

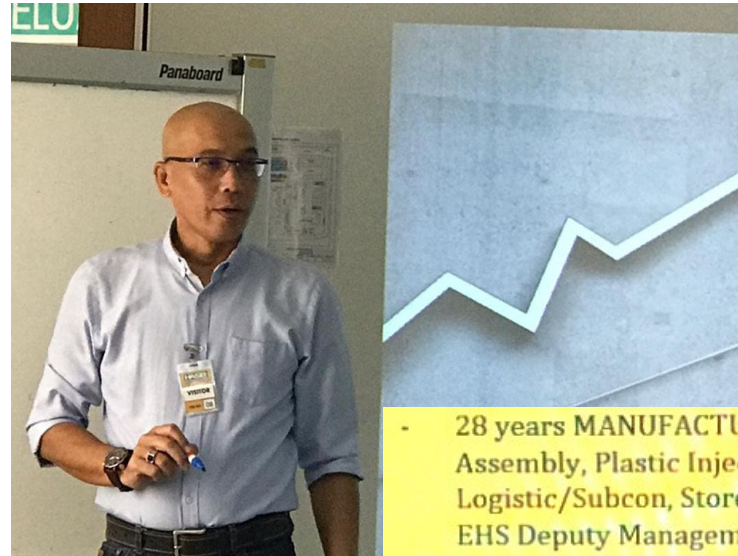


Sharing Session
with Dr Edly
start at 11am

See you



Bersama Moderator:
EN. NORHIZAM SELAMAT



- 28 years MANUFACTURING experience in Assembly, Plastic Injection Molding, Logistic/Subcon, Store/Warehouse, Admin and EHS Deputy Management Representative
- HRDF Certified Trainer
- HSE & Radiation Safety Advisor, Trainer & Practitioner
- Former Senior SHO/HSE Manager in MNC
- Former DOSH/DOE/AELB Competent Person
- MARPA Radiation Safety Speakers/Panelist
- ISO14001 IEMA Lead Auditor
- OHSAS 18001, ISO9001 & TS/IATF 16949 Auditor and EICC/RBA Associate Auditor
- Certified LEAN Black Belt Program

Operational Excellence (Kaizen) Management System

Webinar 2 - Determining and Selection of
Operational Excellence Project
(Kaizen Event/ Kaikaku/ Kakushin) /

**Mengenalpasti dan memilih
projek kecemerlangan operasi**

25 June 2020 (11am-1pm)



Section 1:

Operational
Excellence

Determine &
Select Project



Operational Excellence Project

“Project that support the improvement culture”

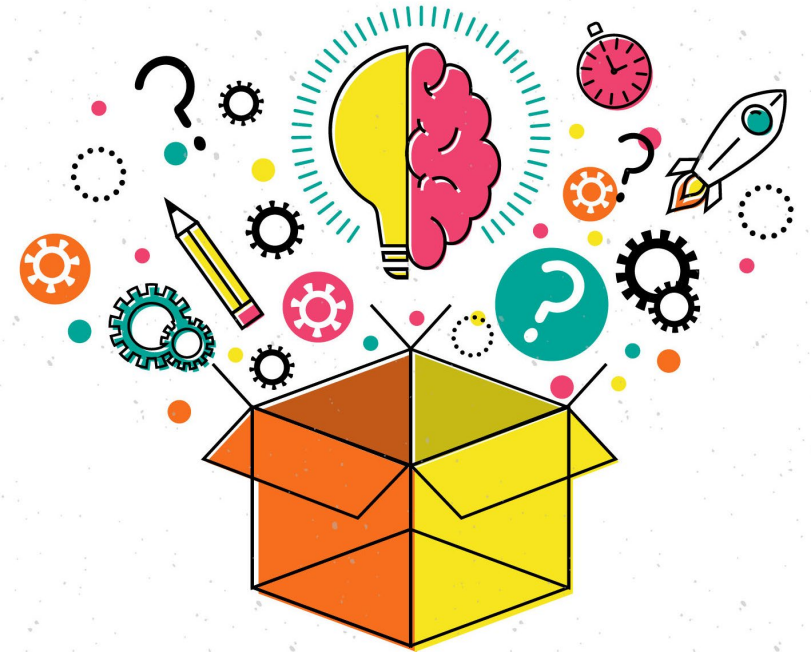
Other common SYNONIM

- Problem Solving
- ICC project
- Team Excellence project
- Lean Workshop
- Six Sigma project



The main output

Determine Project – Project box/
Idea bank



| Project Charter Template | | | |
|---------------------------------|--|---|-------------------------|
| Project Name | Name of project | | |
| Project Sponsor | Name of project sponsor | Project Manager | Name of project manager |
| Date of Project Approval | Date | Last Revision Date | Date |
| Project Description | Give background to the project and state the project's purpose. | | |
| Scope | State what is in scope and also what is out of scope. | | |
| Business Case | Outline the justification for starting the project, including financials and timescales if applicable. | | |
| Constraints (in priority order) | Time | Describe any deadline that exist | |
| | Quality | Describe any quality criteria that exist | |
| | Budget | Describe budgetary constraints that exist | |
| | Scope | Is the scope flexible? | |
| Project Deliverables | Outline what deliverables are to be produced by the project. | | |
| Benefits (measurable results) | Describe the benefits here, and use the KPIs below to set targets. | | |
| | KPI | Baseline | Goal |
| | KPI 1 | Baseline value | Target value |
| | KPI 2 | Baseline value | Target value |
| | KPI 3 | Baseline value | Target value |
| | KPI 4 | Baseline value | Target value |
| Steering Committee | Name 1 | Project Team | Name 1 |
| | Name 2 | | Name 2 |
| | Name 3 | | Name 3 |
| | Name 4 | | Name 4 |
| | Key Stateholders | Name | Success Criteria |
| Name 1 | | Success criteria 1 | |
| Name 2 | | Success criteria 2 | |
| Name 3 | | Success Criteria 3 | |

Project Selection – Project Charter

I-D-E-A CONCEPTS

I-Initiate

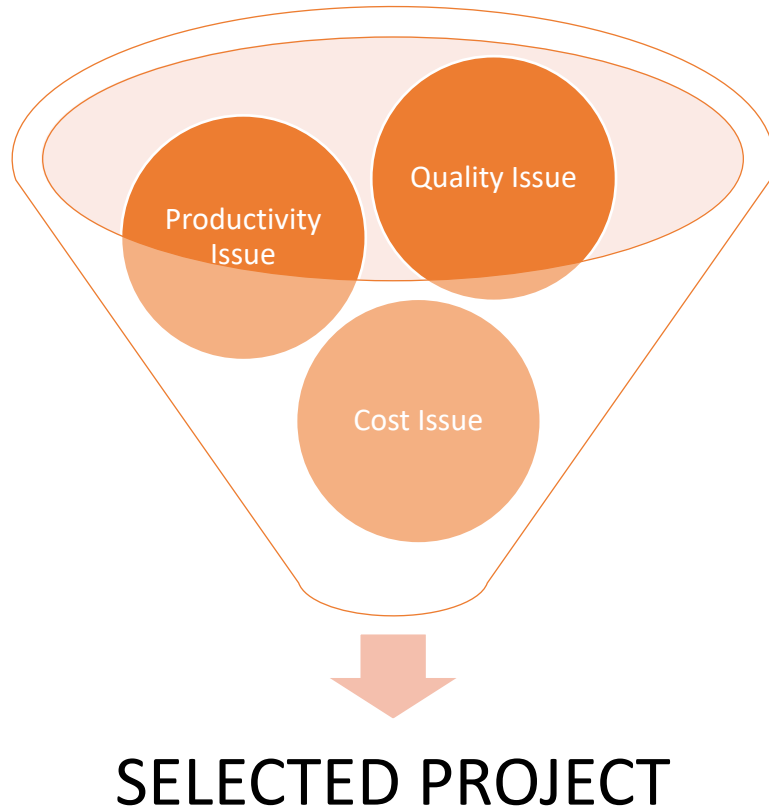
D-Diagnose

E-Evaluate

A-Action



Idea Funnelling



- Initiate
- Diagnose – VSM, BSC
- Evaluate – Selection Criteria
- Action – Prepare project charter



Section 2:

Determine

Operational

Excellence

Project?



OPERATIONAL EXCELLENCE

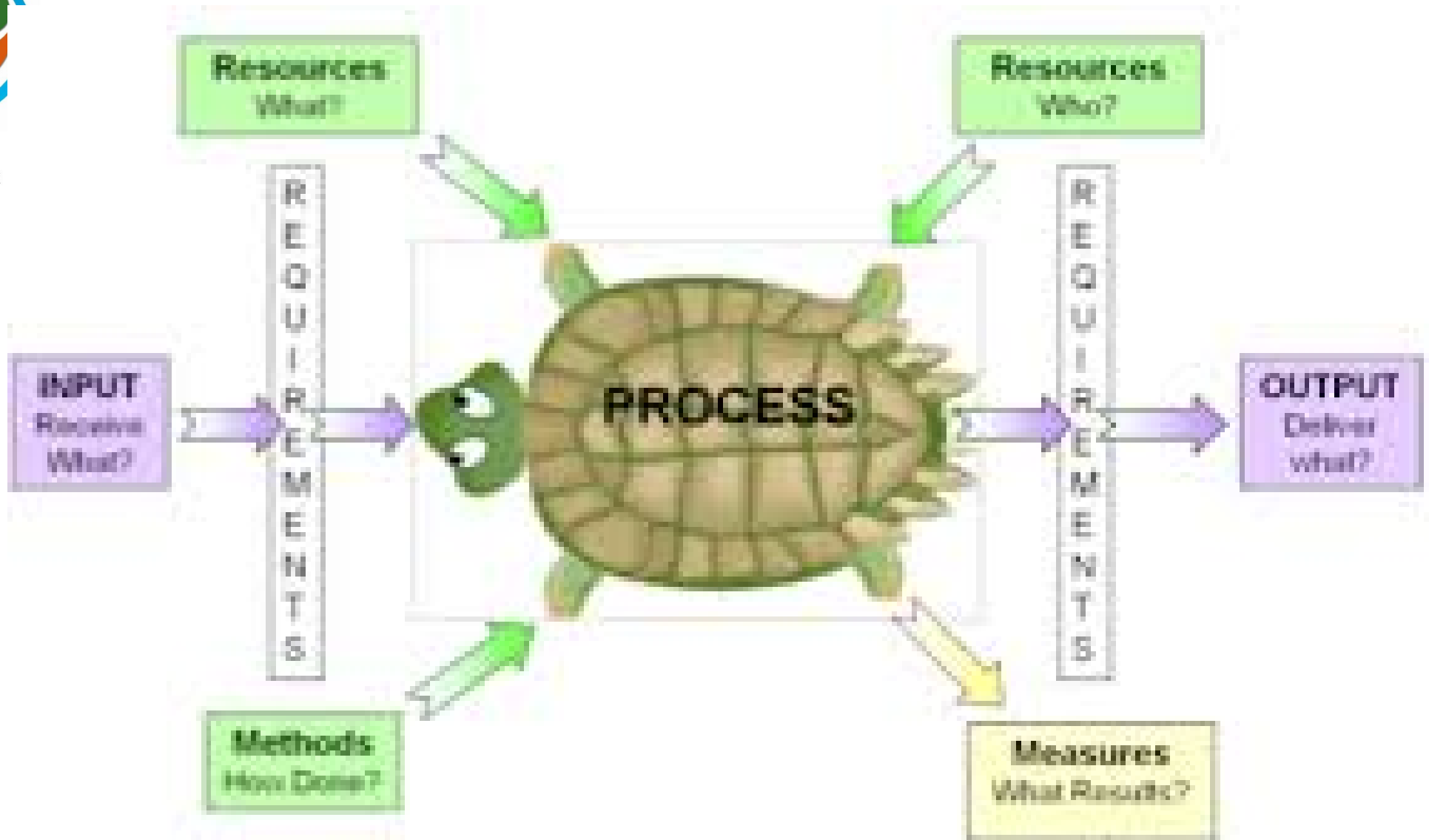
DETERMINE POTENTIAL PROJECT

INITIATE

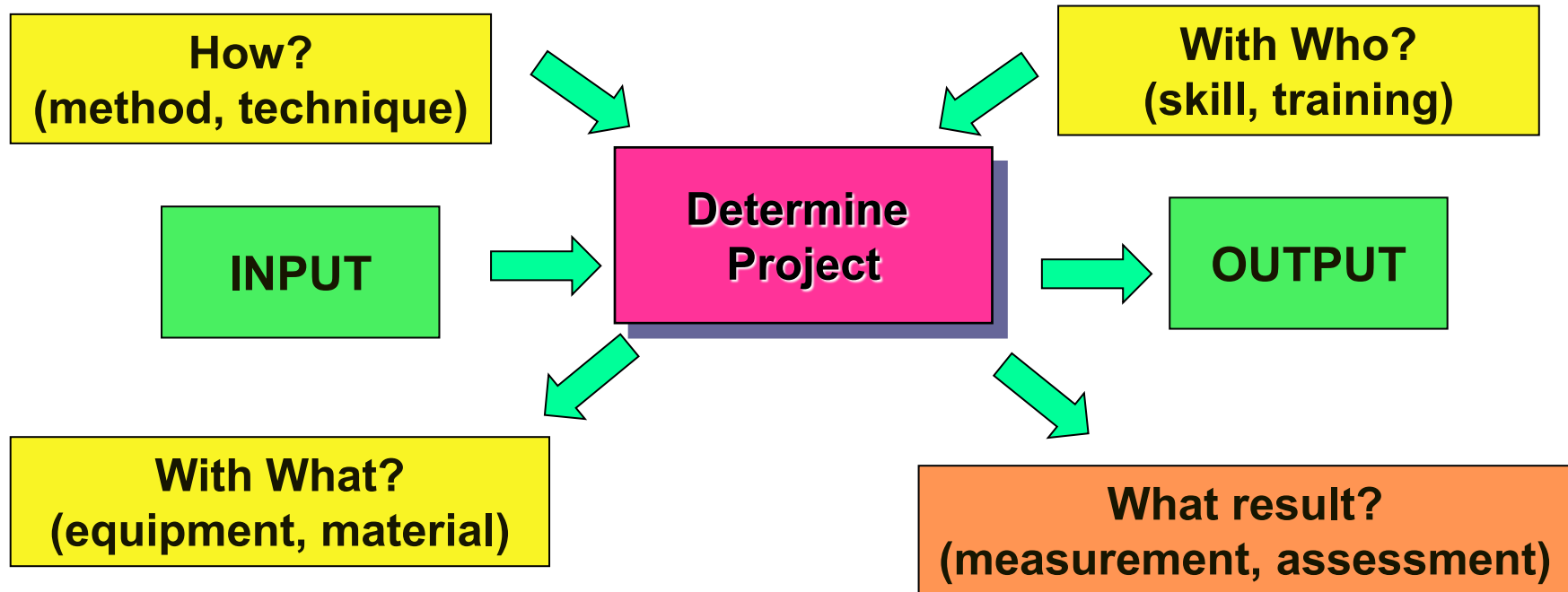
DIAGNOSE

LIST/ IDEA BOX

The turtle diagram



Determine OE Projects



The output

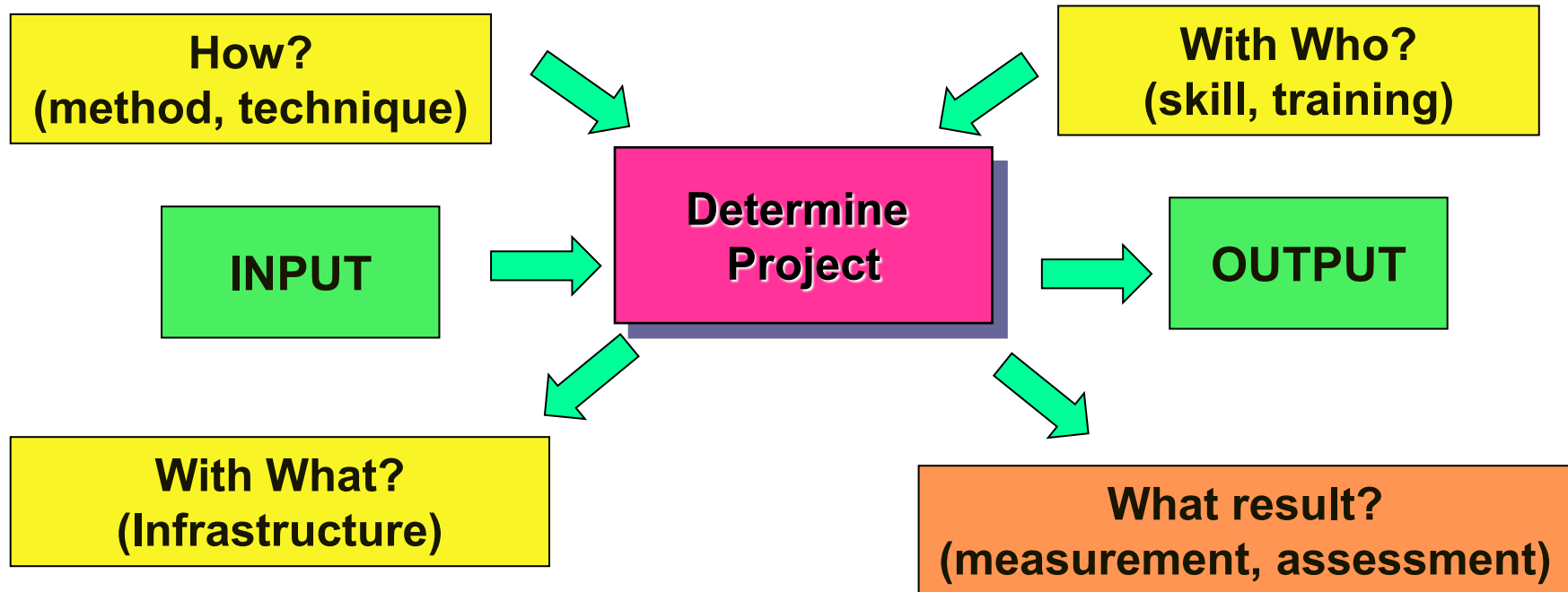
List of potential project/ Idea bank

The result

Numbers of ideas

Numbers of contributors (Involvement)

Determine OE Project



Methodology

Initiate and Diagnose

Who

Initiate – Top Management
Diagnose – Team



Initiate - 3 Steps Approaches

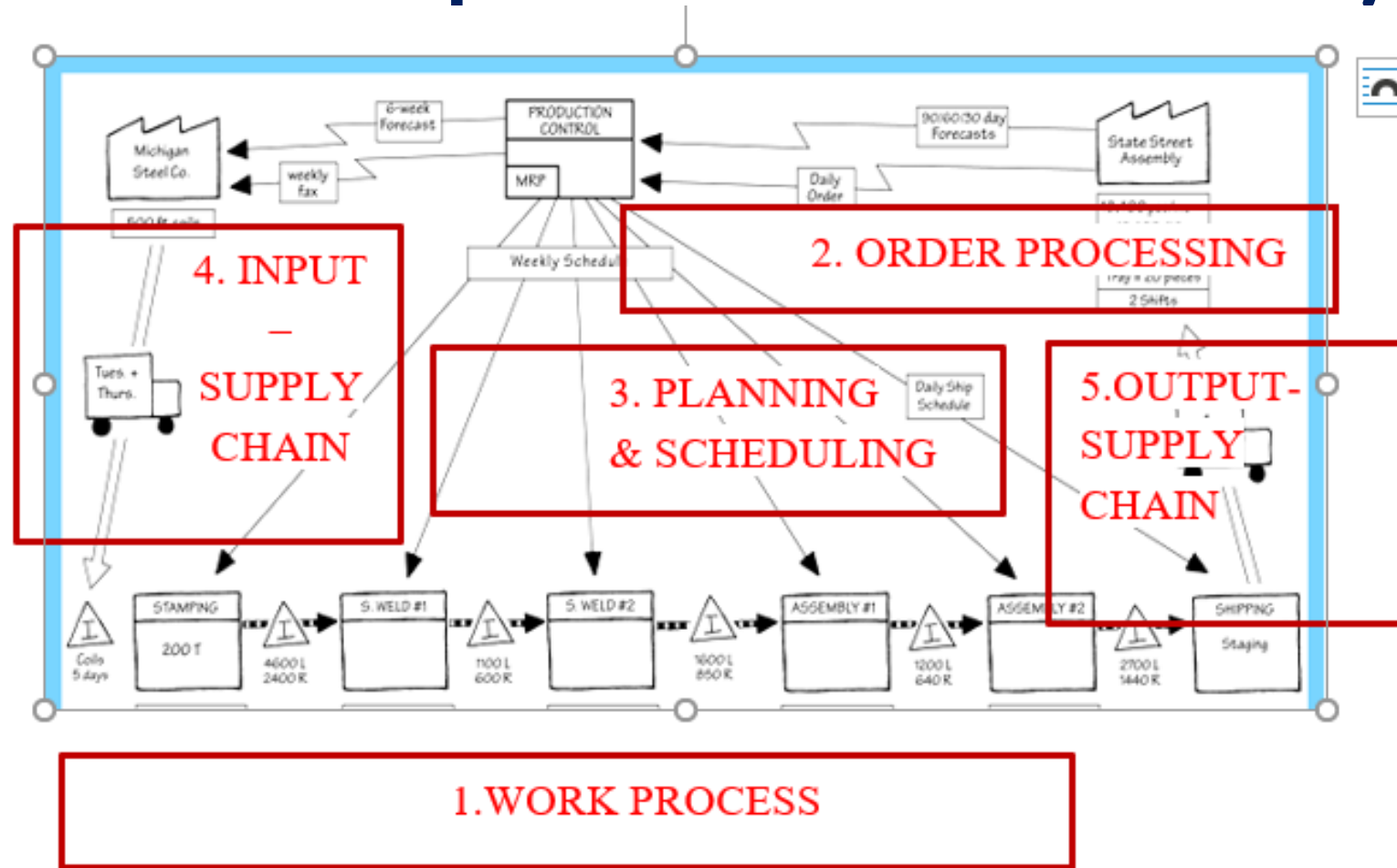
- ❖ Step 1 – Determine operational process/ Work process
 - ❖ VSM Techniques
- ❖ Step 2 – Determine the operational process performance criteria
 - ❖ BSC Techniques
 - ❖ Innovation canvas for Prioritised Activity
 - ❖ Operate, coordinate and communicate the team's actions
- ❖ Step 3 – Improvement Opportunities 1
 - ❖ Improved/ Initiate VSM
 - ❖ Improved/ Initiated BSC
 - ❖ Move to Diagnosis

Work Process

Performance Criteria

Opportunities

Initiate – Step 1: Work Process/ VSM

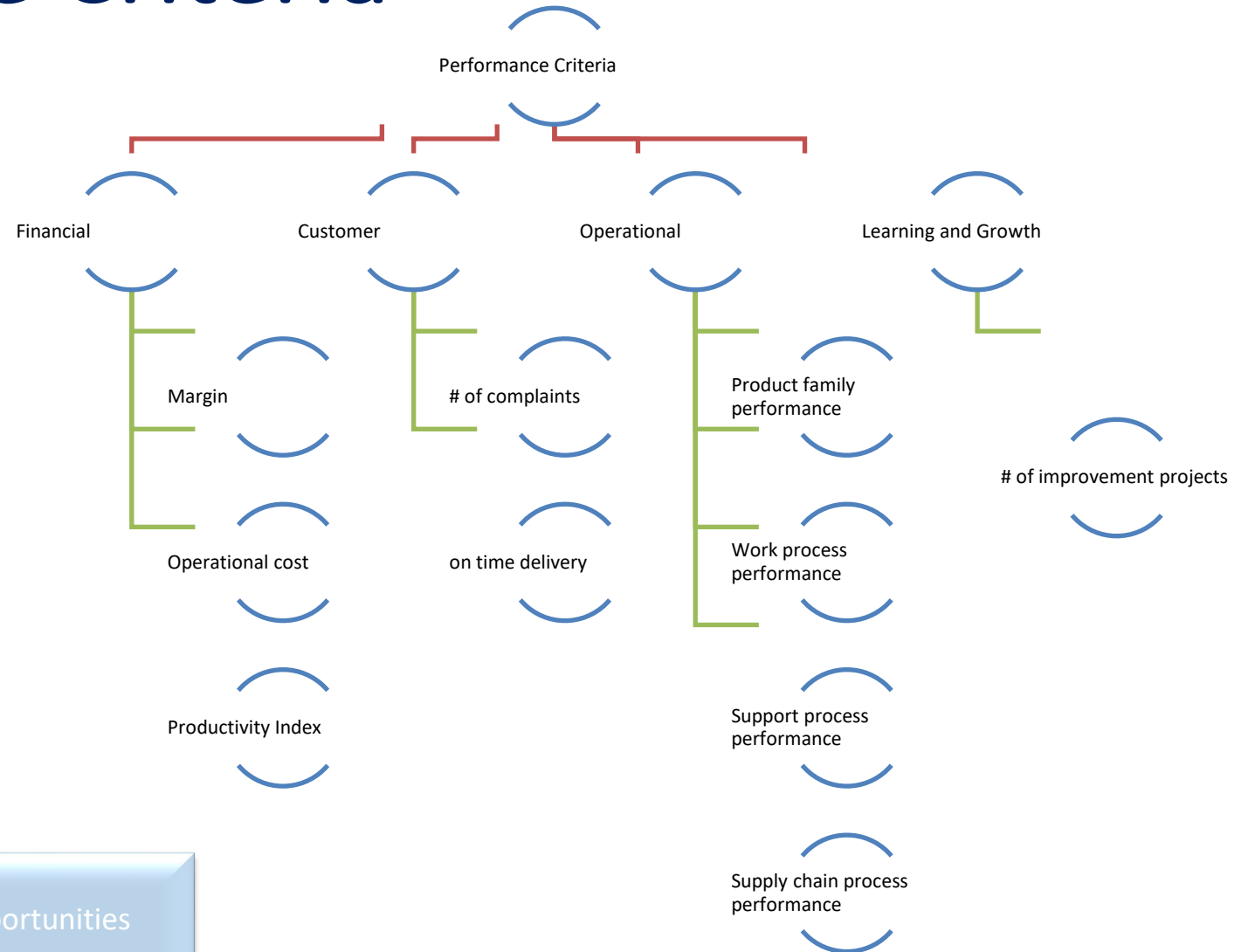


Work Process

Performance Criteria

Opportunities

Initiate – Step 2: Performance Criteria (BSC)



Work Process

Performance Criteria

Opportunities



Example Step 2: Performance Criteria (BSC)

| | Process Type | Performance Indicators |
|--|-----------------------|---|
| | Work Process | <ul style="list-style-type: none"> Yield/ reject rate Scrap rate Complete & Accurate Lead/ process/ cycle time Plan vs Actual Inventory level |
| | Order processing | <ul style="list-style-type: none"> On time delivery Lead time Complete & Accurate No of complaints |
| | Planning & Scheduling | <ul style="list-style-type: none"> On time delivery Planning accuracy Complete & Accurate Inventory level |
| | Supply chain- input | <ul style="list-style-type: none"> On time delivery Complete & Accurate Inventory level Inventory accuracy Receiving efficiency |
| | Supply chain – Output | <ul style="list-style-type: none"> On time delivery Order picking/packing complete & accurate Inventory level |

Work Process

Performance Criteria

Opportunities



Initiate – Step 3: Opportunities

1. opportunities to improve operational management and,
 - 1.1 Clearly identified the work process, support process and supply chain process.
 - 1.2 Set the performance criteria at minimum on quality and productivity

2. MOVE to Diagnosis Process to determine the non-performance process (opportunities for operational excellence project).

Work Process

Performance Criteria

Opportunities



DIAGNOSIS PROCESS

Three (3) Actions to Diagnose

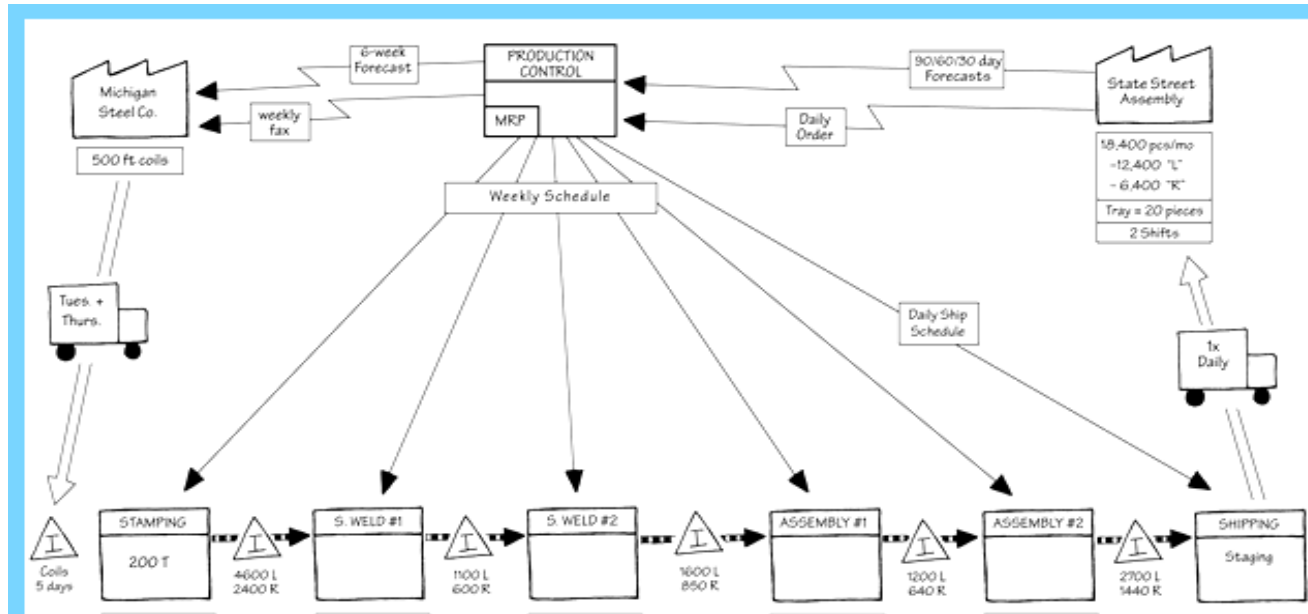
Measure
performance

Walk through
process

Kaizen Burst



Diagnose – Step 1 & 2



Process Block

<Process Name>

Data Block

PT: ____ s

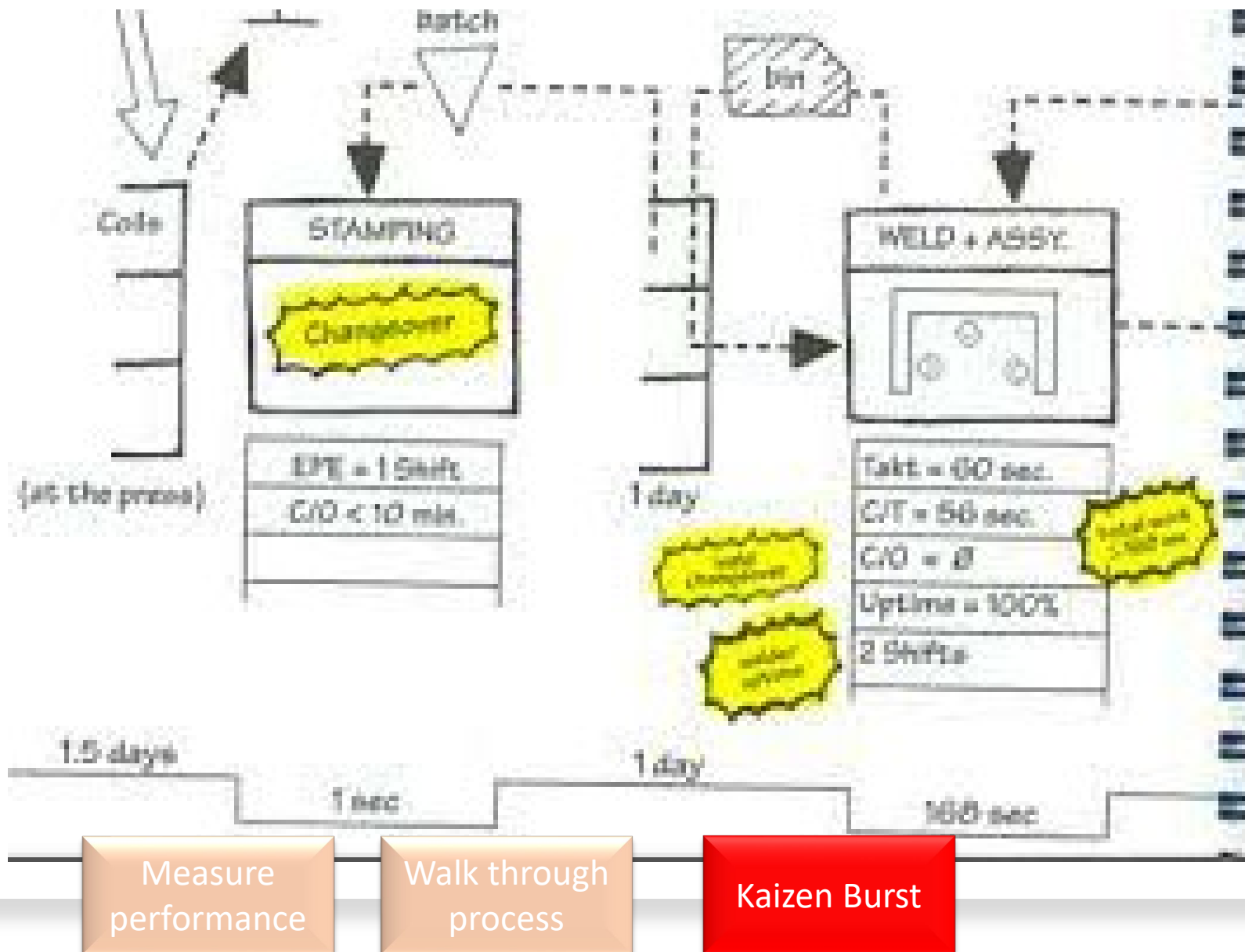
C&A: ____ %

Others:

Measure
performance

Walk through
process

Kaizen Burst



Diagnose –
Step 3



| | Quality | Waste |
|---------------------------------|---|---|
| Work Process | Yield/ reject rate; Scrap rate; Human error; | Lead/ process/ cycle time; Bottleneck process; Excessive manpower and labour intensive; Process required excess manpower energy and effort; Excessive energy usage (power, electricity); Excessive material/ raw material; Excessive movement (Distances); Overlapping of process; |
| Order processing process | No. of complaints; No. of information that is not complete and accurate; | Long processing lead time; Late delivery of product/ service; |
| Planning process | No. of complaints; | Excessive information; |



Section 3:

Selecting

Operational

Excellence



OPERATIONAL EXCELLENCE

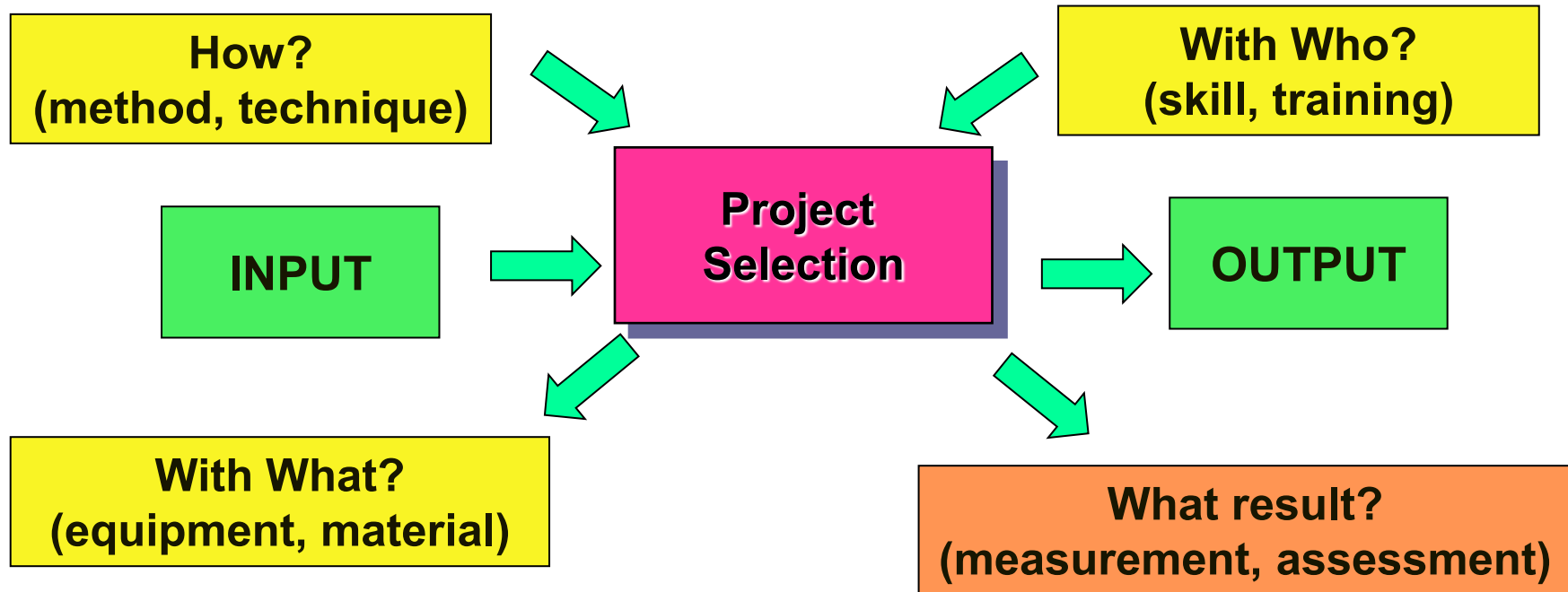
DETERMINE POTENTIAL PROJECT

EVALUATE

ACTION

Project Charter

Selection OE Projects



The output

Project Charter

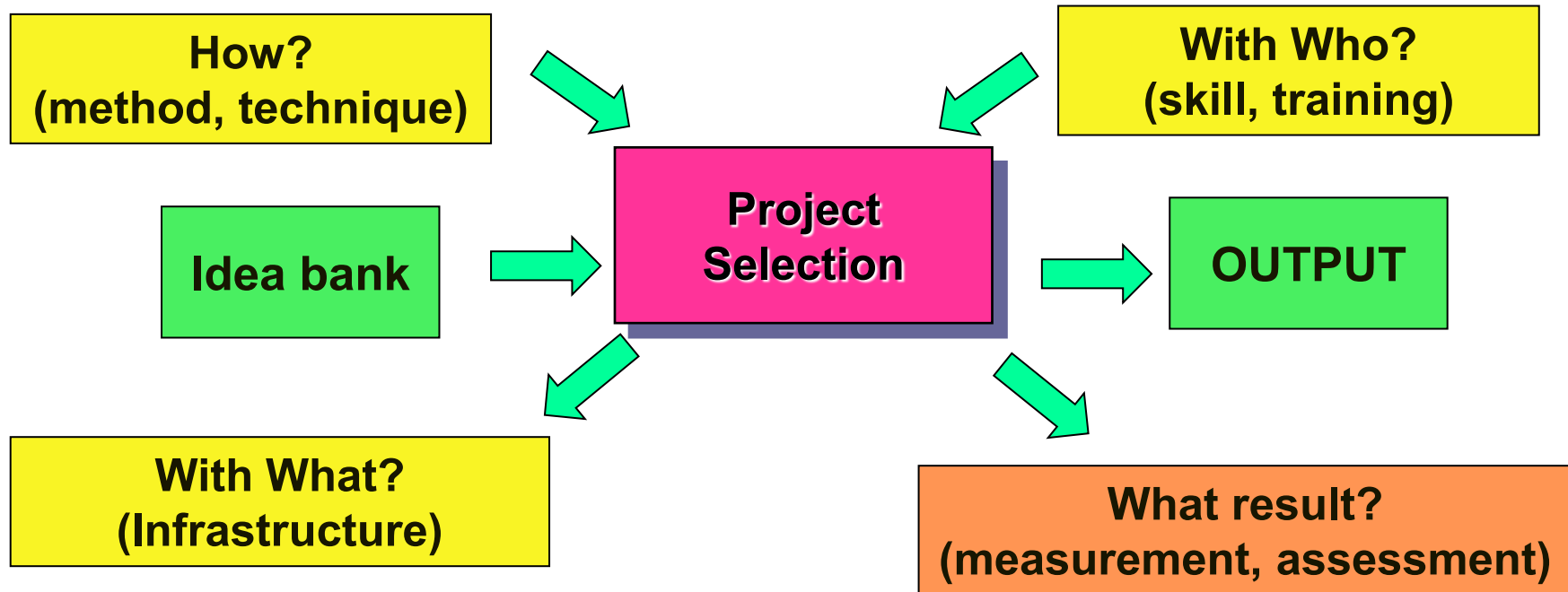
The result

Numbers of charters/ Projects

Number of teams

Benefits

Selection of OE Project



Methodology

Evaluate and Action

Who

Evaluate – Committee

Action – Team Leader



Evaluate - 2 Steps Approaches

- ❖ Step 1 – Determine Cause Category
 - ❖ Special and Common
 - ❖ The 4M

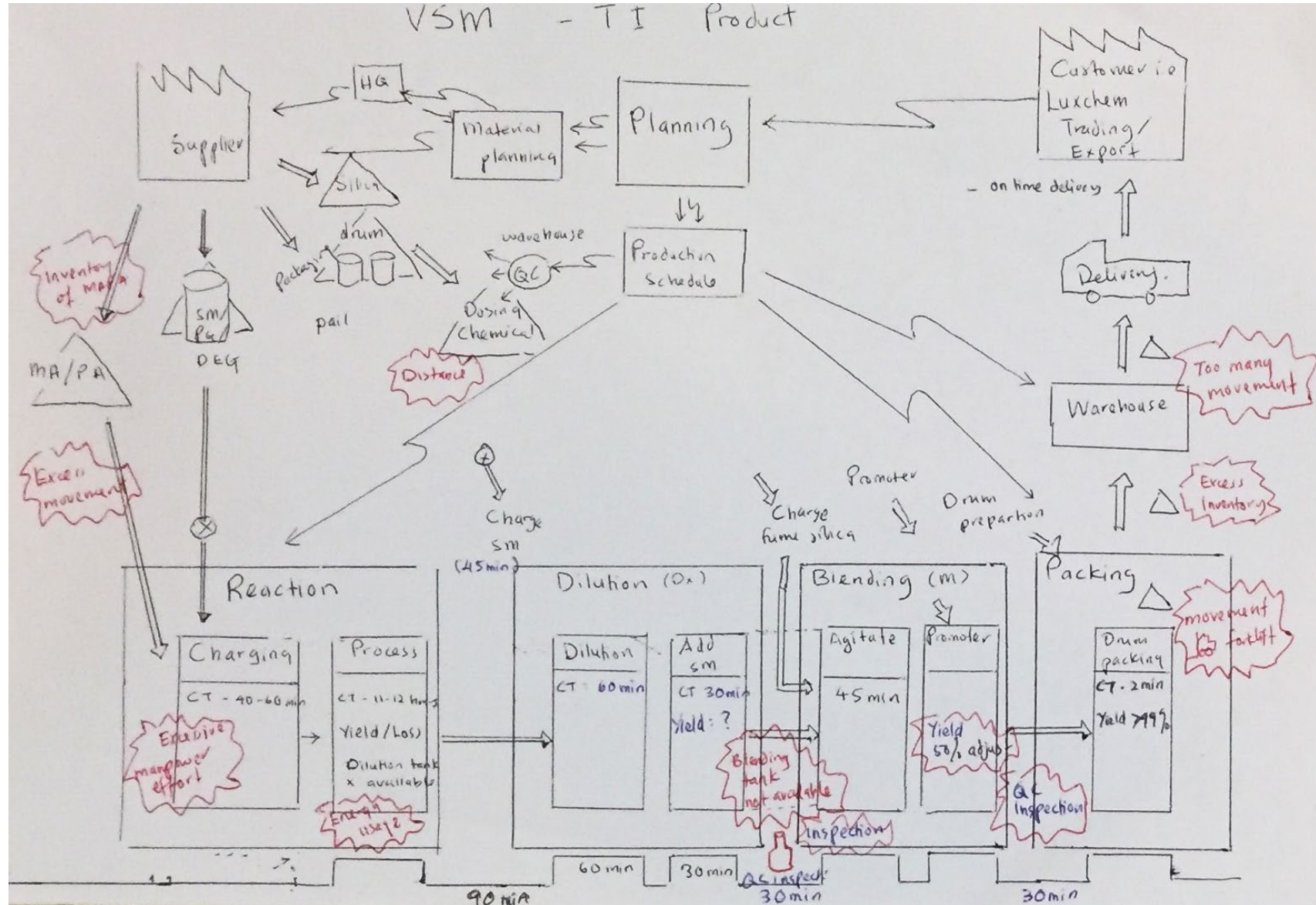
- ❖ Step 2 – Determine available tools
 - ❖ Lean tools
 - ❖ QC Tools



Evaluate – Common or Special

| Special | Common |
|---|---|
| Corrective Action Request, 8-Discipline, | <p>Kaikaku, Detail Six Sigma DMAIC methodology, (For Breakthrough).</p> <p>Kaizen Event i.e. ICC, Small group PDCA activities, Lean workshop</p> <p>Kakushin i.e. IR4.0 project, product development, machine innovation etc.</p> |

Example – VSM indicator





| N° | Issues Description |
|----|---|
| | Production: Charging - Reaction - Dilution |
| 1 | Excess Movement of MA/PA and Bags |
| 2 | Excessive manpower to charge to reactor |
| 3 | Excessive energy usage and reaction time |
| 4 | Delay due to Dilution Tank not available |
| | Production Blending |
| 5 | 50% required adjust/ rework |
| 6 | Long QC testing process i.e. for stage 2 |
| 7 | Distance of chemical dosing to far and required double verification |
| | Packing |
| 8 | Excessive Movement of Drums/ Forklift |
| 9 | Waiting for QC Final Inspection |
| | FG/ RM Warehouse |
| 10 | Excessive Forlift movement |
| 11 | Observed Excessive Inventory |



| N° | Issues Description | Type of Issues (SC or CC*) | Cause(s) Category |
|----|---|----------------------------|---|
| | Production: Charging - Reaction - Dilution | | |
| 1 | Excess Movement of MA/PA and Bags | CC | Why 2 Method and Why 4 Infra |
| 2 | Excessive manpower to charge to reactor | CC | Why 2 Method and Why 4 Infra |
| 3 | Excessive energy usage and reaction time | CC | Why 2 Method and Why 5 R&D |
| 4 | Delay due to Dilution Tank not available | SC | Why 4 Infra and Why 5 Sudden high demand on TI product |
| | Production Blending | | |
| 5 | 50% required adjust/ rework | CC | Why 2 Method: specification too tight, QC not verify the stage 2 info |
| | | CC | Why 5 Variation input from Reaction |
| 6 | Long QC testing process i.e. for stage 2 | CC | Why 2 Method and Why 4 Infra |
| 7 | Distance of chemical dosing to far and required double verification | | Why 2 Method and Why 4 Infra |
| | Packing | | |
| 8 | Excessive Movement of Drums/ Forklift | CC | Why 2 Method and Why 4 Infra |
| 9 | Waiting for QC Final Inspection | CC | Why 2 Method and Why 4 Infra |
| | FG/ RM Warehouse | | |
| 10 | Excessive Forlift movement | CC | Why 2 Method and Why 4 Infra |
| 11 | Observed Excessive Inventory | CC | Why 1: Performance not evaluate during diagnosis |

Tools and Techniques to eliminate/ minimise waste

- 5S
- Jidoka (Autonomation)
- Heijunka (Level scheduling)
- JIT/ Pull i.e. Kanban
- Total productive Maintenance
- Single Minute exchange dies (SMED)
- Visual Management i.e. Andon
- Poka Yoke and In-line Inspection
- Line/ plant layout
 - One piece flow
 - Cellular

| Why 1 – Method | Why 3 – Infrastructure |
|---|--|
| <ul style="list-style-type: none"> - Risk Assessment, quality/ control plan - Poka Yoke self/successive check - Advance Product Quality Planning - Heijunka, Kanban - 5S | <ul style="list-style-type: none"> - Total Productive Maintenance (TPM) - Plant facilities layout (Cellular layout) - SMED - 5S - Spaghetti diagram |
| Why 2 - People/ Human Resources | Why 4 – Input/ Interaction |
| <ul style="list-style-type: none"> - Error proofing, Jidoka, Andon - Team problem solving - Standardization/ Seiketsu (from 5S) - Shitsuke (from 5S) | <ul style="list-style-type: none"> - Cross functional problem solving to identify why 2-4 |



| N° | Issues Description | Type of Issues (SC or CC*) | Cause(s) Category | Tools and Technique available (if any) |
|----|--|----------------------------|---|--|
| | Production: Charging - Reaction - Dilution | | | |
| 1 | Excess Movement of MA/PA and Bags | CC | Why 2 Method and Why 4 Infra | Spaghetti diagram, plant layout, 5S |
| 2 | Excessive manpower to charge to reactor | CC | Why 2 Method and Why 4 Infra | Autonomation (Jidoka) |
| 3 | Excessive energy usage and reaction time | CC | Why 2 Method and Why 5 R&D | Six Sigma DMAIC |
| 4 | Delay due to Dilution Tank not available | SC | Why 4 Infra and Why 5 Sudden high demand on TI product | Heijunka (Level Scheduling), Plant investment |
| | Production Blending | | | |
| 5 | 50% required adjust/ rework | CC | Why 2 Method: specification too tight, QC not verify the stage 2 info | Six Sigma DMAIC, multi SGA project |
| | | CC | Why 5 Variation input from Reaction | Six Sigma DMAIC, multi SGA project |
| 6 | Long QC testing process i.e. for stage 2 | CC | Why 2 Method and Why 4 Infra | SGA, equipment investment |
| 7 | Distance of chemical dosing too far and required double verification | | Why 2 Method and Why 4 Infra | 5S, Spaghetti diagram, plant layout, poka yoke, process clustering |
| | Packing | | | |
| 8 | Excessive Movement of Drums/ Forklift | CC | Why 2 Method and Why 4 Infra | 5S, Spaghetti diagram, plant layout |
| 9 | Waiting for QC Final Inspection | CC | Why 2 Method and Why 4 Infra | SGA, equipment investment |
| | FG/ RM Warehouse | | | |
| 10 | Excessive Forlift movement | CC | Why 2 Method and Why 4 Infra | 5S, Spaghetti diagram, plant layout, JIT |
| | | | Why 1: Performance not evaluate | Pull supermarket |

Action to select - Common Method

- Simple - SAW
- Simple Additive Weighing

- Detail - AHP
- Analytic Hierarchy Process

Steps in SAW.....

- Step 1-Normalization of decision matrix decision..... matrix.....

| Criteria | Network 1 | Network 2 | Network 3 |
|-----------|-----------|-----------|-----------|
| Bandwidth | 9 | 8 | 7 |
| Qos | 7 | 7 | 8 |
| Security | 6 | 9 | 8 |
| COST | 7 | 6 | 6 |



| Criteria | Network 1 | Network 2 | Network 3 |
|-----------|-----------|-----------|-----------|
| Bandwidth | 1 | .88 | .77 |
| Qos | .875 | .875 | 1 |
| Security | .66 | 1 | .66 |
| COST | 1 | .857 | .857 |

Goal:

Choose a Leader

Criteria:

Age Experience Education Charisma

Alternatives:

Tom Dick Harry



Example of Selection Criteria

| Pay-off criteria | Revenue Potential A1 | Cost/ Benefit A2 | Meet KPIs A3 |
|---|-------------------------|------------------------|--------------------|
| Weight (to be determine by the champion) | 10% | 10% | 10% |

| Organization fit criteria | Ease of Imple- mentation B1 | Staff/ Team Capability B2 | Duration B3 |
|---|--------------------------------------|------------------------------------|----------------|
| Weight (to be determine by the champion) | 10% | 20% | 10% |

| | A | B | C | J | K | L | M | N | O | P |
|----|-----------------------|---|---|---|--------------|-----------|------------------------|------------------------|----------|--------------------|
| 1 | | | | <u>Project Scoring</u> | | | | | | |
| 2 | | | | (The Average Weighted) | | | | | | |
| 3 | Diagnosis Date: _____ | | | criteria. There is a drop-down box for each Green, Amber, and Red cell. | | | | | | |
| 4 | | | | Pay-off | | | Operational - Fit | | | |
| 5 | | | | Revenue Potential | Cost/Benefit | Meet KPIs | Ease of Implementation | Staff/ Team Capability | Duration | Prioritazion Score |
| 6 | | | | Weighting | 10% | 10% | 10% | 25% | 20% | 25% |
| 7 | | | Kilang (Kitchen) | | | | | | | 0 |
| 8 | 6 | | Tempat pemunggahan bahan mentah dan kawasan kopek tidak teratur | 1 | 1 | 1 | 9 | 7 | 5 | 5.2 |
| 9 | 7 | | Kopek mengambil masa dan proses manual | 5 | 5 | | 1 | 1 | 3 | 2.2 |
| 10 | 8 | | Layout cell untuk drum pencucian kurang lean | | | | 1 | 1 | 1 | 0.7 |
| 11 | 9 | | Pembaziran air dari mesin pemetong | | | | 1 | 1 | 1 | 0.7 |
| 12 | 10 | | Kawasan dapur suram | | | | 3 | 3 | 5 | 2.6 |
| 13 | 11 | | Proses mengoreng tidak standardised (masa, suhu) | | | | 1 | 1 | 1 | 0.7 |
| 14 | | | Proses timbang dan bungkus 5kg mengambil masa (Timbang.) | | | | | | | |

PROJECT CHARTER

| | | | | | |
|---|---|-------------------------------|-----------------|-------------------------------|--------------------------|
| Project Title | SMED – <u>Penyediaan bahan mentah</u> | | | | |
| Champion/Sponsor | Xxx | Contact Number | | | |
| Project Leader | <u>En xxxx</u> | Contact Number | | | |
| Start Date | 22 July 2018 | Target Completion Date | 24 Oct 2018 | | |
| Element | Team Charter | | | | |
| 1. Project Description: (subject matter, the “pain” or gap, how big is the problem, impact of not solved this now) | <ul style="list-style-type: none"> • <u>Tiada tempat untuk meletakkan bahan mentah yang siap ditimbang.</u> • <u>Mengambil dan mengganggu masa pemprosesan untuk penyediaan bahan mentah</u> • <u>Aturan bancuhan bahan mentah yang tidak teratur dan sistematik.</u> • <u>Penggunaan tenaga pekerja yang banyak untuk mengangkat bahan mentah.</u> | | | | |
| 2. Measurable Objective: (At the end of the project, what do we want to achieve. Must have minimum 1 target and maximum 3 targets) | KPI/Goal | Current level | Target | Units (e.g Days or RM) | How much change % |
| | | | | | |
| | Masa | 30 min | 23 <u>minit</u> | <u>minit</u> | 73% |
| | | | | | |
| 3. Project Scope: | <u>Penyediaan bahan mentah</u> | | | | |
| 4. Process Involved: | <u>Penyediaan dan bancuhan</u> | | | | |



Register:
efrcertification.com

MPC Webinar Series

Operational Excellence/ Kaizen

Free Webinar:

Webinar 1 - **Pembangunan Program** Kecemerlangan
Operasi
19 June 2020 (10am-11am)

Webinar 2 - **Mengenalpasti projek** kecemerlangan operasi
25 Jun 2020 (11am-1pm)

Webinar 3 - Pendekatan **perlaksanaan projek** kecemerlangan
operasi termasuk kaedah laporan dan penilaian
7 Jul (11am-1pm)

Sharing by:
Dr. Edly Ramly

*Fellow Industrial Engineering
Operation Management
Society, US*



Recommend further information/study on OEMS

Include
Templates,
manual, SOP,
form, examples,
group
brainstorming
sessions

Contact MPC on Virtual training:

- 1 day - Understanding Operational Excellence (Kaizen) Management System
- 1 day – Development of Operational Excellence (Kaizen) Program
- 1 day – Determining and Selection of Operational Excellence (Kaizen Event/ Kaikaku/ Kakushin) Projects
- 1 day – Development of Operational Excellence (Kaizen) Project Approaches including reporting and assessment of operational excellence project

1 day = 4 hours virtual training (Program plan in July 2020)

Potential Future MPC Service Advisory – Pre-Assessment - Certification

- PERSONALISED ADVISORY

**MPC ASSESS AND CERTIFY YOUR
OEMS**

Like 5S certification

**Self-Assessment of OE
Operational Excellence Award**

Contact me to join the Pilot
project for more detail

edly@efrmanagement.com

016-7748331

THANK YOU FOR JOINING MPC WEBINAR

