VM BODY OF KNOWLEDGE:

VM STUDY PROCESS

Lecture Contents

- **VM STUDY PROCESS (JOB PLAN)**

- **FOCUS ON VE STUDY PROCESS**

Lecture Objectives

- **UNDERSTAND VM STRUCTURED PROCESS**

- **UNDERSTAND PROCESS OF VE STUDY IN PUBLIC PROJECT**

Before we start..

What is a PROCESS really ?

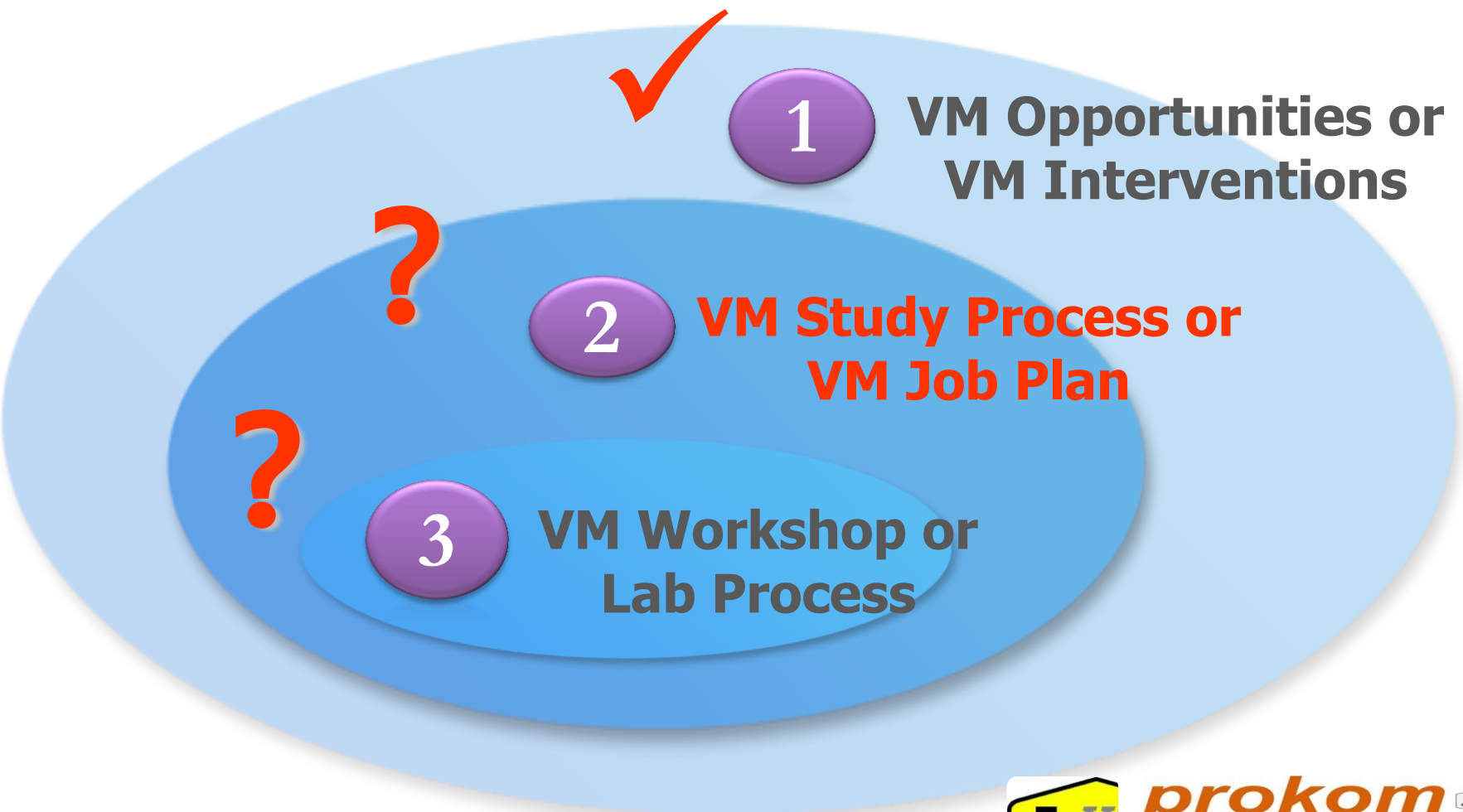# A process is a handy solution to tackling the same set of problems you've been encountering on a day to day basis

Making improvements and preventing past mistakes, in short making your job easier

Process :
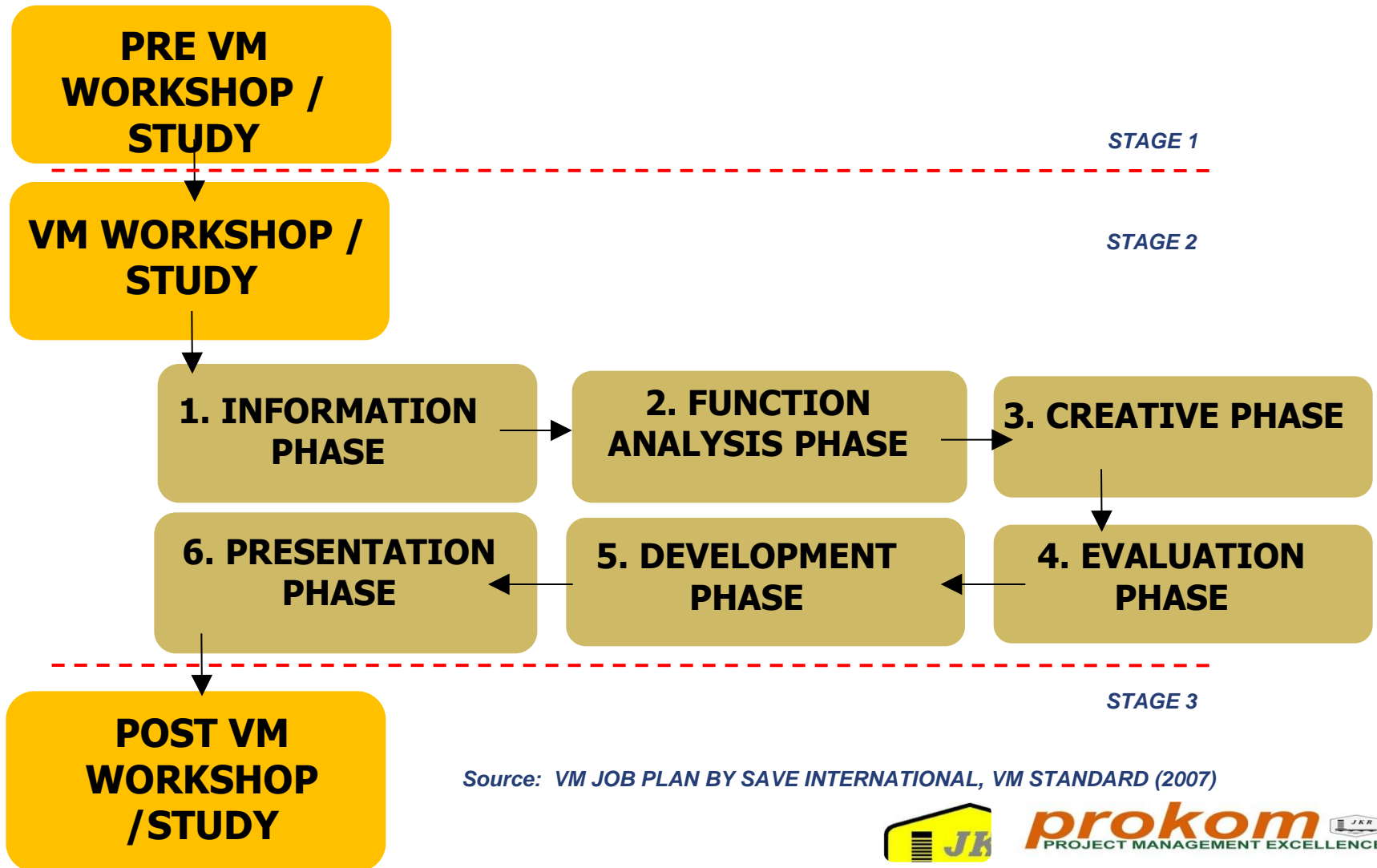a) what to do
b) how to do it
c) who does it
d) who needs to be told about it

VM Body of Knowledge

✓

1   **VM Opportunities or VM Interventions**

?   **2**   **VM Study Process or VM Job Plan**

?   **3**   **VM Workshop or Lab Process**

VM Job Plan (SAVE)

PRE VM WORKSHOP / STUDY

STAGE 1

VM WORKSHOP / STUDY

STAGE 2

1. INFORMATION PHASE → **2. FUNCTION ANALYSIS PHASE** → **3. CREATIVE PHASE**

6. PRESENTATION PHASE ← **5. DEVELOPMENT PHASE** ← **4. EVALUATION PHASE**

STAGE 3

POST VM WORKSHOP /STUDY

Source: VM JOB PLAN BY SAVE INTERNATIONAL, VM STANDARD (2007)

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VM Study Process (UK)

O & D PHASE (PRE STUDY)

- Identify value context;
- Define study scope;
- Gather data;
- Identify & select team;
- Develop agenda;
- Study Logistics

WORKSHOP PHASE

- Information sharing;
- Function Analysis;
- Create Solutions & innovations;
- Evaluate solutions;
- Present & validate;
- Action Planning;
- Prepare report;
- Finalization & sign off

IMPLEMENTATION PHASE (POST STUDY)

- Disseminate report;
- Support Implementation;
- Continuous Improvement

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

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VM Study Process (UK)

(1)- O & D (Orientation & Diagnosis) Phase

(2)-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						

(3)-Workshop Phase

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

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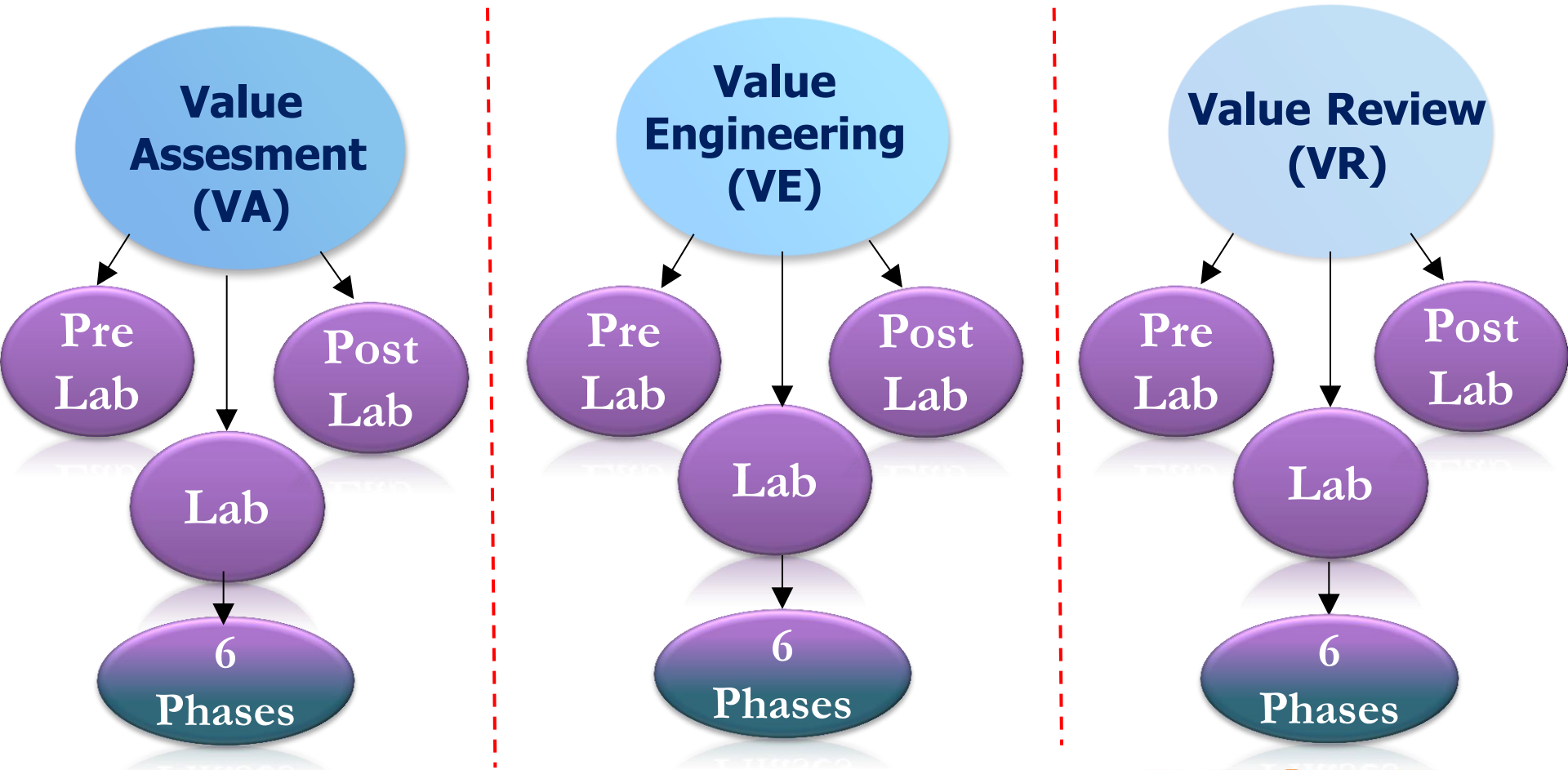
VM Study Process (EPU)

VM STUDY PROCESS SET BY EPU JPM (MALAYSIA)

FOR ALL VM STUDIES WHETHER VA / VE / VR

1 – PERINGKAT PRA LAB (PRELAB STAGE)

2 – PERINGKAT LAB (LAB STAGE)

3 – PERINGKAT PASCA LAB (POST LAB STAGE)

(Sumber: Panduan Pelaksanaan Pengurusan Nilai, EPU - 2011)

VM Study Process (EPU)

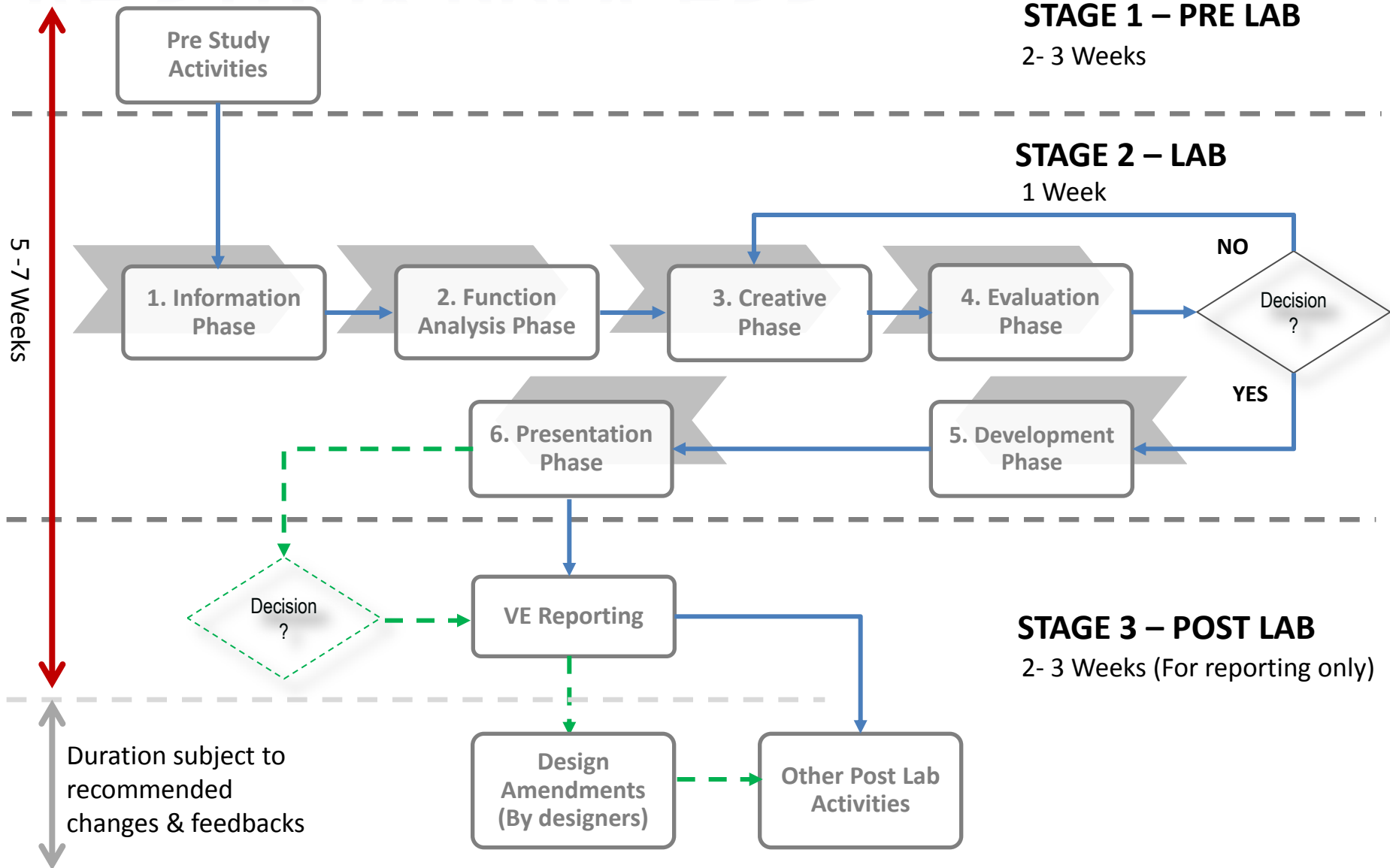**Value Assesment (VA)**
- Pre Lab
- Lab
- Post Lab
- 6 Phases

Value Engineering (VE)
- Pre Lab
- Lab
- Post Lab
- 6 Phases

Value Review (VR)
- Pre Lab
- Lab
- Post Lab
- 6 Phases

(Sumber: Panduan Pelaksanaan Pengurusan Nilai, EPU - 2011)

VE STUDY PROCESS

STAGE 1 – PRE LAB
2- 3 Weeks

STAGE 2 – LAB
1 Week

STAGE 3 – POST LAB
2- 3 Weeks (For reporting only)

5 -7 Weeks

Pre Study Activities

1. Information Phase

2. Function Analysis Phase

3. Creative Phase

4. Evaluation Phase

Decision ?

NO

YES

6. Presentation Phase

5. Development Phase

Decision ?

VE Reporting

Duration subject to recommended changes & feedbacks

Design Amendments (By designers)

Other Post Lab Activities

Sumber: VE application Guideline for Public Projects, JKR(2013)

– – – – Activities by others

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VE STUDY PROCESS

Pre Study Activities

STAGE 2 – LAB
1 Week

5 -7 Weeks

1. Information Phase → 2. Function Analysis Phase → 3. Creative Phase → 4. Evaluation Phase → Decision? **NO** / **YES**

6. Presentation Phase ← 5. Development Phase

Decision?

VE Reporting

STAGE 3 – POST LAB
2- 3 Weeks (For reporting only)

Duration subject to recommended changes & feedbacks

Design Amendments (By designers) → Other Post Lab Activities

Sumber: VE application Guideline for Public Projects, JKR(2013)

- - - - Activities by others

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Pre Lab Stage (VE)…

Purpose:

➢ **To check project readiness for VE Study**
➢ **To gather and synthesize project information**
➢ **To plan for VE Lab:**

    ➢ **VE Study context and objectives are established**
    ➢ **Project information is gathered & analysed**
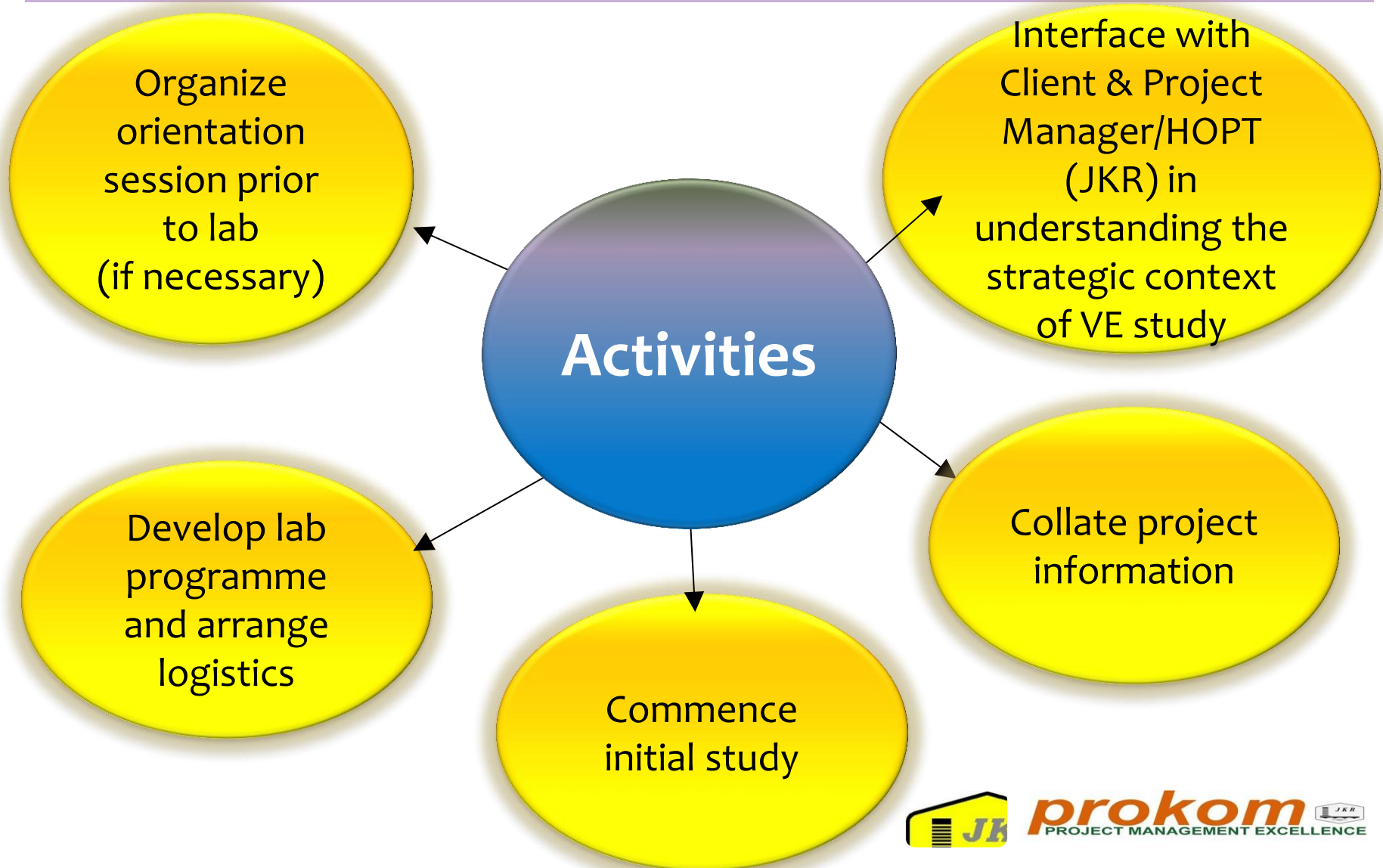   ➢ **Lab agenda & logistics are organised**

Pre Lab Stage (VE)...

What are the activities / task / tools & techniques / outputs / outcomes?

(I) Pre Lab Stage (VE)

Activities

- Organize orientation session prior to lab (if necessary)

- Interface with Client & Project Manager/HOPT (JKR) in understanding the strategic context of VE study

- Develop lab programme and arrange logistics

- Commence initial study

- Collate project information

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(I) Pre Lab Stage (VE)

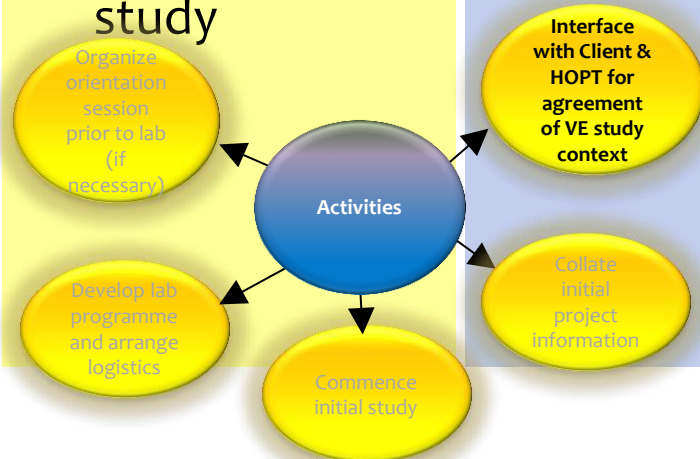| ACTIVITY	TECHNIQUE	OUTPUT	OUTCOME
• Interface with Client & Project Manager/ HOPT (JKR) in understanding the strategic context of VE study	• Hold initial meeting / discussion with client	• Borang Pra Syarat Pelaksanaan VE • Record of agreement during initial meeting/ discussion	• Clear direction of VE Study • Client's support and commitment

Organize orientation session prior to lab (if necessary)

Interface with Client & HOPT for agreement of VE study context

Activities

Develop lab programme and arrange logistics

Commence initial study

Collate initial project information

(I) Pre Lab Stage (VE)

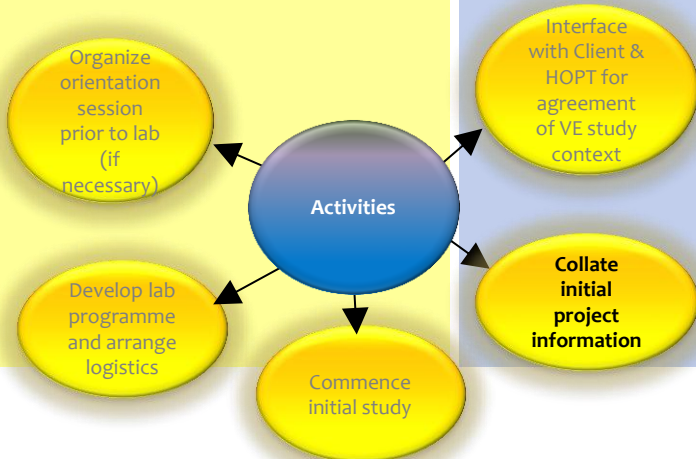| **ACTIVITY**	**TECHNIQUE**	**OUTPUT**	**OUTCOME**
• Collate project information from Client/ HOPT/ HODT/ Authorities / Others	• Provide information & documents • Collect relevant documents • Analyze documents	• Compilation of basic project information and documents	• Clear understanding of project parameters

Organize orientation session prior to lab (if necessary)

Interface with Client & HOPT for agreement of VE study context

Activities

Develop lab programme and arrange logistics

Commence initial study

Collate initial project information

(I) Pre Lab Stage (VE)
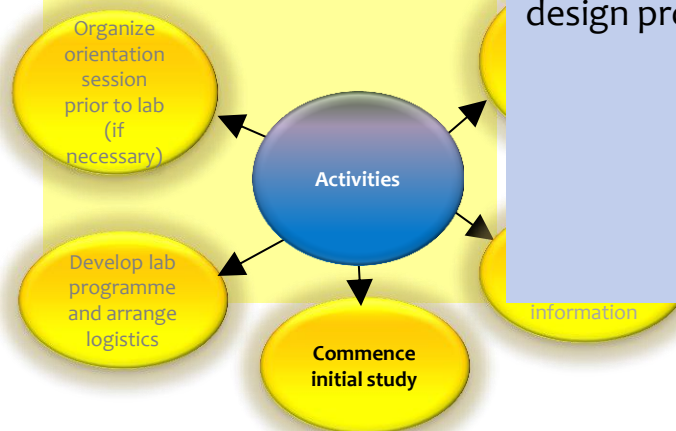
ACTIVITY
- Commence initial study

TECHNIQUE
- Visit project site (if required)
- Study design proposal (drawings, specifications etc.)
- Verify Project Objectives
- Verify Project Functions
- Identify Client Value Systems
- Analyze Space Functions
- Analyze Cost Estimate
- Verify compliance of VA recommendation against design proposal

OUTPUT
- Site information
- Design information
- Verified Project Objectives
- Verified Project Functions
- Proposed Client Value Systems
- Proposed Space Model
- Proposed Cost Model
- Compliance/ Noncompliance against VA

OUTCOME
- Initial findings to facilitate lab execution
- Potential value improvement
- Clear understanding of project functions

Organize orientation session prior to lab (if necessary)

Activities

Develop lab programme and arrange logistics

Commence initial study

information

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(I) Pre Lab Stage (VE)

ACTIVITY

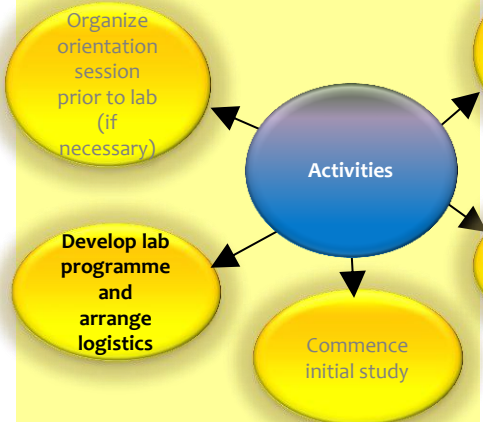- Develop lab program and arrange logistics with Client/ HOPT

TECHNIQUE

- Check comprehensiveness of information for VE Lab execution
- Develop lab agenda
- Identify and appoint facilitation team
- Determine lab tools and techniques
- Provide list of identified lab participants to Client/HOPT for invitation
- Identify lab working groups
- Communicate lab venue and logistics requirement to Client/HOPT
- Prepare lab kit
- Visit venue to confirm logistics

OUTPUT

- Borang Senarai Semak Tindakan Pra Lab VE
- Lab Agenda
- Appointment of external facilitators (from other SBUs)
- Suitable tools and techniques
- List of identified participants
- Borang Penentuan Peserta Lab Kajian VE-A.C.I.D
- Test Ensure invitation letters issued by HOPT
- Tentative working groups identified
- Ensure Lab venue and logistics confirmed by HOPT.

OUTCOME

- Well organized lab
- Efficient lab execution

Organize orientation session prior to lab (if necessary)

Activities

Develop lab programme and arrange logistics

Commence initial study

(I) Pre Lab Stage (VE)

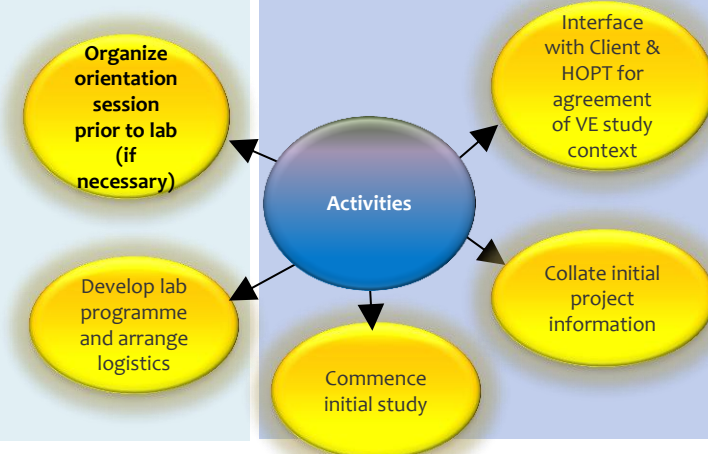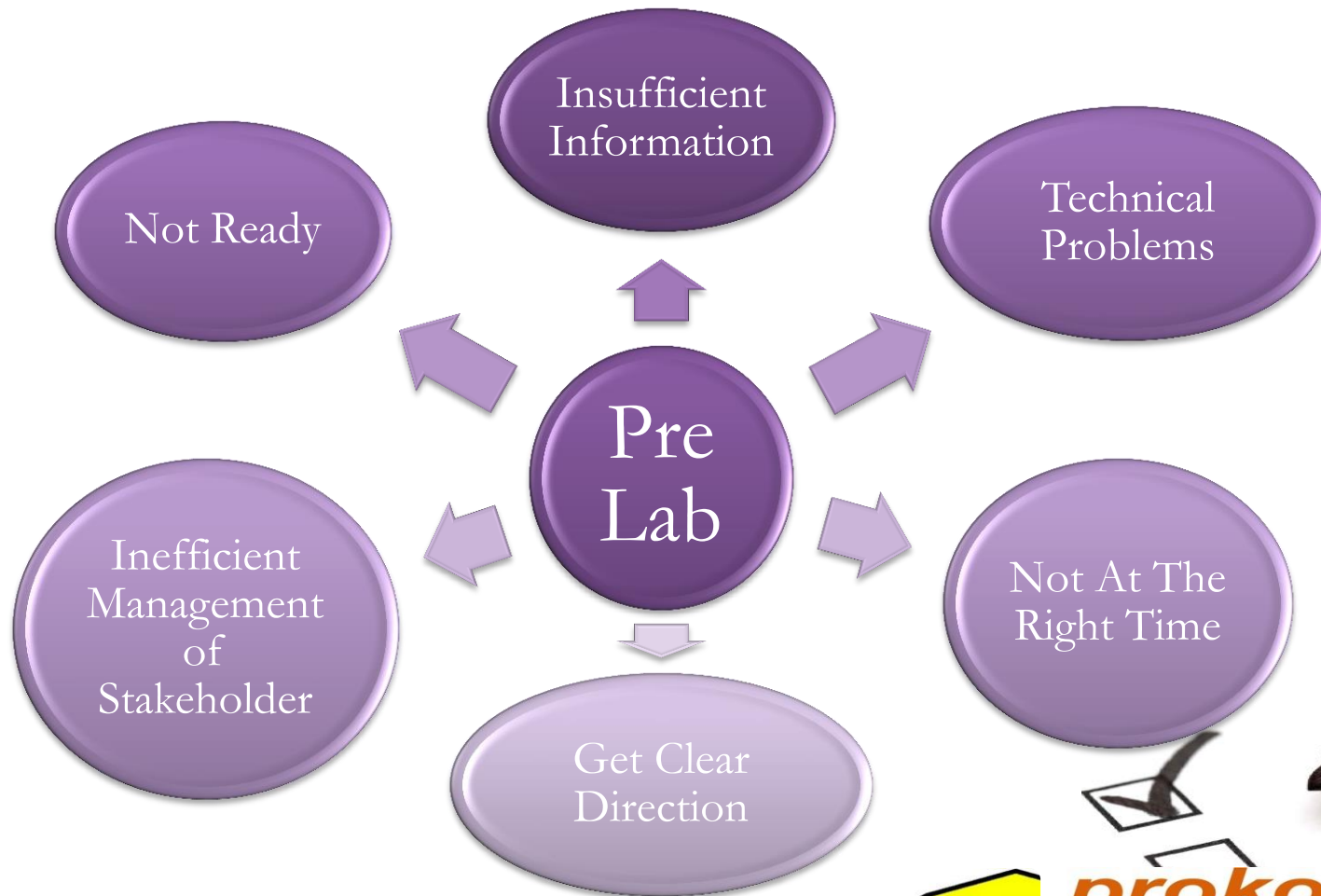| ACTIVITY	TECHNIQUE	OUTPUT	OUTCOME
• Organize orientation session prior to lab	• Conduct pre lab meeting with project team • Conduct briefing to facilitation team • Conduct briefing to lab participants (if required)	• Pre Lab meeting • Briefing to facilitators • Briefing to participants	• Clear facilitation roles • Increase of participants' commitment

Activities

- Organize orientation session prior to lab (if necessary)
- Interface with Client & HOPT for agreement of VE study context
- Develop lab programme and arrange logistics
- Collate initial project information
- Commence initial study

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Pre Lab Challenges

Insufficient Information

Not Ready

Technical Problems

Pre Lab

Inefficient Management of Stakeholder

Not At The Right Time

Get Clear Direction

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VE STUDY PROCESS

STAGE 1 – PRE LAB
2- 3 Weeks

5 - 7 Weeks

Pre Study Activities

STAGE 2 – LAB
1 Week

NO

1. Information Phase → 2. Function Analysis Phase → 3. Creative Phase → 4. Evaluation Phase → Decision?

YES

6. Presentation Phase ← 5. Development Phase

Decision? → VE Reporting

STAGE 3 – POST LAB
2- 3 Weeks (For reporting only)

Duration subject to recommended changes & feedbacks

Design Amendments (By designers) → Other Post Lab Activities

Sumber: VE application Guideline for Public Projects, JKR(2013)

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– – – – Activities by others

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VE STUDY PROCESS

STAGE 1 – PRE LAB

2- 3 Weeks

Pre Study Activities

STAGE 2 – LAB

1 Week

5 -7 Weeks

1. Information Phase → 2. Function Analysis Phase → 3. Creative Phase → 4. Evaluation Phase → Decision ?

NO

YES

6. Presentation Phase ← 5. Development Phase

Decision ?

VE Reporting

STAGE 3 – POST LAB

2- 3 Weeks (For reporting only)

Duration subject to recommended changes & feedbacks

Design Amendments (By designers) → Other Post Lab Activities

Sumber: VE application Guideline for Public Projects, JKR(2013)

- - - - Activities by others

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Post Lab Stage…

Purpose:

- ➤ **To document, report and disseminate VE Study findings**
- ➤ **To translate VE recommendations into actions or expected value improvements**
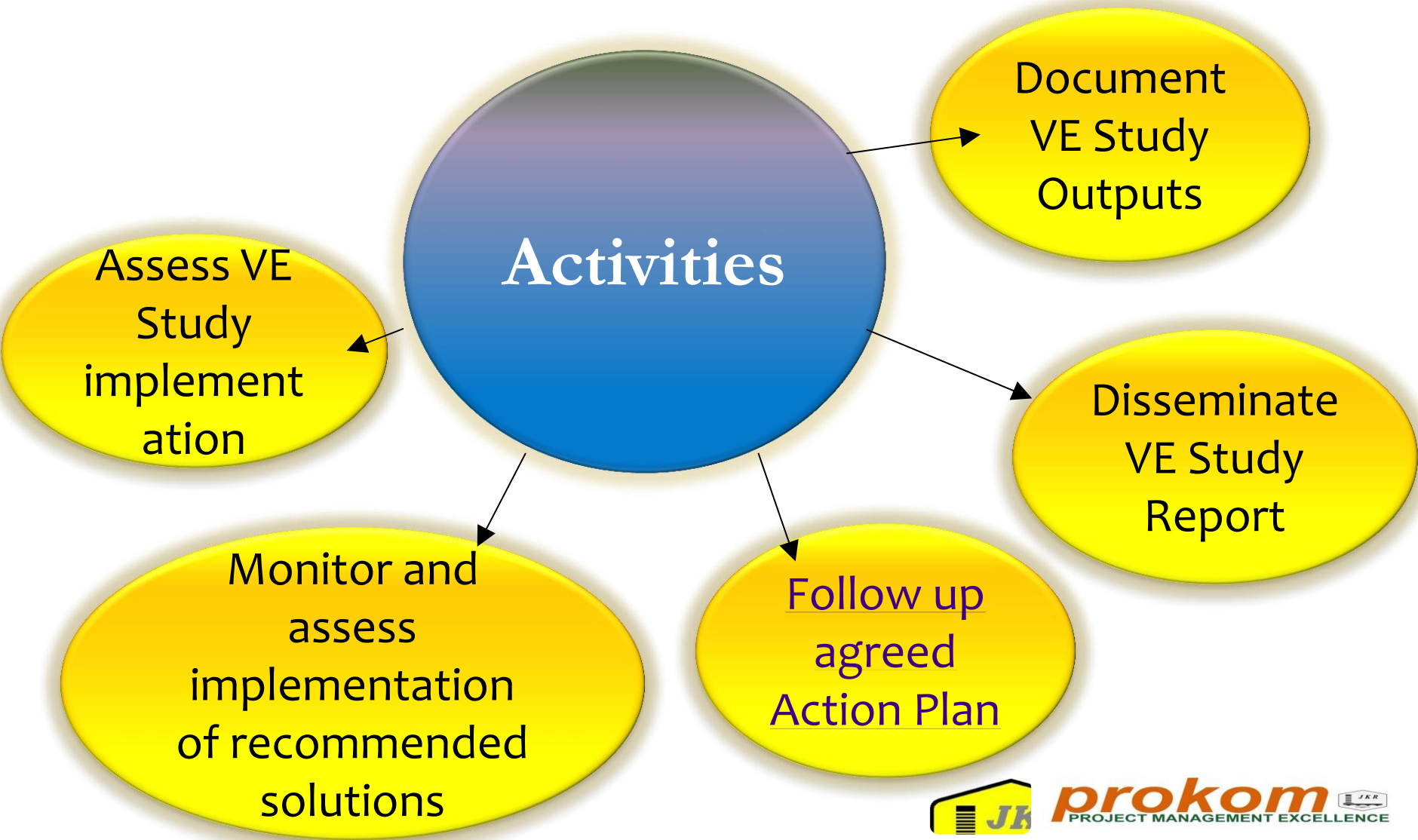- ➤ **To assess VE Study performance (on Action Plan and VE recommendations**

Post Lab Stage…

What are the activities / task / tools & techniques / outputs/ outcomes?

(III) Post Lab Stage (VE)

Activities

- Document VE Study Outputs
- Assess VE Study implementation
- Disseminate VE Study Report
- Monitor and assess implementation of recommended solutions
- Follow up agreed Action Plan

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(III) Post Lab Stage (VE)

ACTIVITY	TECHNIQUE	OUTPUT	OUTCOME
• Document VE Study Outputs	• Reporting • Presentation • Sign off	• VE Study Report	• Recorded Study findings
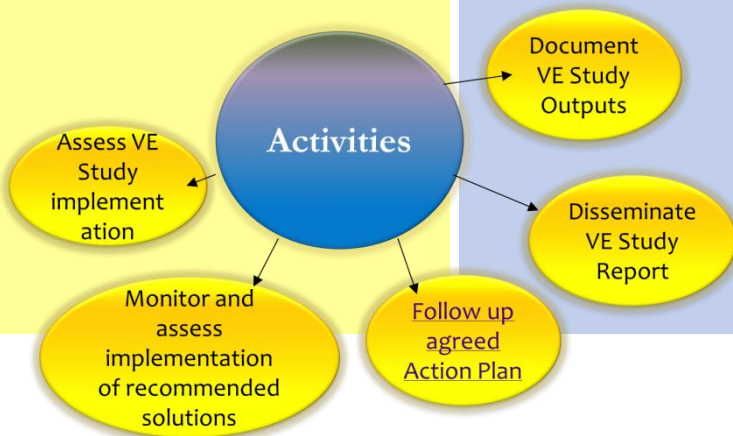
Activities

- Document VE Study Outputs
- Assess VE Study implementation
- Disseminate VE Study Report
- Monitor and assess implementation of recommended solutions
- Follow up agreed Action Plan

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(III) Post Lab Stage (VE)

ACTIVITY	TECHNIQUE	OUTPUT	OUTCOME
• Disseminate VE Study Report	• Distribution	• Diseminated VE Study Report	• Study Findings Communicated

Assess VE Study implementation

Activities

Document VE Study Outputs

Disseminate VE Study Report

Monitor and assess implementation of recommended solutions

Follow up agreed Action Plan
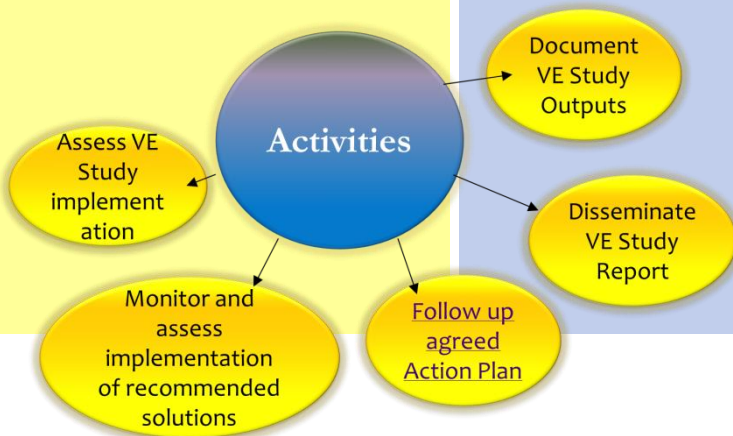
(III) Post Lab Stage (VE)

ACTIVITY	TECHNIQUE	OUTPUT	OUTCOME
• Follow up agreed Action Plan	• Follow up status with HOPT and others as agreed in the Action Plan	• Action Plan status report to client and HOPT	• Timely and maximum implementation of VE recommendations
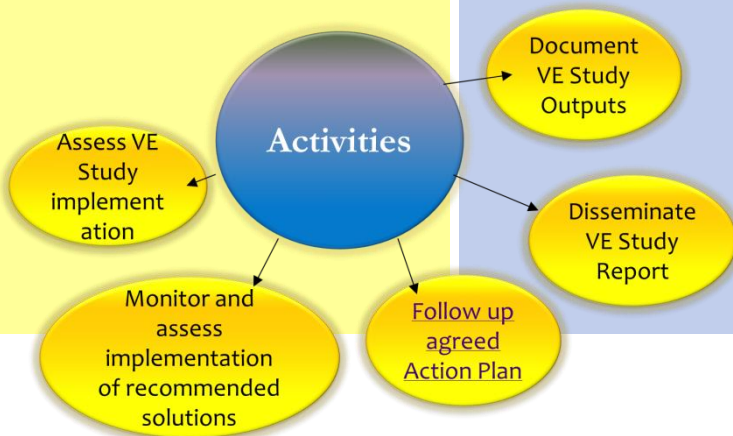
(III) Post Lab Stage (VE)

ACTIVITY	TECHNIQUE	OUTPUT	OUTCOME
• Monitor and assess implementation of recommended solutions	• Develop monitoring plan and monitor implementation	• Monitoring Report to client and relevant parties	• Fullfill VE Lab Recommendations

Activities

- Assess VE Study implementation
- Document VE Study Outputs
- Monitor and assess implementation of recommended solutions
- Follow up agreed Action Plan
- Disseminate VE Study Report

(III) Post Lab Stage (VE)

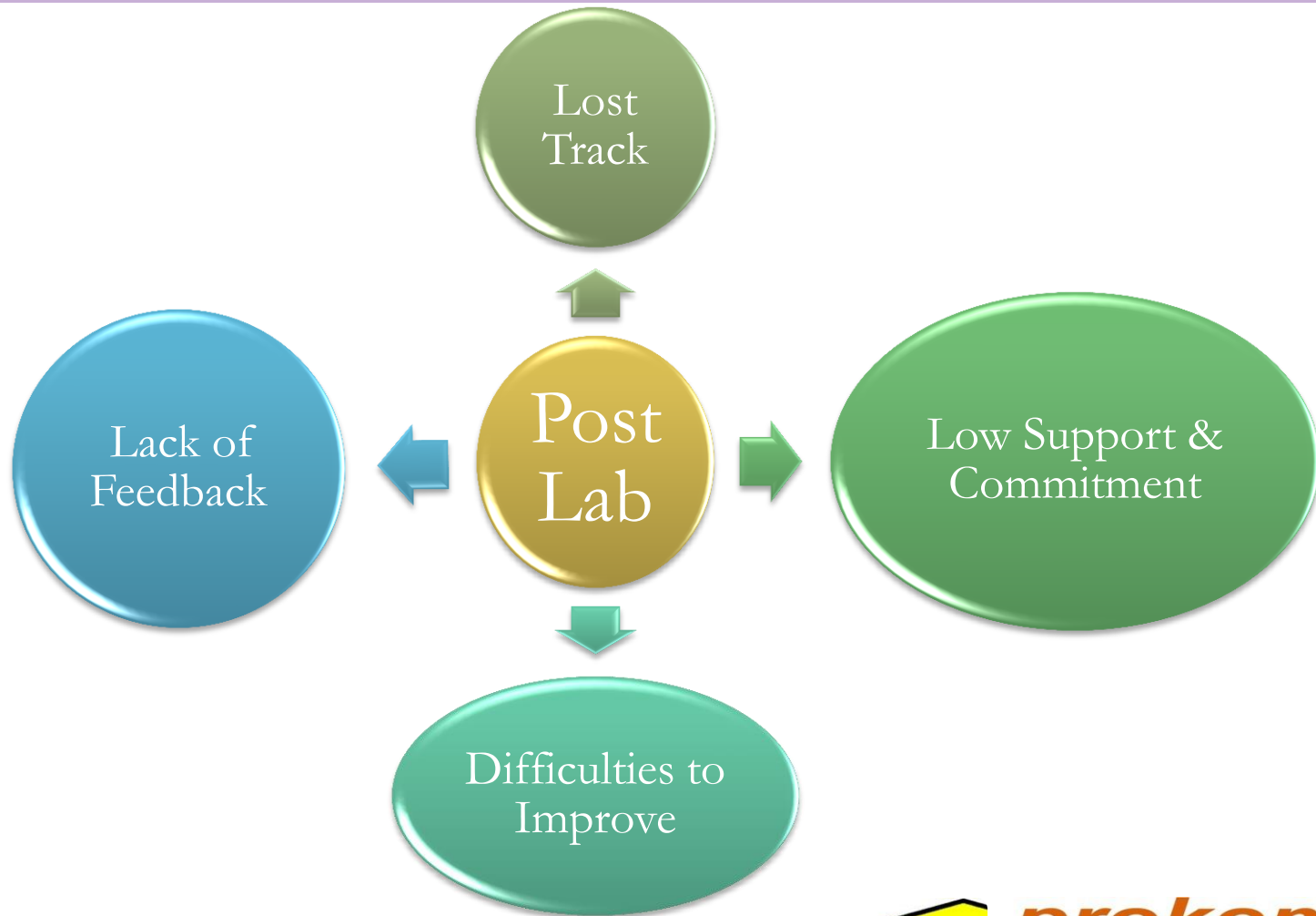| ACTIVITY	TECHNIQUE	OUTPUT	OUTCOME
• Assess VE Study implementation	• Assess overall implementation of VE Study and report to client and relevant parties	• VE Study implementation (close-out) report	• Continuous improvement on VM Study implementation

Activities

- Assess VE Study implementation
- Monitor and assess implementation of recommended solutions
- Follow up agreed Action Plan
- Document VE Study Outputs
- Disseminate VE Study Report

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Challenges of Post lab

VM Body of Knowledge

✓ **1** **VM Opportunities or VM Interventions**

✓ **2** **VM Study Process or VM Job Plan**

? **3** **VM Workshop or Lab Process**

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LAB AGENDA

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AGENDA LAB VA (4 DAYS)

Date	Session	
	Morning	**Afternoon**
	8.30 am - 1.00 pm	**2.30 - 5.30 pm**
– April – 2014 (Tuesday)	Registration, Lab Briefing & Information Phase	Information Phase (Group work)
– April – 2014 (Wednesday)	Function Analysis Phase (Group work)	Creative Phase & Evaluation Phase (Group work)
– April – 2014 (Thursday)	Development Phase (Group work)	Development Phase (Group work)
– April – 2014 (Friday)	Development Phase (Consolidation)	Presentation Phase (Summary)

AGENDA (DAY 1)

2014 (TUESDAY)

MORNING **(1) INFORMATION PHASE**

- Arrival & Participants Registration (All participants)
- Introduction & Team Building (All participants)
- Confirm VE Study Objectives (Facilitators)
- Review Compliance of VA Lab Report (HOPT/Facilitators)
- Present Project Background Information:
    - Client Brief / Needs (Client / HOPT)
    - Project Work Programme (HOPT)
    - Present Risk Register (HOPT)
- Present Design Proposal (Consultants / HODTs)
- Highlight Authorities Requirements (Authorities)
- Validate Project Objectives (Facilitators)
- Establish Cost Model (HOPT / HODT-QS)
- Validate Client Value System (Facilitators / Client)

AFTERNOON
- VE Study Grouping (Facilitators)
- Determine Project Parameters – Information Phase Template (Groups)
- Presentation (Groups)

AGENDA (DAY 2)

2014 (WEDNESDAY)

MORNING

(2) FUNCTION ANALYSIS PHASE

- Analyze Functions for Spaces/Elements/Components -Function Analysis Template – Sheet 1 (Groups)
- Analyze Process Flows / Operations & Space Adjacency - Function Analysis Template – Sheet 2
- Presentation (Groups)

AFTERNOON

(3) CREATIVITY PHASE

- Generate Ideas – Creativity Phase Template (Groups)
- Presentation (Groups)

(4) EVALUATION PHASE

- Categorize generated ideas for shortlisting ("Evaluate Ideas")
  – Evaluation Phase Template (Groups)
- Presentation & Consensus (Groups)

AGENDA (DAY 3)

2014 (THURSDAY)

MORNING

&

AFTERNOON

(4) DEVELOPMENT PHASE

- Develop Evaluated Ideas - Development Phase Template (Groups)

- Recommend Ideas & Findings (Groups)
- Presentation & Consensus (Groups)

AGENDA (DAY 4)

2014 (FRIDAY)

MORNING

(4) DEVELOPMENT PHASE (Continue)

- Consolidate Lab Templates & Findings (Facilitators)
- Review Programme of Work (HOPT)
- Review Project Risk Register (HOPT)
- Develop Action Plan (Facilitators / Client / HOPT)

AFTERNOON

(5) PRESENTATION PHASE

- Present Lab Findings (Facilitators)
- Present Initial Draft Report (Facilitators)