VALUE MANAGEMENT IN THE GOVERNMENT PROJECTS (PART I)

SEMINAR BY CAWANGAN KONTRAK & UKUR BAHAN JKR

ON 07 JUNE 2011 AT DEWAN CITRUS, MENARA PJD, JKR

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

Contents

PART I (9 AM – 1 PM)

- THE CONCEPT OF VALUE
- AN OVERVIEW OF VM
- VM IN CONSTRUCTION
- VM IMPLEMENTATION IN RMK-10

JKR prokom PROJECT MANAGEMENT EXCELLENCE

Objectives

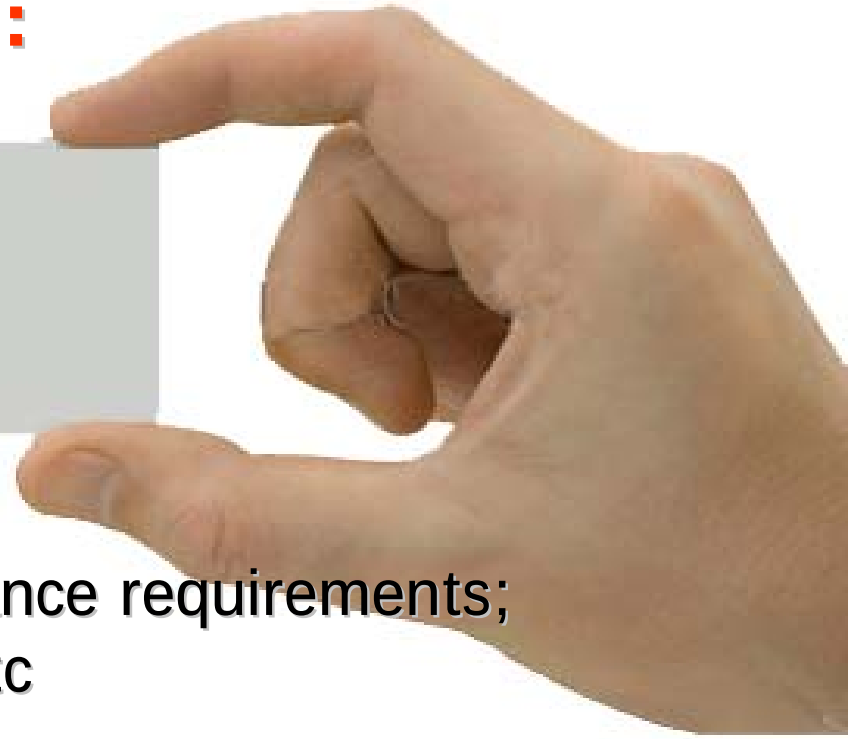
JKR prokom PROJECT MANAGEMENT EXCELLENCE

THE CONCEPT OF VALUE

prokom
PROJECT MANAGEMENT EXCELLENCE

Value Concept (i)

SAVE International (USA):



$$\text{Value} = \frac{\text{Function}}{\text{Resources}}$$

Where;

Function = Customer's performance requirements;

Resources = Labour, cost, time etc

Or; as a fair return or equivalent in goods or services or money for something exchanged

JKR

prokom

PROJECT MANAGEMENT EXCELLENCE

Value Concept (ii)

BS EN 12973:2000 (UK/Europe):

What is necessary for a desired user

$$\text{Value} = \frac{\text{Satisfaction of Needs}}{\text{Use of Resources}}$$

Everything that is required to satisfy needs

prokom PROJECT MANAGEMENT EXCELLENCE

Value Concept (iii)

By Dell 'Isola:

$$\text{Value} = \frac{\text{Function (F)} + \text{Quality (Q)}}{\text{Cost (C)}}$$

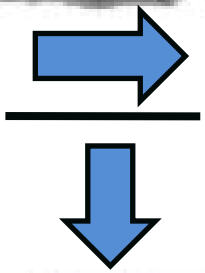
Where;

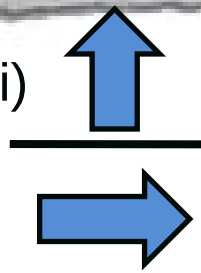
Function	=	The specific work that a design or item must perform
Quality	=	The owner's or user's needs, desires and expectations
Cost	=	The life cycle cost of the product or project

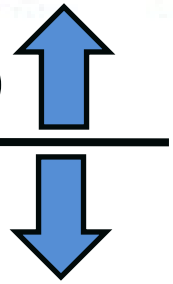
JKR prokom PROJECT MANAGEMENT EXCELLENCE

Value Enhancement

$$\text{Value} = \frac{(F) + (Q)}{(C)}$$

(i) 

(ii) 

(iii) 

(iv) 

(i) Reducing cost but maintaining the function and quality

ii) Increasing either the function or quality or both but maintaining the cost

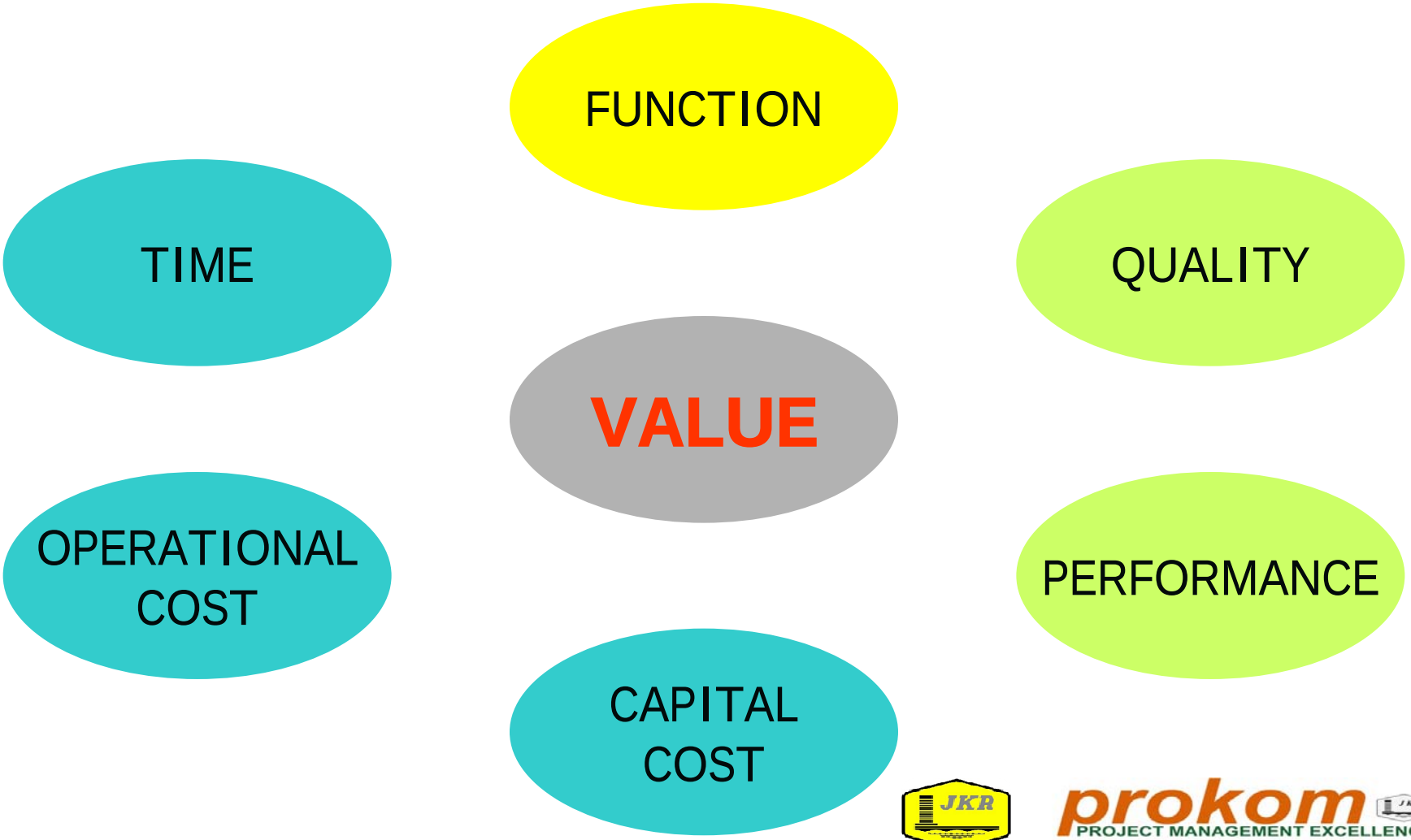
(iii) Reducing the cost and at the same time increasing the function and quality

(iv) Increasing the cost but at the same time improving function and quality at a higher proportion

JKR

prokom PROJECT MANAGEMENT EXCELLENCE

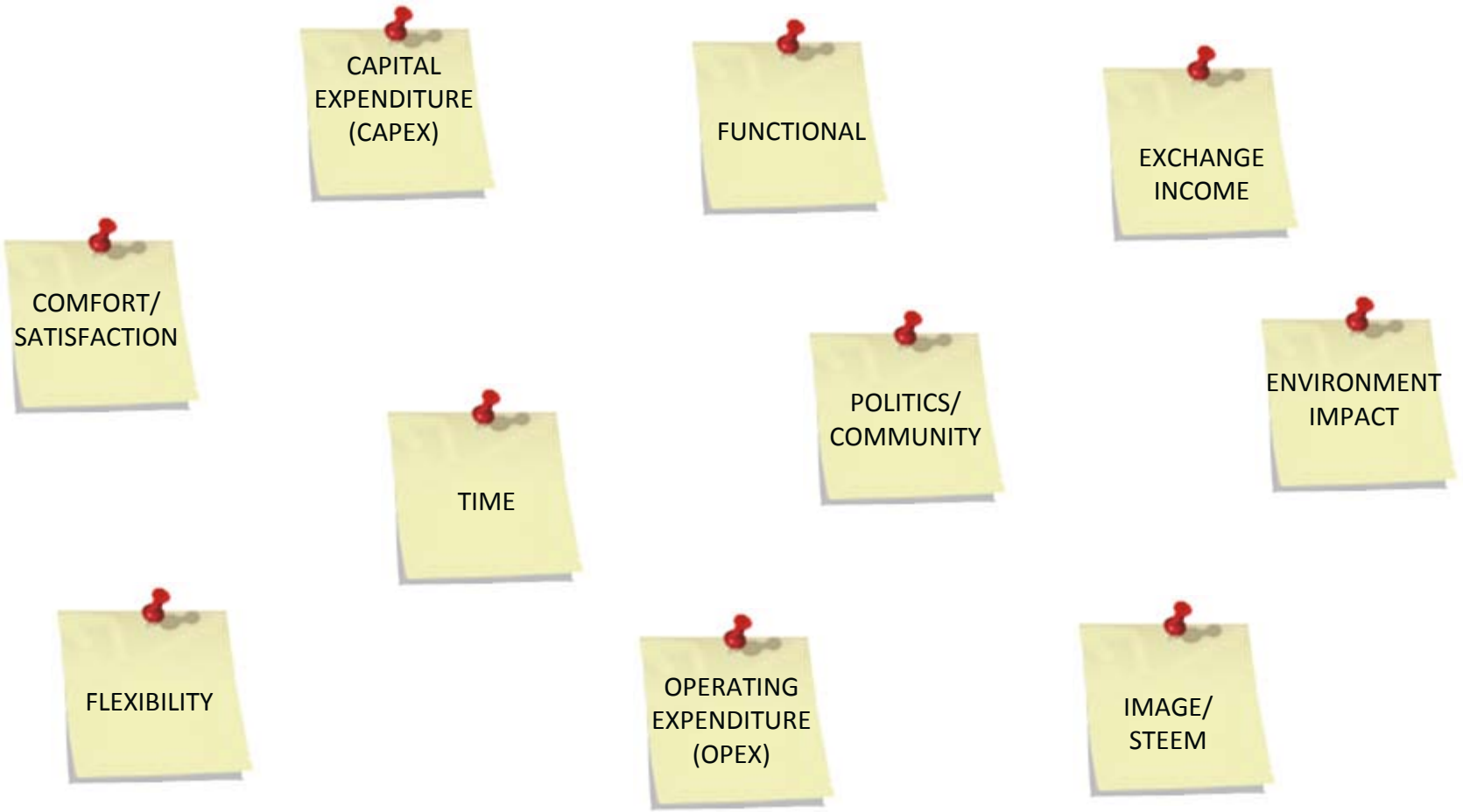
Variables in Value



JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

Client Value Systems



JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

Value Based Judgement

Multi stakeholders' views

Subjective Component

[Soft Evidence]

Teams and individuals making decisions and choices about cost and price

Impacted by
Perceptions, Attitudes
Culture, Hierarchy

Objective Component

[Hard Evidence]

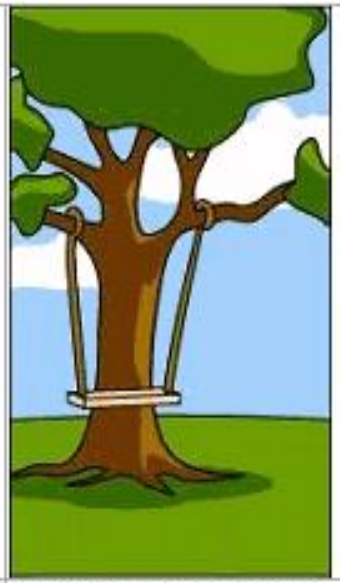
Objective measures on:

- Cost – resources used
- Market exchanges - price

Impacted by
Economic; Industrial;
Social and Political

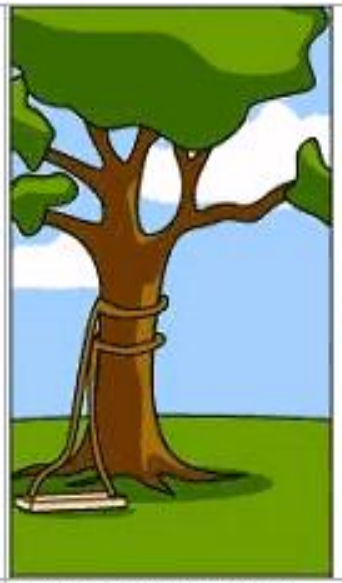
prokom
PROJECT MANAGEMENT EXCELLENCE

How the customer explained it



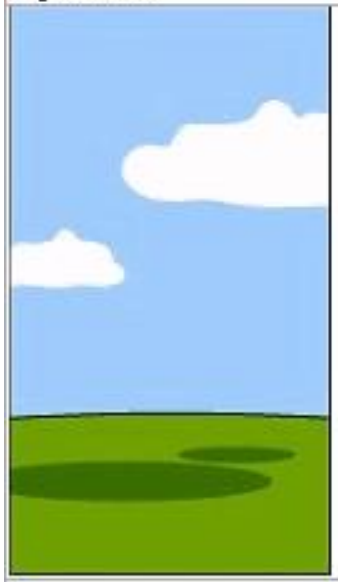
How the project leader understood it

How the analyst designed it

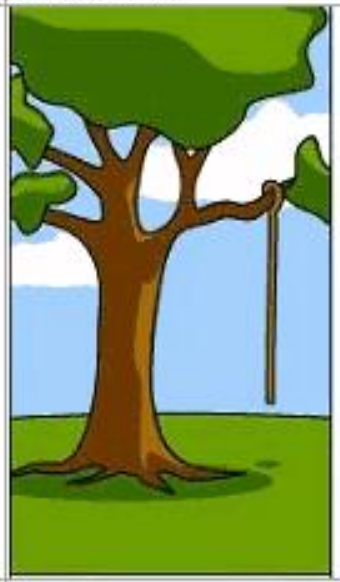


How the programmer wrote it

How the sales executive described it

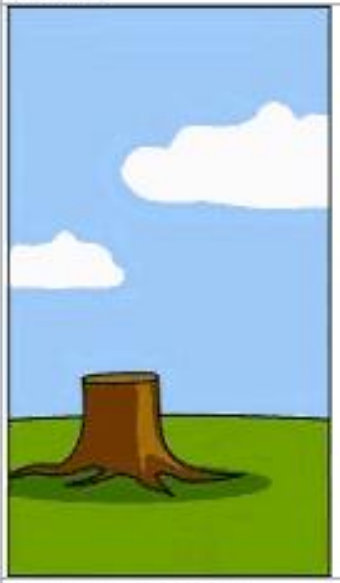


How the project was documented



What operations installed

How the customer was billed



How the helpdesk supported it

What the customer really needed

AN OVERVIEW OF VALUE MANAGEMENT

prokom
PROJECT MANAGEMENT EXCELLENCE

History of VM

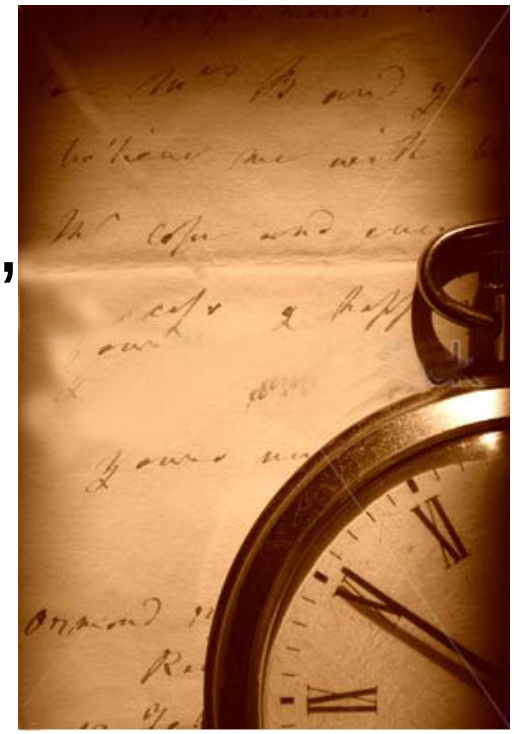
1940s – Value Analysis (VA) by Lawrence D. Miles in the USA Manufacturing Industry – initially to seek alternatives & elimination of unnecessary cost

1950s – Value Engineering (VE) in the USA and emerged beyond into services, projects & administrative procedures

JKR prokom PROJECT MANAGEMENT EXCELLENCE

History of VM

1960s – Value Management (VM) established by IVM in the UK and later expanded to Europe, Australia, New Zealand, Hong Kong



Widely emerged into Construction Industry in **1980-90s**

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

VM Standards

USA – Value Standard & Body of Knowledge
(SAVE International)

UK/Europe – British / European Standards
BS EN 12973:2000

Australia/New Zealand – AS/NZ Standards
- Value Management & TAM 2000 (NSW)

prokom
PROJECT MANAGEMENT EXCELLENCE

VM Definition (i)

L.D. Miles (1940s) used 'Value Analysis':

'is an organised approach to provide the necessary functions at the lowest cost';

and

'is an organised approach to the identification & elimination of unnecessary costs'

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

Unnecessary Costs

Lack of measurement in value

Lack of information

Lack of time

New process or technology

"costs which do not meaningfully contribute to the function or purpose of the product or service"

Honest but wrong belief

Habits and attitudes

"wasteful practices in delivering a service or a failure to match the delivered service to customer needs"

Reluctance to seek advice

Unrealistic judgement

Human factor

JKR prokom PROJECT MANAGEMENT EXCELLENCE

VM Definition (ii)

Kelly and Male (1993):

'VM is a proactive, creative way, problem-solving service, using structured systems and multi disciplinary team orientated approach to generate alternatives with the relationship of function with value'

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

VM Definition (iii)

SAVE International (2007 edition):

'VM (Value Methodology) is a systematic process used by a multi disciplinary team to improve the value of a project through the analysis of functions'

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

VM Evolution

IVM UK (2009):

‘a style of management particularly dedicated to motivating people, developing skills and promoting synergies and innovation, with the aim of maximizing the overall performance of an organization’

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

VM Terminologies

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

VM Benefits

- Better business decision
- Improved products or services
- Robust management style
- Vehicle for innovation and organizational change

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

VM Benefits

- Effective use of methods and tools
- Enhanced competitiveness
- Improved communication
- Positive human dynamics

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

VM vs Other Methods

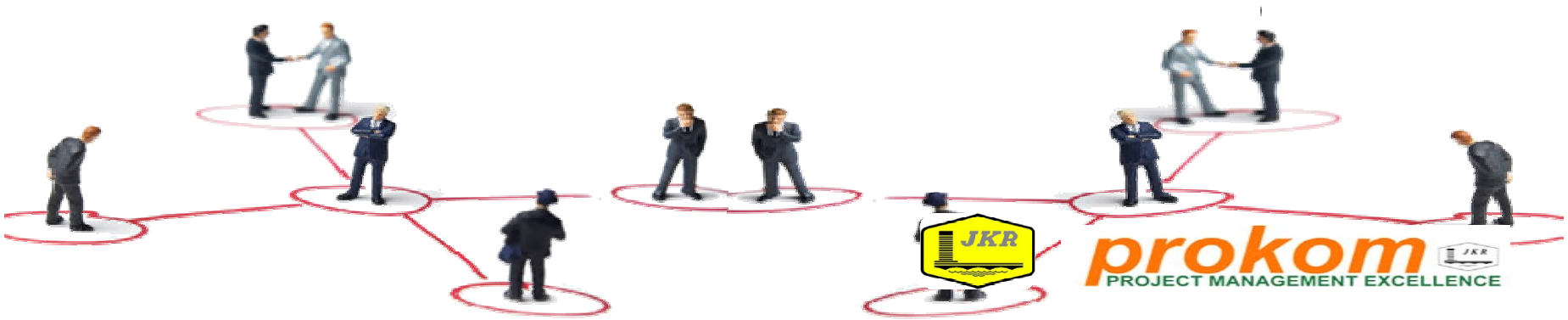
- A continuous enhancement of value
- Focuses on functions & practicality
- A multi disciplinary team-based process
- A structured decision making tool
- Promotes innovations & creativity

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

VM Challenges

- Misconception & misconduct of VM
- Negative attitudes and rejections
- Lack of commitment and support
- Upfront expenditure for Value Study (Workshop & Consultant Costs)
- No financial incentive for contractors (VECP)



Misconceptions of VM

Just another cost cutting tool ▶ Eliminates unnecessary cost whilst retains or enhance quality or performance ✓

Equals to "Design Reviews" or "Cost Planning" ▶ More systematic, disciplined and far reaching, function orientated, structured decision making tool, emphasizes on audits and a range of alternatives ✓

Additional "Road Block" & time consuming ▶ Set strategic interventions along the project life cycle to improve the work efficiency and whole development time ✓

JKR

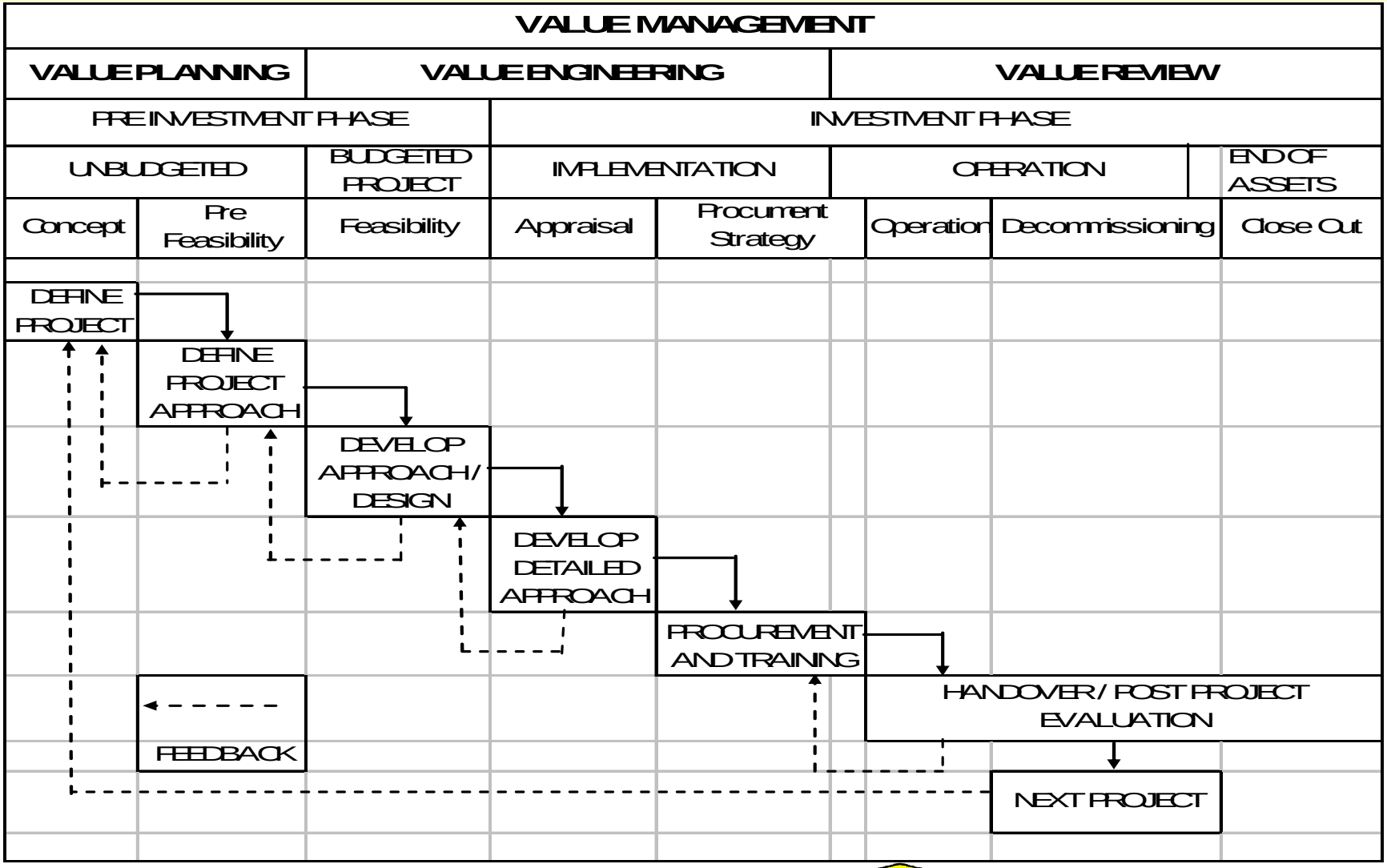
prokom
PROJECT MANAGEMENT EXCELLENCE

VALUE MANAGEMENT IN CONSTRUCTION

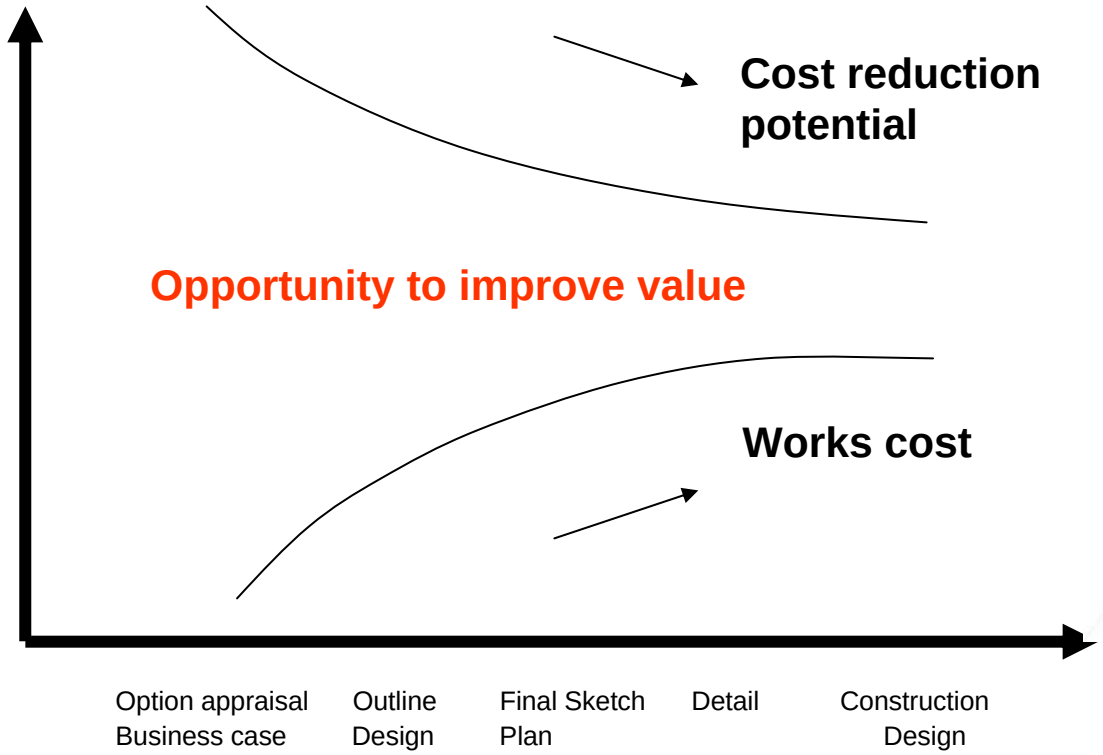
JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

VM in a Project Life Cycle



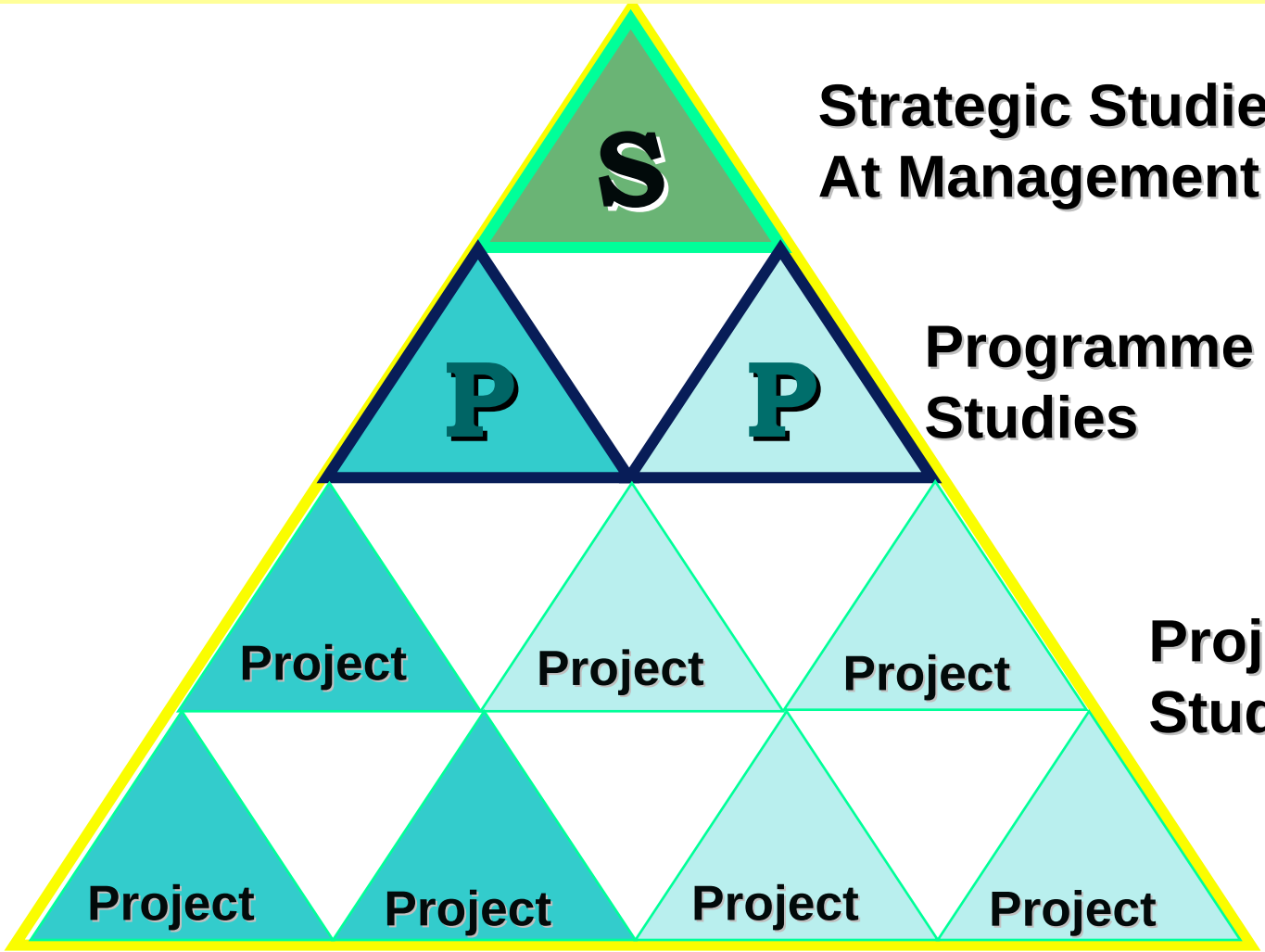
Value Improvement Potential



Source: Guidance No.54 of H.M. Treasury of UK (CUP, 1996)

JKR prokom PROJECT MANAGEMENT EXCELLENCE

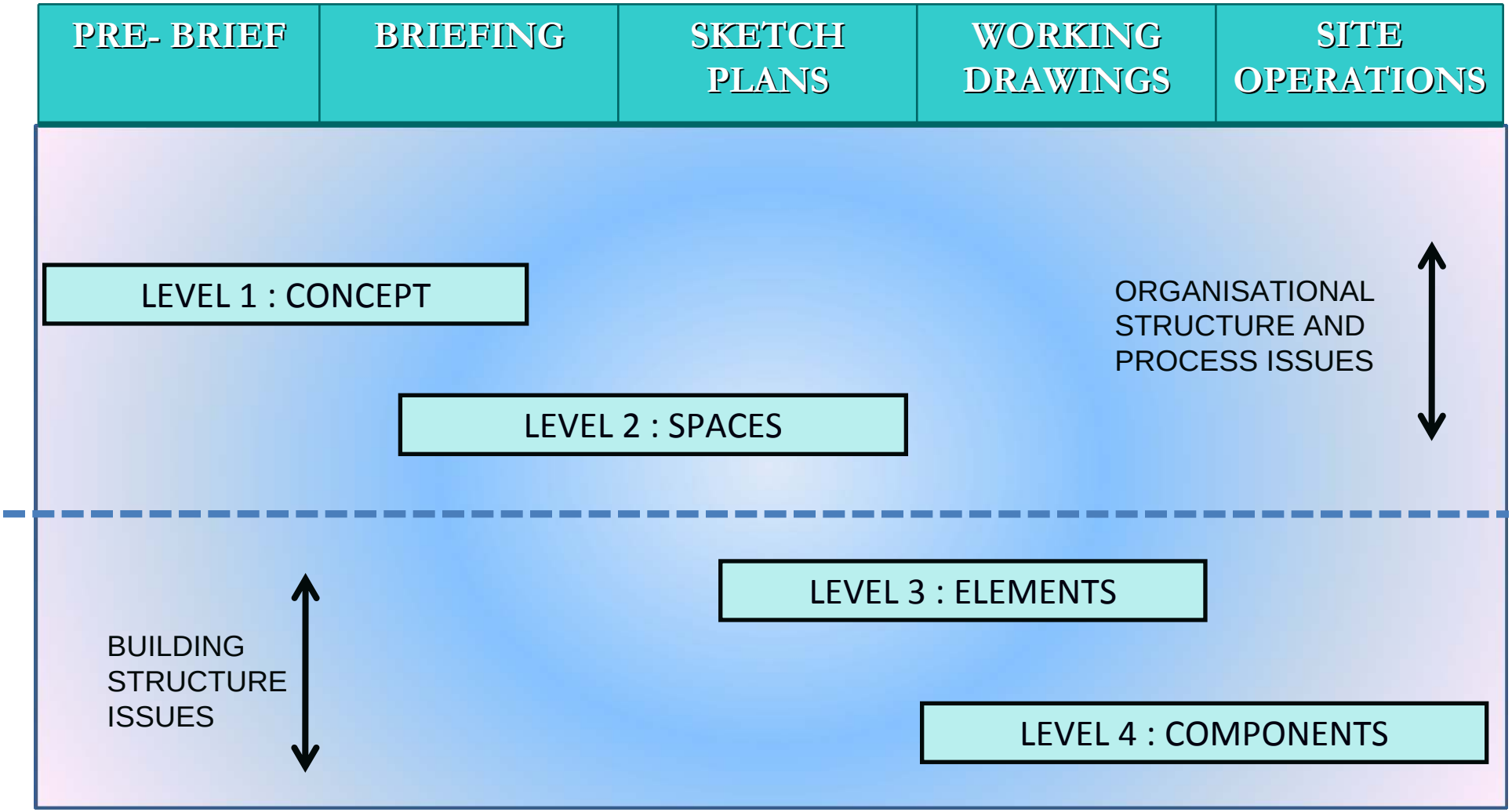
VM Study Cascade



JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

Levels of Value Study



JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

VM Study vs VE Study

VM

Why invest?
(Getting the right project)

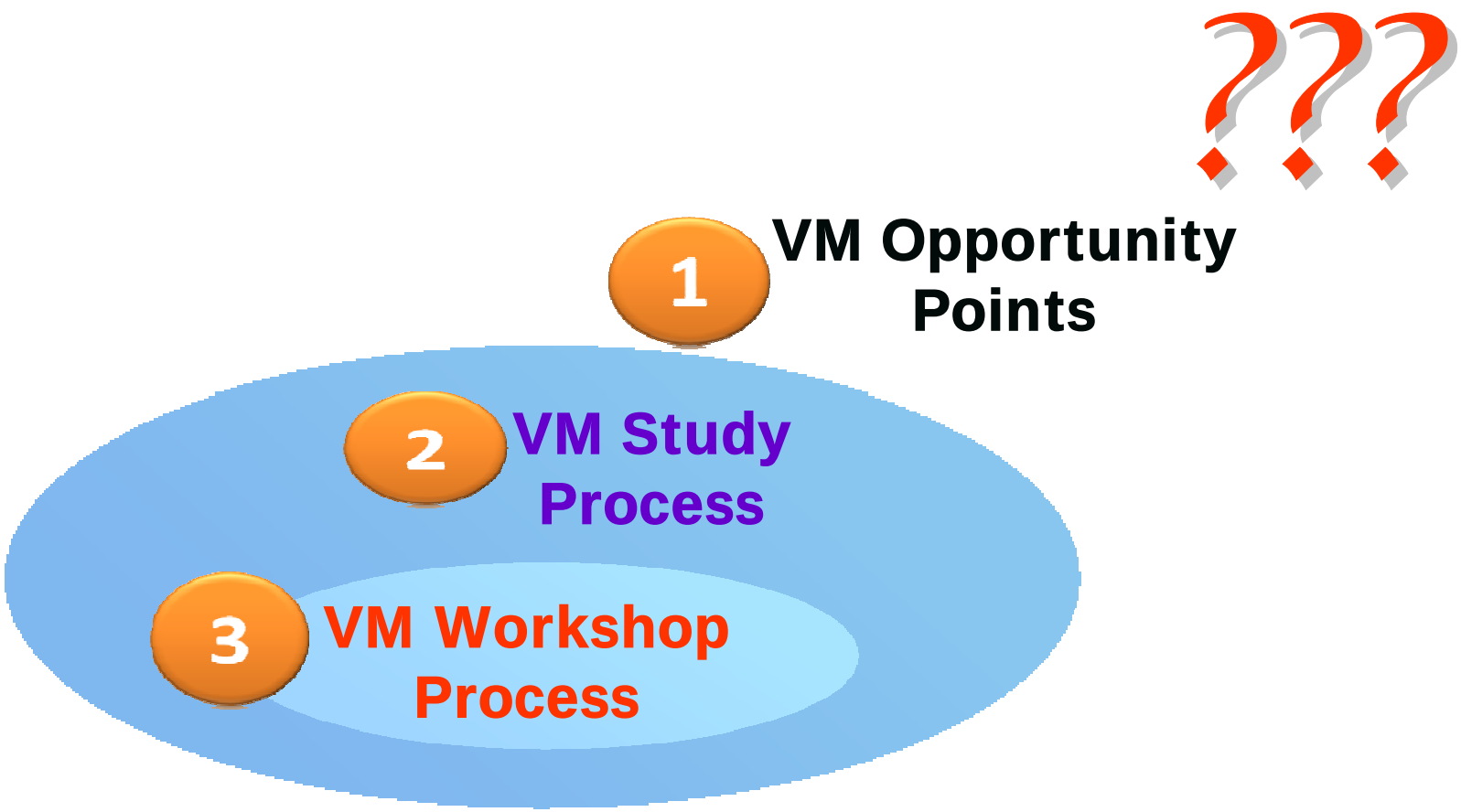
VE

Invest in the right technical solution
(Getting the project right)

JKR

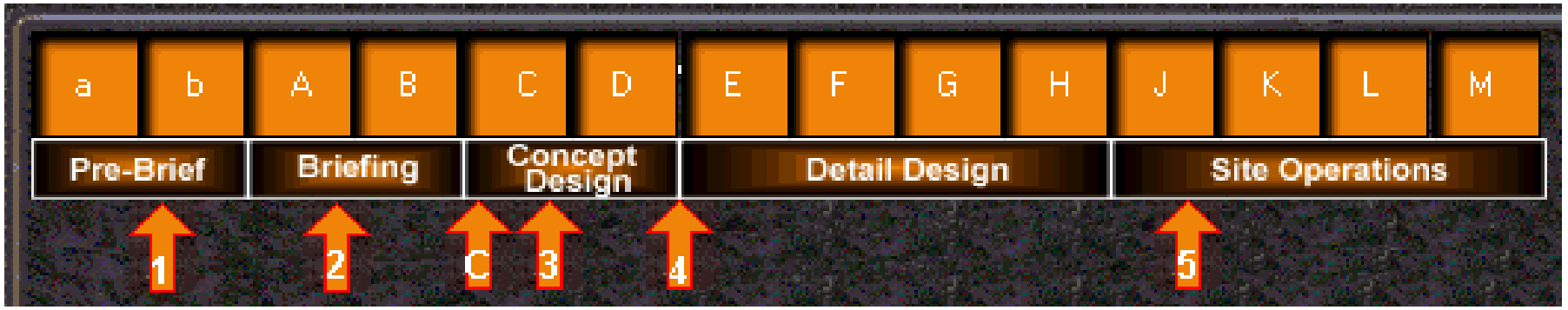
prokom
PROJECT MANAGEMENT EXCELLENCE

VM Body of Knowledge



JKR prokom PROJECT MANAGEMENT EXCELLENCE

1 VM Opportunity Points



Each point has a characteristic type of study, workshop and team:

Point 1: Strategic Briefing Study
Point 2: Project Briefing Study
Point 3: Concept Design Study
Point C: The Charette (in the place of 'Point 1, 2 and 3')
Point 4: Detail Design Study
Point 5: Operations Workshop

Source: International VM Benchmarking Research

JKR prokom PROJECT MANAGEMENT EXCELLENCE

2 VM Study Process

Orientation and Diagnosis Phase — **Implementation Phase**

Pre Study Information	Information	Creativity/ Innovation	Evaluation	Option/Idea Development	Action Planning	Workshop Report	Implementation
Information Gathering	Presentation and Team Building	Brain storming	First level Sort	Development	Present to sponsor	Prepare Report	Feedback Workshop
Information Synthesis	Information Gathering		Refined Sort		Plan to implement	Circulate Report	Prepare Final Action Plan
Agenda Production	Information Synthesis		Select to Develop		Prepare Action Plan		Sign Off by Participants
	Function Logic Diagram				Sign Off		
	Function Analysis						
	Process Analysis						
	Target Functions						

Workshop Phase

Source: Revised Value Management Process, Kelly, Male & Graham (2004)

JKR prokom PROJECT MANAGEMENT EXCELLENCE

2 VM Study Process

O & D PHASE (PRE STUDY)	WORKSHOP PHASE	IMPLEMENTATION PHASE
Identify value context; Define study scope; Gather data; Identify & select team; Develop agenda; Study Logistics	Information sharing; Function Analysis; Create Solutions & innovations; Evaluate solutions; Present & validate; Action Planning; Prepare report; Finalization & sign off	Disseminate report; Support Implementation; Continuous Improvement

Source: Enhanced VM Process, Male & Kelly (2007)

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

3 VM Workshop Process

BS EN 12973:2000	SAVE INTERNATIONAL
Information	Information
Creativity	Function Analysis
Evaluation	Creative
Option / Idea Development	Evaluation
Action Planning	Development

JKR prokom PROJECT MANAGEMENT EXCELLENCE

VM Study Styles

Study Style 1

Value System Alignment

where a value manager works with an existing team to assist them to understand value problems, structure thinking and develop a way forward

Study Style 2

Value System Reconfiguration

where a value manager works with an existing team and the objective is to challenge and introduce change

Study Style 3

Value System Audit

where a value manager brings together an independent tailored team of specialists for an audit study

Study Style 4

Value System Audit and Reconfiguration

where a value manager brings together (hybrid) a tailored independent value team of specialist for a value audit and reconfiguration

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

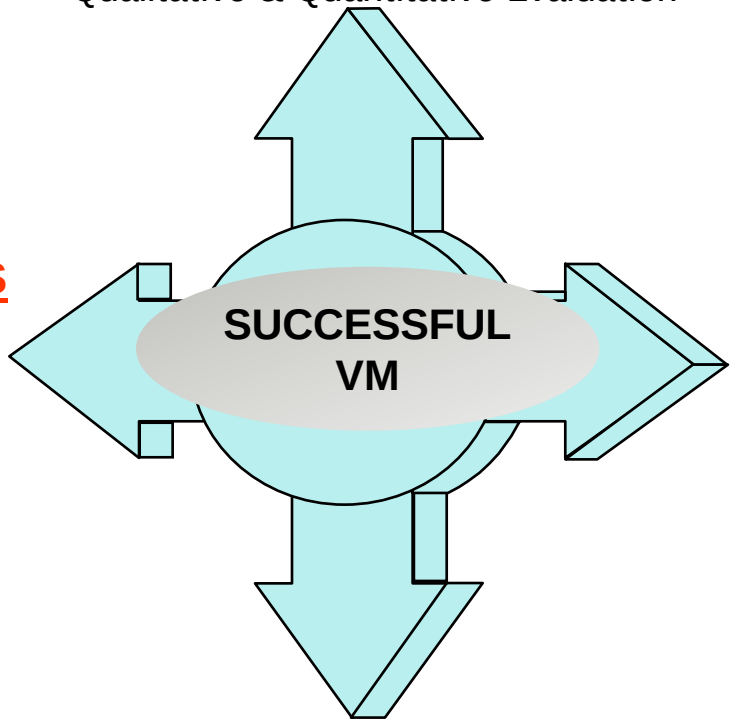
Critical Success Factors

MANAGEMENT STYLE

Applying the Concept of Value;
Applying the Concept of Function;
Creativity and Innovation; Customer Focus;
Qualitative & Quantitative Evaluation

METHODS AND TOOLS

Using the VM study Plan;
Using the techniques within a VM study.



ENVIRONMENT

Understanding the Internal Organisational Environment;
Understanding the External Environment;
Designing the right VM approach

HUMAN DYNAMICS

Team Work; Communication and Satisfaction;
Encouraging Change; Ownership of Outcomes

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

VM Advantages

- Establish clients' needs and value systems
- Establish objectives and project functions
- Establish quality and design criteria
- Facilitate design development and innovation
- Eliminate or reduce unnecessary costs
- Minimize variation works (VO)
- Improve construction methods and performance
- Manage risk affecting project value
- Optimize Whole Life Cost / Life Cycle Cost
- Enhance operational effectiveness
- Satisfy users' requirements
- Improve communications and collaborations
- Evaluate and audit tender proposals and alternatives (D&B)

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

Effective VM Implementation

- Costly projects – 5% or higher cost savings from estimated cost
- Complex projects – a platform to get expert second opinions
- Repetitive costs – very cost effective in reducing cost in other similar projects
- Restricted budgets – to maximize value

JKR prokom PROJECT MANAGEMENT EXCELLENCE

Reported VM Studies

PROJECT	ESTIMATE	SAVING (%)	STUDY STAGE
KLIA	RM 9 b	**RM 1 b (11%)**	CONCEPTUAL
BANK	RM 85.75 m	**RM16 m (18.6%)**	DETAIL DESIGN
SCHOOL	RM 5.3 m	**RM 0.6 m (11.7%)**	DETAIL DESIGN
APARTMENT	RM 42.9 m	**RM 4.4 m (10.3%)**	DETAIL DESIGN
HIGHWAY	RM333.79 m	**RM56.4 m (16.9%)**	CONSTRUCTION




JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

VALUE MANAGEMENT IMPLEMENTATION IN RMK-10 PROJECTS

prokom
PROJECT MANAGEMENT EXCELLENCE

EPU Guidelines

- **PEKELILING**
  GARIS PANDUAN PELAKSANAAN PENGURUSAN NILAI
  UNIT PERANCANG EKONOMI, JABATAN PERDANA MENTERI
  BILANGAN 3 TAHUN 2009 (29 DISEMBER 2009)

- **PANDUAN PELAKSANAAN**
  PENGURUSAN NILAI DALAM PROGRAM / PROJEK KERAJAAN
  UNIT PERANCANG EKONOMI, JABATAN PERDANA MENTERI
  VERSI 1 TAHUN 2011 (24 MEI 2011)

MANDATORY FOR

PROJECTS > RM 50 m

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

VM Studies Implementation

EPU

- **Asset Creation Strategy**
- **Scope Definition**
- **Budget Capping**

JKR / JPS

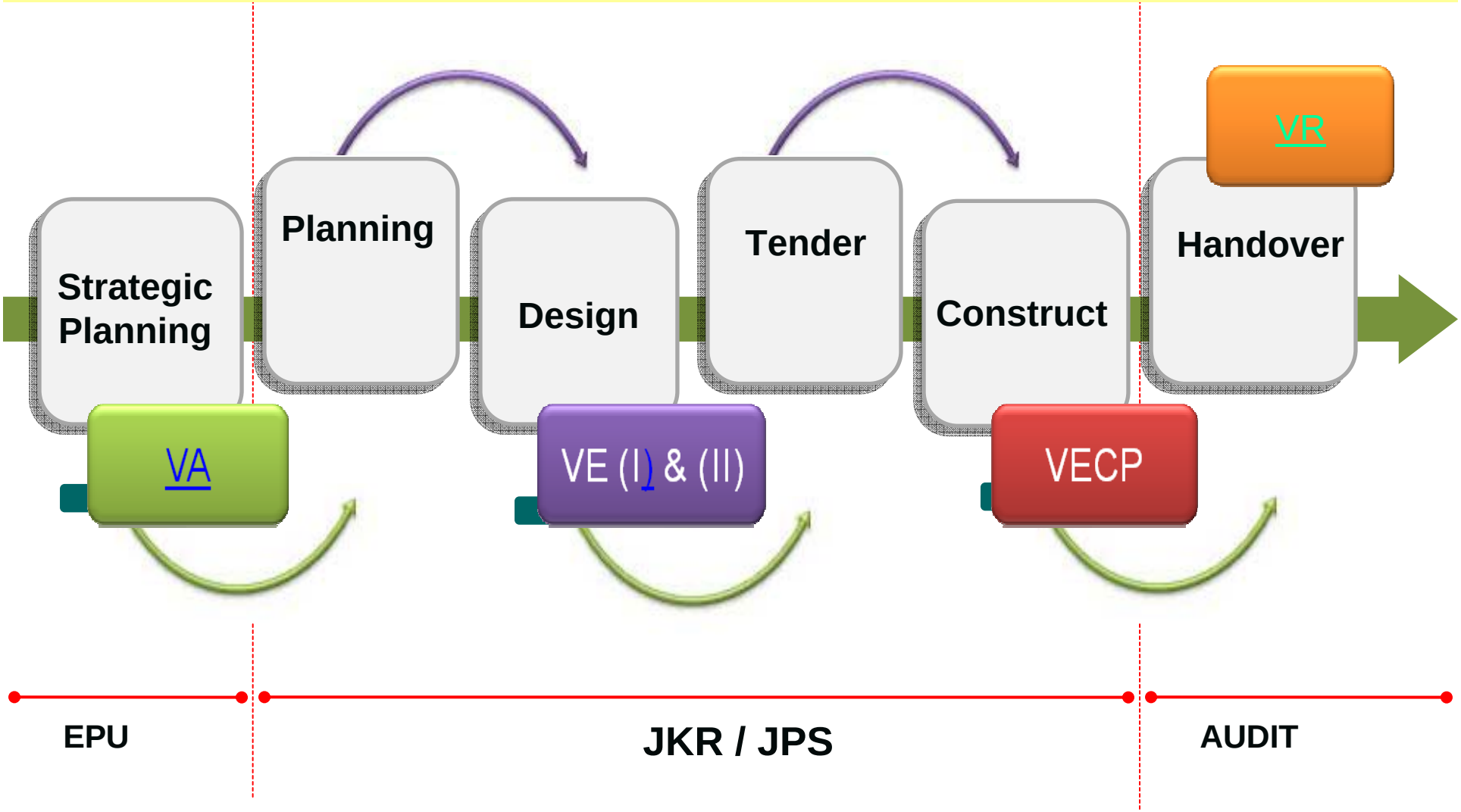
- **Cost Optimization**
- **Fit for Purpose Design**
- **Meet Users' Satisfaction**

AUDIT

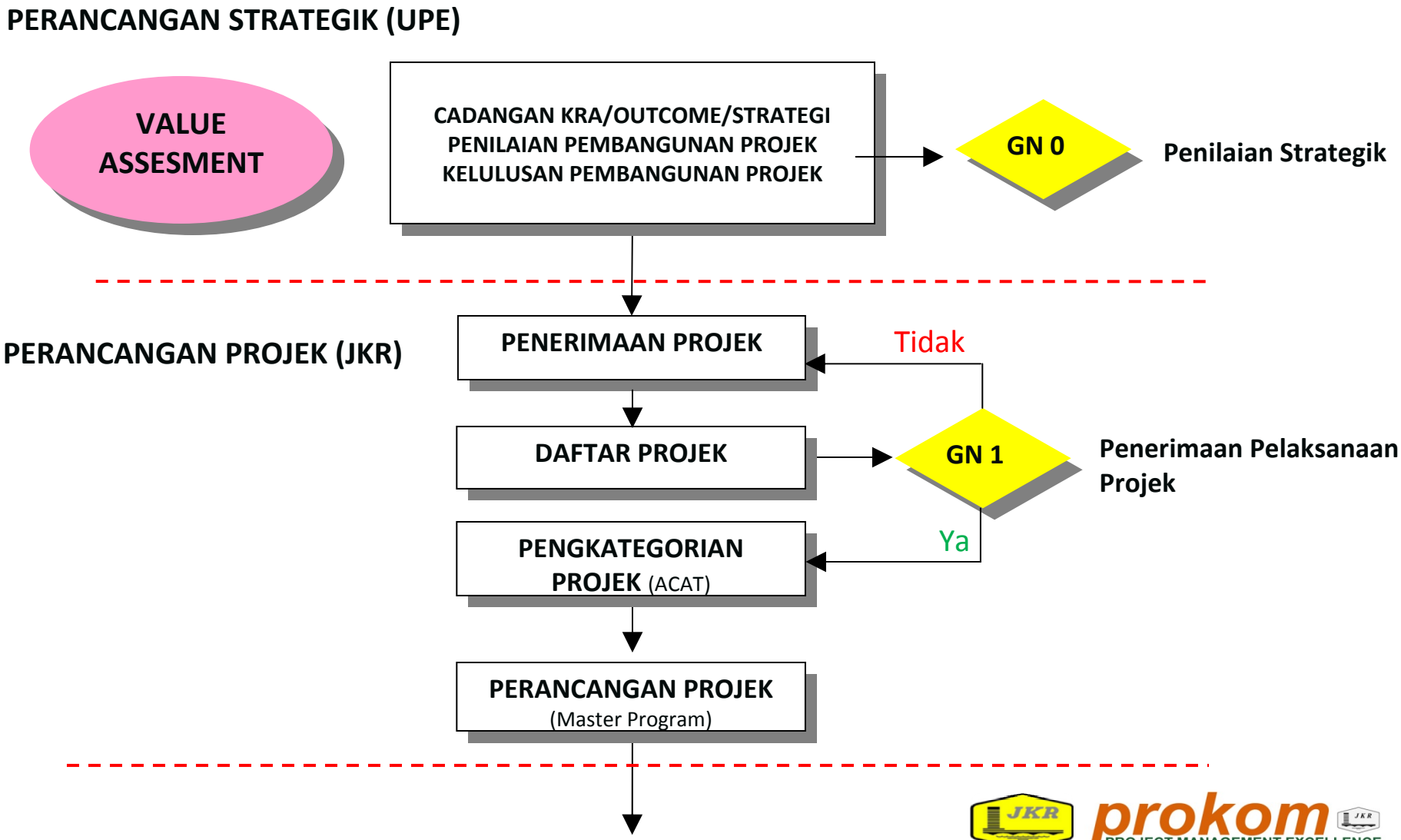
- **Benefits or Outcomes Review**
- **Operational Improvement**
- **Lessons Learned**

prokom
PROJECT MANAGEMENT EXCELLENCE

VM Opportunity Points

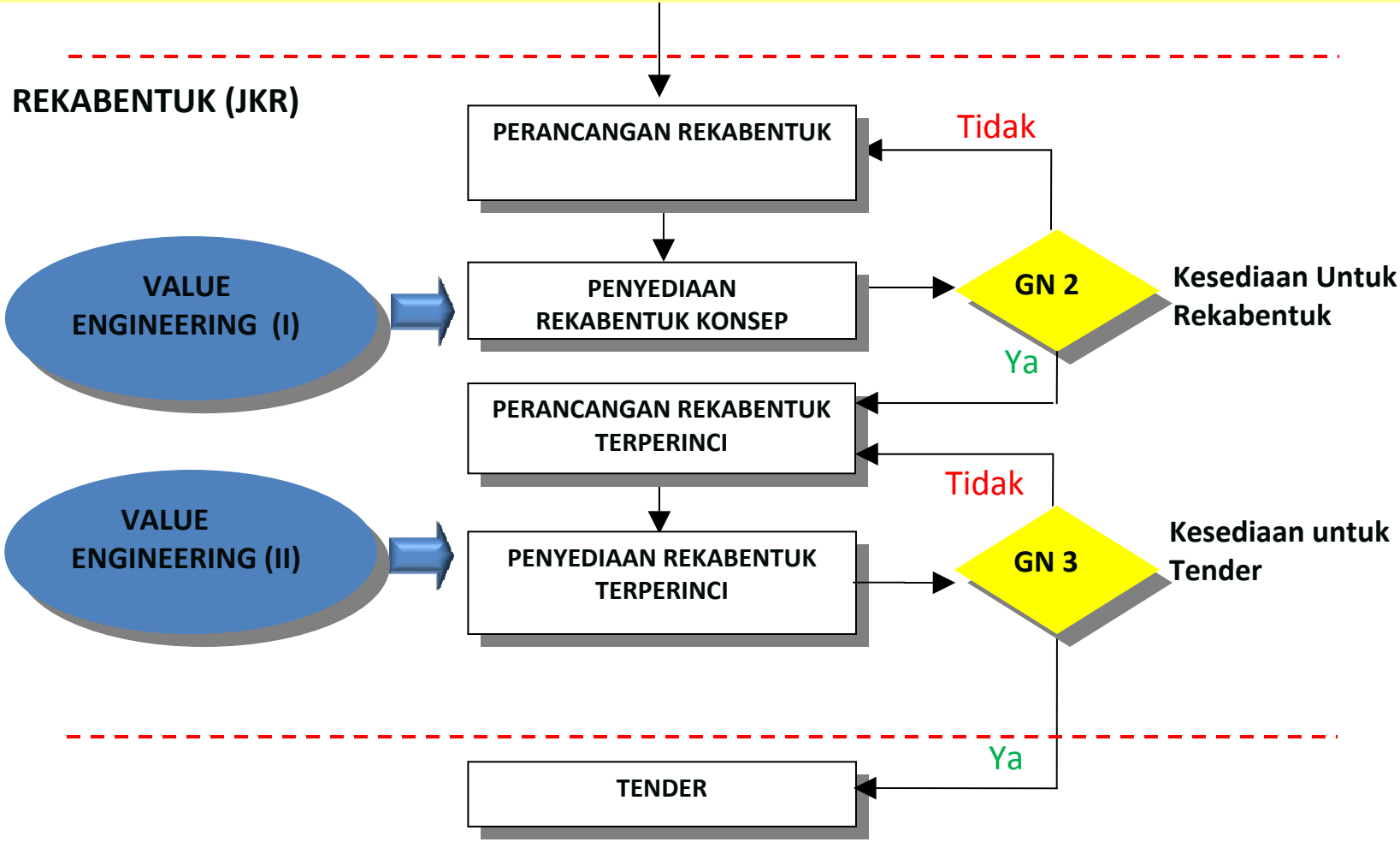


VM Work Process (VA)



prokom PROJECT MANAGEMENT EXCELLENCE

VM Work Process (VE)



prokom PROJECT MANAGEMENT EXCELLENCE

Value Assessment (VA)

AT STRATEGIC PLANNING (EPU)

- Determine business case, users / stakeholders' needs
- Benefits or outcomes sought
- Implement asset creation strategy
- Determine strategic functions
- Prioritize client value systems
- Define development scopes
- Cap cost budget
- Strategize project implementation
  (Timelines; Procurement; Risks etc)

JKR prokom PROJECT MANAGEMENT EXCELLENCE

Value Engineering (VE I)

AT CONCEPT DESIGN STAGE (JKR)

- Validate needs, objectives, functions & client value systems
- Optimize functions to facilities' design
- Optimize design and cost to space and/or element levels
- Optimize spatial efficiency, structural system and efficiency performance (LCC; GBI; EE)
- Improve project implementation strategy (Timelines; Procurement; Risks etc)

JKR prokom PROJECT MANAGEMENT EXCELLENCE

Value Engineering (VE II)

AT DETAIL DESIGN STAGE (JKR)

- Review VE (I) implementation
- Optimize design and cost to elements, components & system levels
- Optimize time, quality and build ability
- Enhance efficiency performance (LCC; GBI; EE)
- Review project implementation strategy (Timelines; Procurement; Risks etc)

JKR prokom PROJECT MANAGEMENT EXCELLENCE

Value Engineering Change Proposal (VECP)

AT CONSTRUCTION STAGE (CONTRACTOR)

(With Incentive Based Clause)

- Optimize cost to element, component and/or system levels
- Optimize time, quality and/or build ability
- Optimize facilities and energy efficiency system
- Innovative construction and operational improvements

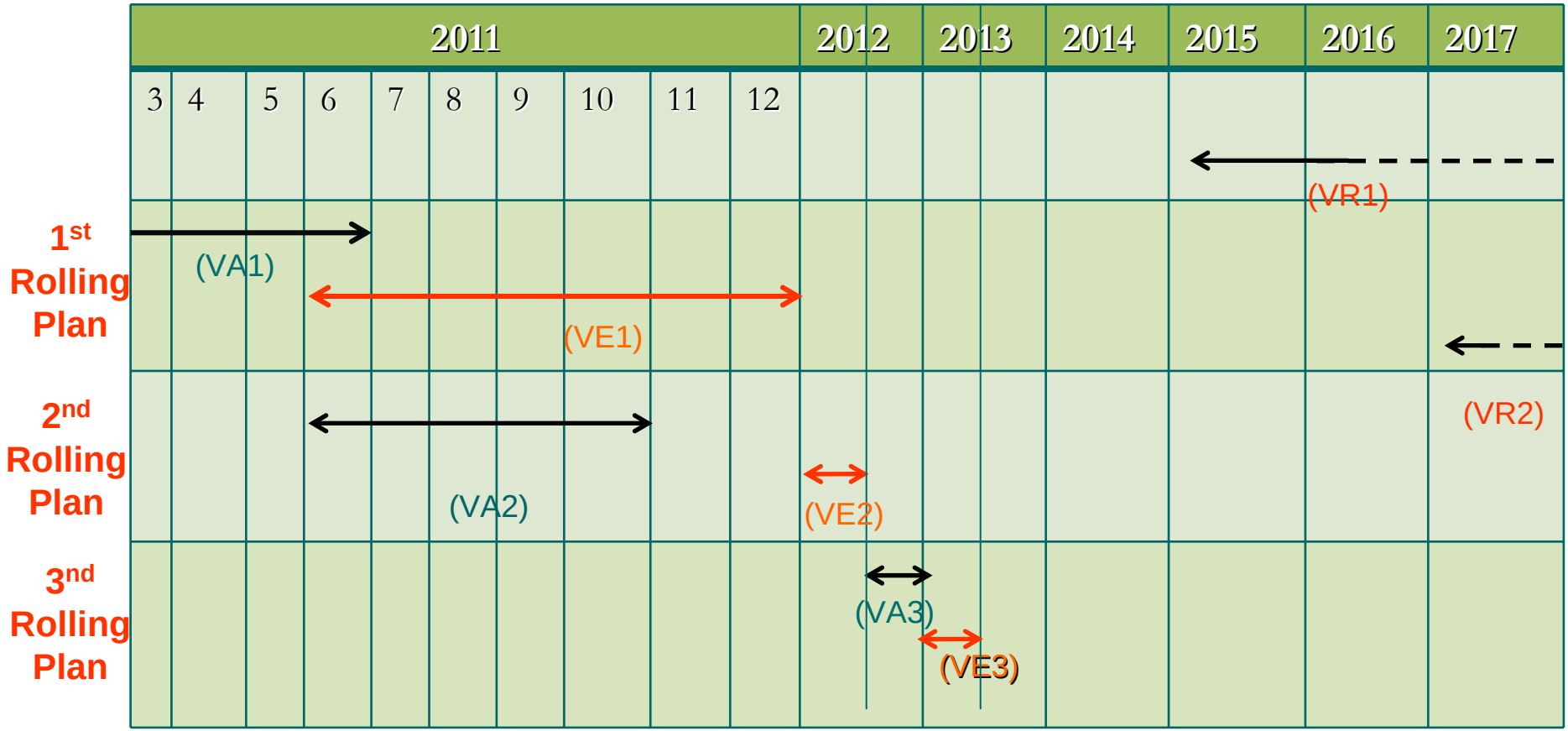
JKR prokom PROJECT MANAGEMENT EXCELLENCE

VE Work Process (JKR)

PRE STUDY STAGE	**1 - 2 WEEKS PRIOR TO LAB**	
LAB STAGE	1. INFORMATION PHASE 2. FUNCTION ANALYSIS PHASE 3. CREATIVITY PHASE 4. EVALUATION PHASE 5. DEVELOPMENT PHASE 6. PRESENTATION PHASE	**3 - 4 DAYS LAB (WORKSHOP)**
IMPLEMENTATION STAGE	**1 – 2 WEEKS POST LAB FOR VE REPORT;** **AS SCHEDULED FOR VE IMPLEMENTATION**	

JKR prokom PROJECT MANAGEMENT EXCELLENCE

VM Schedule For RMK-10



VA – Value Assessment VE – Value Engineering VR – Value Review

JKR

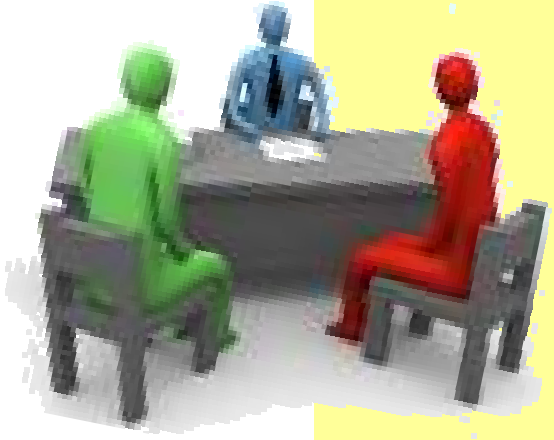
prokom
PROJECT MANAGEMENT EXCELLENCE

Ways Forward

- VM in Asset Management
- VM Integration with *Gerbang Nilai* process
- VE Change Proposal (Incentive based)
- VM and Risk Management or VRM
- VM in Partnering Overlay (Incentive based)
- VM in D&B, PPP/PFI or Relational Contracting (Integrated Procurement Strategies)

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE



CONCLUSION

JKR

prokom
PROJECT MANAGEMENT EXCELLENCE

How Is Value Optimized?

- Understanding of business objectives, needs and value systems

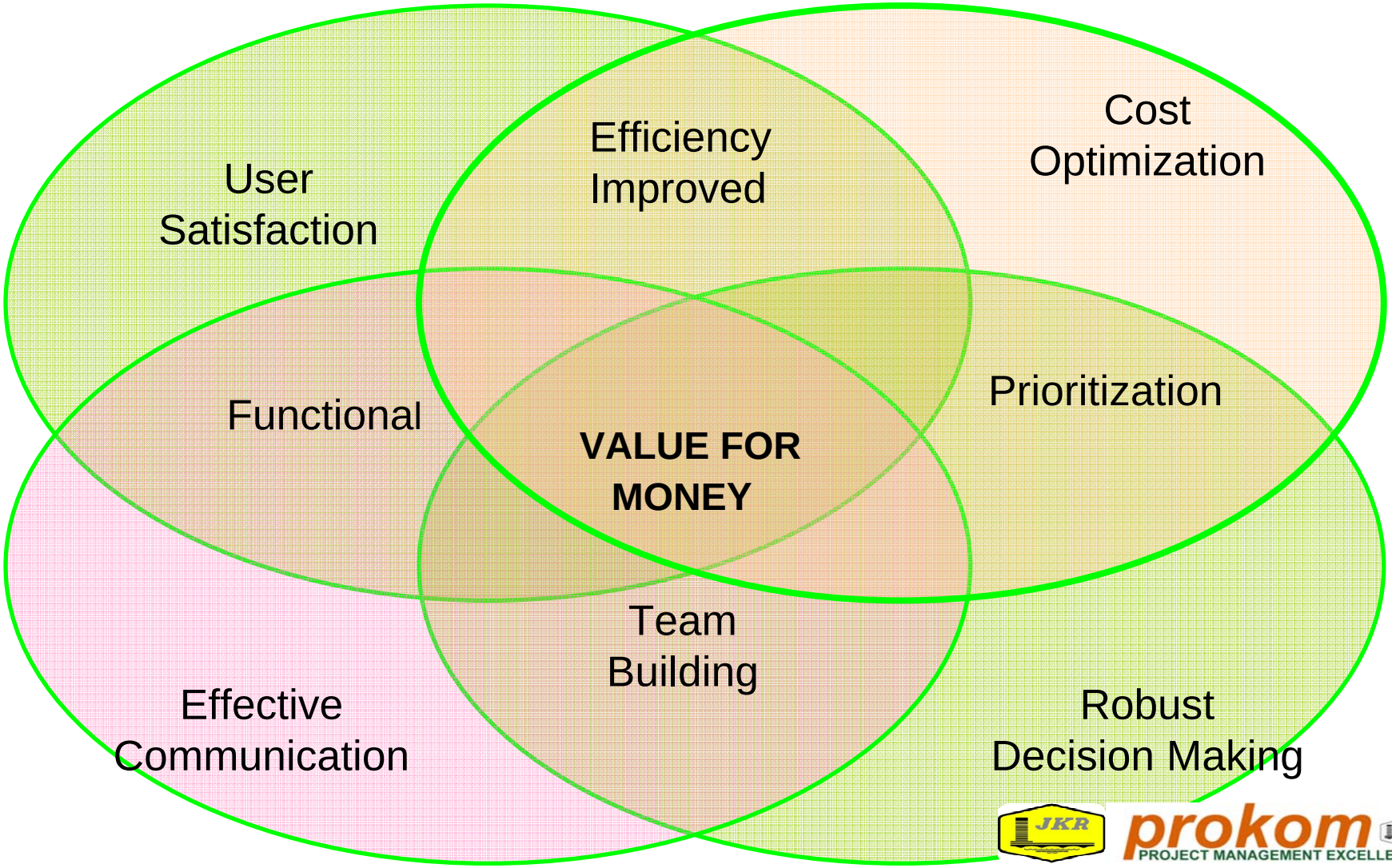
- Project deliverables aligned with functions

- Elimination of unnecessary costs

- Innovative solutions sought

JKR prokom PROJECT MANAGEMENT EXCELLENCE

Outcomes of VM



prokom PROJECT MANAGEMENT EXCELLENCE

THANK YOU

prokom
PROJECT MANAGEMENT EXCELLENCE