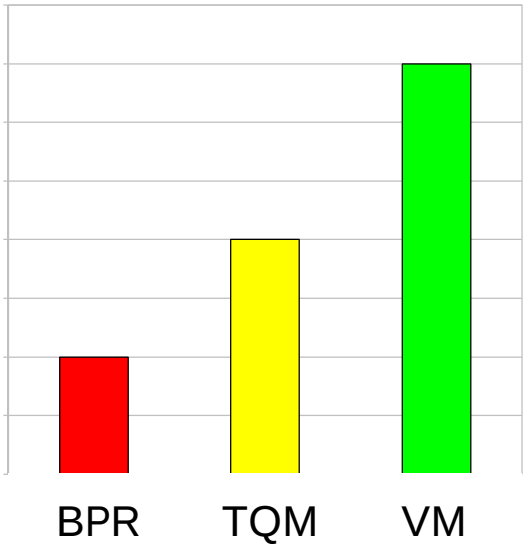
Scope for Improvement

Key findings across all industries:

- Project scoping is getting worse, not better
- Inadequate definition of project objectives
- Lack of stakeholder input to scoping
- Inadequacies are discovered far too late
- Too little demonstration of value for money

Survey 2006
Australian Constructors Association .

Comparative success rates



... KFUPM Research

Why is it hard?

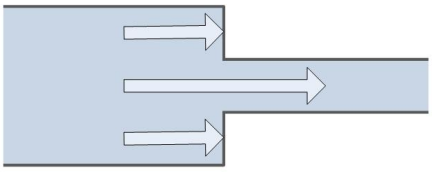
"The constructive and destructive force of human attitudes and practices, and their effect on appropriate designs and costs"

Lesson learned by Victorian Gateway Unit:

"Evaluation of procurement proposals is (still) driven by up-front cost rather than long-term value for money" .

Why is it hard?

- Comparing apples with oranges
  - Comparing disparate options in meaningful ways
  - .. in the face of differing priorities and agendas
  - .. and arriving at a balanced decision enjoying consensus support
- "Impedance mismatch"
  - Lack of clarity about value among the players .



What is value?

Value

- An attribute of an *entity* determined by the *entity's* perceived usefulness, benefit and importance

Value for money

- A measure used for comparing alternatives based on the relationship between *value* and *total cost* .

... **AS/NZS 4183:2007**

What is VM?

Value Management

- A structured and analytical process which follows a prescribed W*ork plan* to achieve best *value* and, where appropriate, best *value for money*
- A process that uses consensus collaborative decision making to achieve optimal design while controlling the development of a project in accordance with all stakeholders' needs. Value management should occur before any definite design is in place. It is a strategic tool.

… **AS/NZS 4183:2007**

Where is VM used?

- ✓ All US Federal projects > $ 2 M
- ✓ All Japan projects > $ 2 M
- ✓ All Saudi Government projects > $ 5 M
- ✓ All RC for J&Y projects > $ 5 M
- ✓ All Saudi Aramco projects > $ 10
- ✓ Mandated for large capital projects by many Australian state Governments

also in UK, Canada, Germany, France, Korea, India, Malaysia, Hong Kong, etc.

VE Accomplishments in the Gulf Area

- ✓ More than 500 VE Studies
- ✓ More than 6,000 participants
- ✓ Done at the rate of 80-100 / year
- ✓ Improved the quality of projects
- ✓ Saved more than USD 3 billion
- ✓ Saving ranged from 5-30%
- ✓ Rate of return is 100 : 1

Why VE is successful

- ✓ Team effort
- ✓ It is task oriented
- ✓ It takes a short time
- ✓ It gets quick results
- ✓ Generates many new ideas
- ✓ Acceptable solutions

... KFUPM Research

Value and Risk

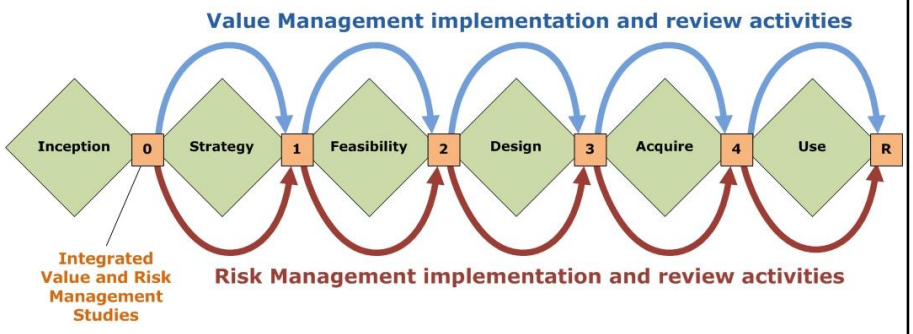
Q: What are the critical risks in a portfolio, programme or project environment?

A: Risks to value

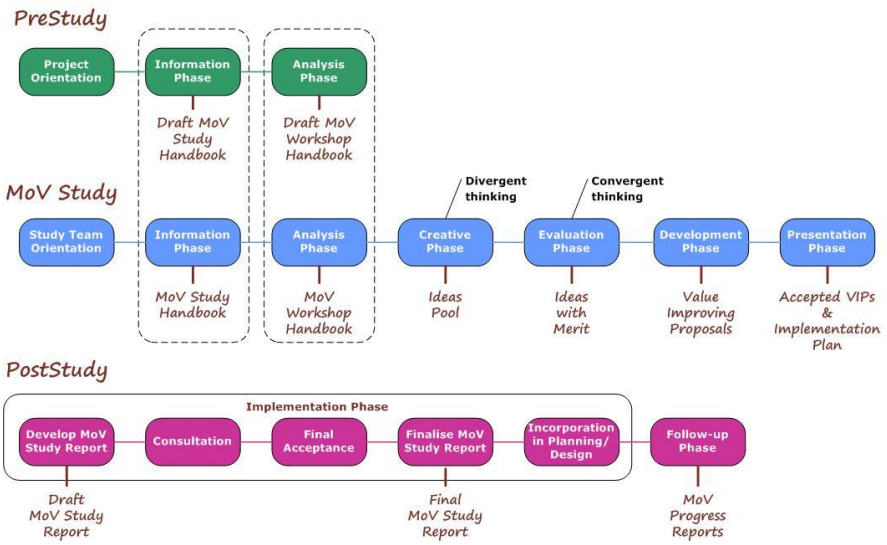
Value and Risk work together

- VM provides the means to identify, articulate, socialise, agree and deliver best value
- RM provides assurance that the setup and delivery of portfolios, programmes and projects will avoid the destruction of value, and will seek the enhancement of value .

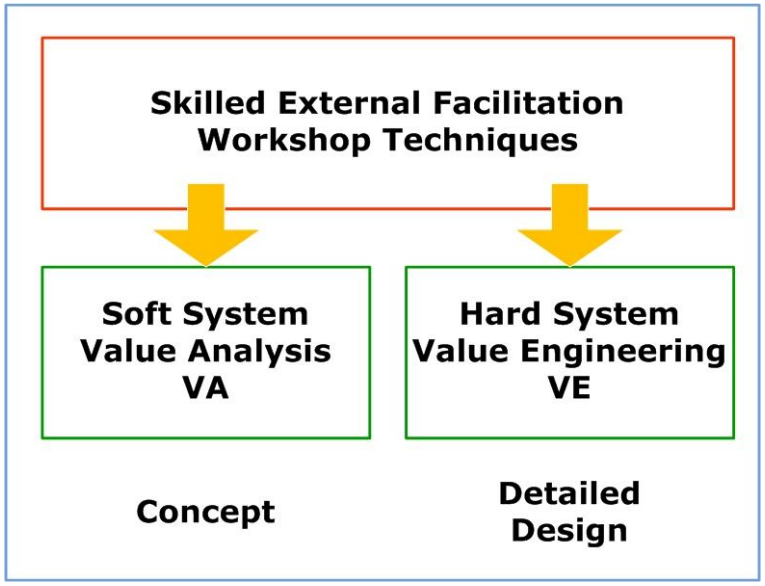
VM/RM integration across the lifecycle



Value Engineering Job Plan



Value Studies



Soft Systems VA

The 5 Cs

- Concepts reflect all stakeholders needs
- Communication optimised between all parties
- Consensus design solutions achieved (qualitative)
- Commitment gained from all stakeholders

Leads to:

- Collective, agreed outcomes .

Hard Systems VE

The 5 Ss

- Static versus dynamic design problems
- Same understanding of which functions are necessary
- Systems Engineering, systems analysis (quantitative)
- Selection of preferred design through costing exercises

Leads to:

- Succinct detailed design .

VM - Getting the concept clear

Strategic Value Management decision:

Build a hotel, not a shopping mall

Project Value Management decision:

A 3-star hotel is our best option, not a 4- or 5-star

Evaluation criteria include: aspects of risk, safety, sustainability, etc – but not cost initially

VE - Getting the design clear

It's to be a 3 Star Hotel.

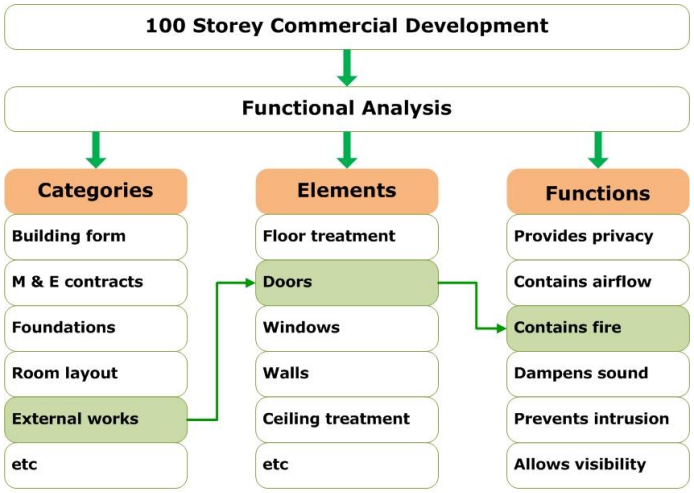
So now:

- Maximise design efficiencies
- Minimise cost (without critical compromises)
- Meet stakeholder objectives of:
  - Safety
  - Sustainability
  - Aesthetics
  - Etc .

Tools, Techniques

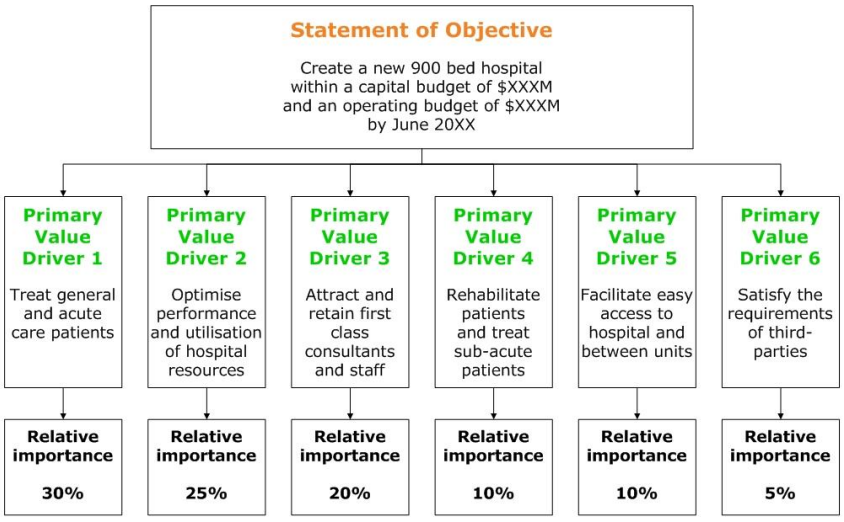
- Function Analysis System Technique
- Value Trees
  Value Profiles
- Function Cost Analysis
  Cost / Worth
  Value for Money Index
- Value Engineering
  VE Job Plans
  Value Improving Proposals .

Classic Value Engineering



Assume: 100 doors per floor = 10,000 doors
Require only 50% of doors to 'contain fire' @ $1000 each
$5M saving on 1 function in 1 element in 1 category

Value Profile



Articulates the organisation's or project stakeholders' value priorities

Uses of Value Profiles

How to ensure that decisions at a lower level of a project hierarchy (portfolio, programme, project) do not destroy value at a higher level?

- For the organisation, at strategic or portfolio level, articulate the organisation's value priorities
- For a programme, provide a means of achieving consistency across its contributing projects
- For a project, articulate project objectives and the key requirements in plain language

Jurong Hospital, Singapore

The Challenge

- New 500 bed community and 780 bed general hospital
- Increase general hospital capacity by transferring patients to community hospital for recovery and rehabilitation
- Buildings separated by six lane highway!

The Process

- Detailed preparation and meetings
- Two day workshop involving all key stakeholders

The Outcomes

- Detailed Value Profile developed as basis for decisions
- Additional expansion capacity added to minimise future disruption
- Issues around access and improving (air conditioned) connectivity resolved
- Key risks and mitigation actions identified and agreed

"We got a better hospital"

Eden Project, Cornwall, UK

The Challenge

- Establishing viability to a far sighted vision to demonstrate, educate and research mankind's dependence on the environment
- Providing reassurance to funders and promoters of a highly risky project

The Process

- Numerous studies and workshops over several years throughout four phases of development

The Outcomes

- Detailed Value Profile developed as basis for decisions
- Realistic business case established
- Funding agencies reassured
- All phases completed on time (or early) and within budget
- Only half the risk budget expended

The most successful Millennium project in the UK, contributing significantly to Cornwall's economy

UK Supreme Court

The Challenge

- Mission Critical programme comprising relocation of existing courts, re-training key personnel and refurbishment of listed building adjacent to Parliament
- Need to satisfy powerful stakeholders including the most senior judiciary
- Programme in trouble

The Process

- Launch event followed by focused studies to resolve specific issues

The Outcomes

- Value Profile developed to clarify brief and provide objective basis for decision making
- Expected benefits defined, clarified and enhanced
- Basis of business case reinforced
- Critical issues resolved
- Programme successfully completed on time and budget

"A breath of fresh air"

Baha Mar leisure complex

The Challenge

- Launch Event for development of major new leisure facility at Cable Beach, Bahamas
- No clear vision of expected outcome and outline Master Plan
- Lack of clarity on requirements to implement plan

The Process

- Week long preparation, workshops and break out sessions

The Outcomes

- Detailed Value Profile developed to confirm vision
- Client decision making processes resolved
- End to end Master Programme Plan developed
- Significant procurement issues for developing facilities of this size and complexity in Bahamas identified

Programme successfully completed on time and within budget

Dubai International Airport

The Challenge

- Planned series of studies to clarify brief and deliver value for money

The Process

- Over ten days of consultations and three workshops with all major stakeholders

The Outcomes

- Detailed Value Profile developed providing the team with a greatly enhanced understanding of the project requirements
- Clear protocols for how the team would work together
- Strategies for overcoming the major constraints of expanding facilities within a fully functioning airport without disrupting business as usual

More info please

- "Standards"
  - Value Analysis, Value Engineering
  - SAVE International Value Standard and BoK
- Standards
  - AS 4183:2007 Value Management
  - BS EN 12973:2000 (European)
- Guidance / training
  - IVMA accreditation criteria for training courses
  - Management of Value

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Value management (MoV)

Programme and project management (PMBoK, PRINCE2, MSP, P3O)

Assurance, review, audit

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