Lean Six Sigma Handbook
CONTENT

Capturing Customer Requirements

Customer Journey

- Take the journey of a customer through your process(es)
- Rate each step 1-5
- Note:

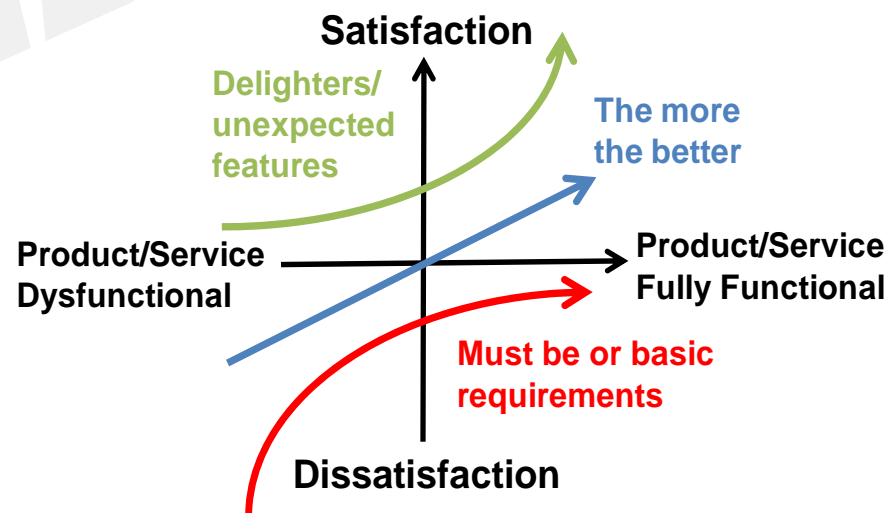 😀 - attraction points

  ⭐ - decision points – leave or stay

  ❤️ - delighter points

Voice of Customer
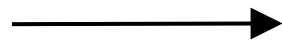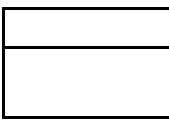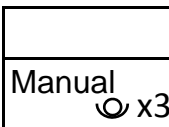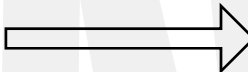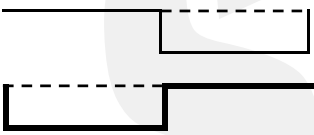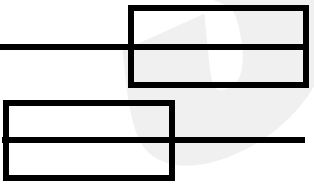
- Specifications
- Customer feedback
  - surveys
  - feedback forms
  - focus groups

Kano Model

Value Stream Mapping Symbols

External Entity

Data box

Process boxes

Manual x3

Operator (multiples)

IN
x jobs

In-box (Information queues)

x days

Inventory & WIP

Time line segments

Time line ends

Electronic flow arrow

Manual flow arrow

Push arrow

FIFO

First In First Out stock system

Information box

Shipment arrow

daily

Shipment truck

K

Kanban signal

Supermarket store

OXOX

Load levelling system

Sequenced pull ball system

Kaizen

Improvement activity

Tools for Data Collection

Map the process	Process Mapping
↓	
List the process variables	Cause and Effect Diagram
↓	
Eliminate process variables of no interest	Simple Pen Dot Voting
↓	
Prioritise remaining process variables	Cause & Effect Matrix, Pareto Chart
↓	
Prepare data collection plan	Data Collection Plan
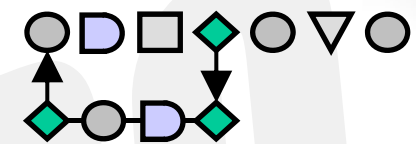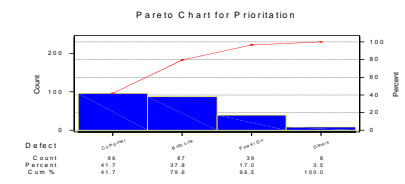
Cause & Effect Diagram
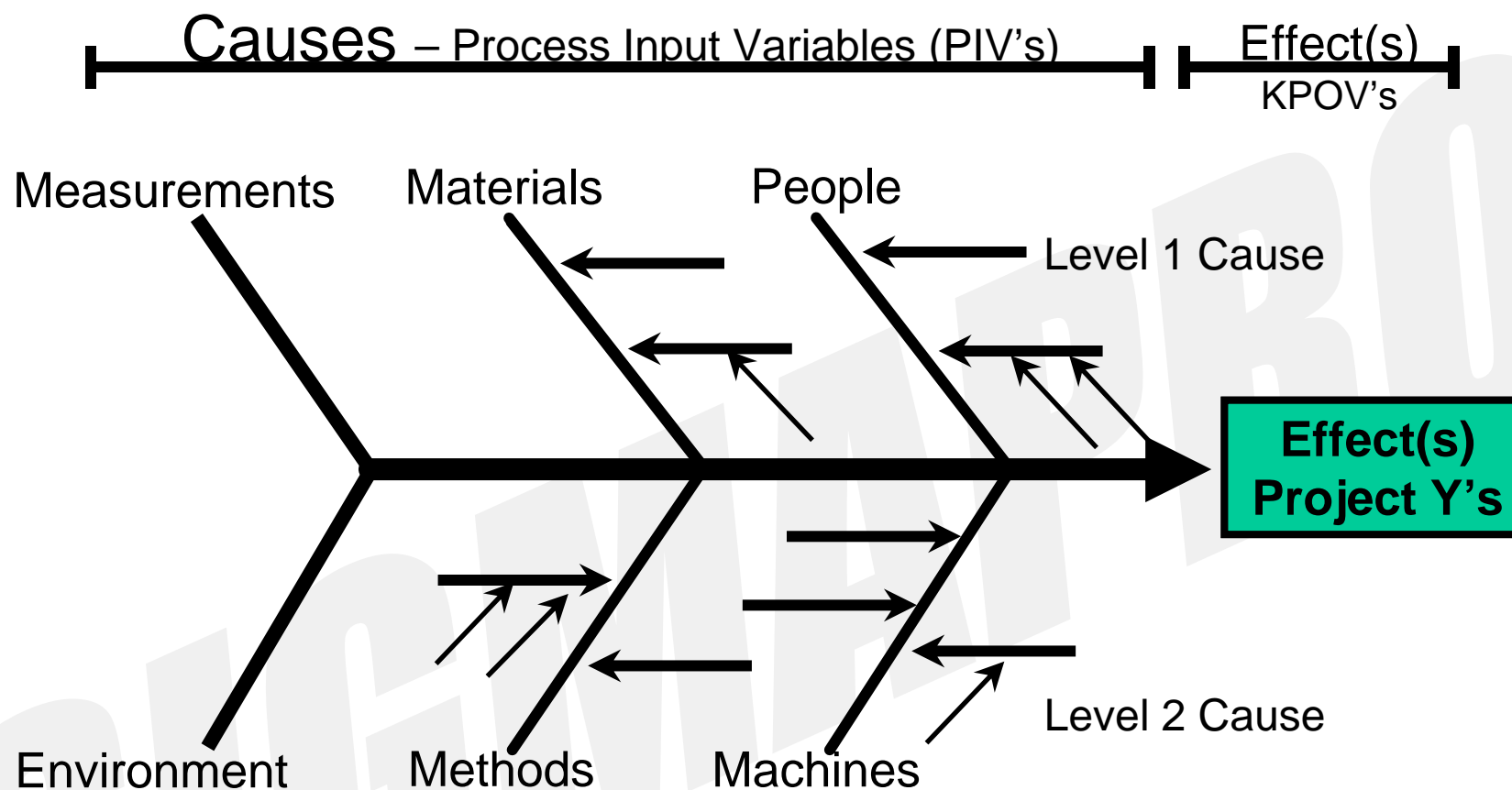
For transactional processes use: Measurements, Supplies, People, Environment, Places, Policies & Procedures

Also known as Ishikawa or Fishbone Diagram

Components of Measurement Error

1. Resolution/Discrimination
   - capability to detect the smallest acceptable change
   - "10 bucket" guideline resolution to be 1/10th
2. Accuracy (bias)
   - ability to hit a target or master value on average
3. Linearity
   - measurement is true or consistent across range
4. Stability (consistency)
   - measurements remain constant and predictable over time i.e. accuracy remains constant
5. Precision – Repeatability & Reproducibility
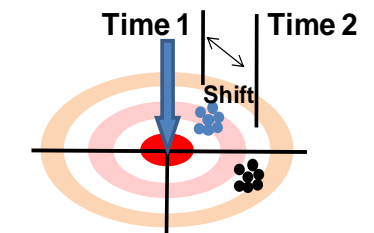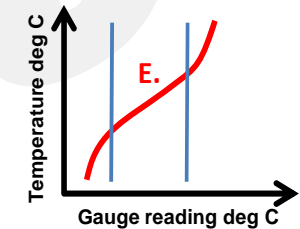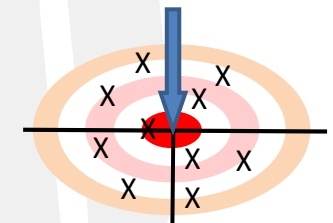   - Repeatability – variation that occurs when repeated measurements are made under identical conditions
   - Reproducibility – variation that results when different conditions are used to make the same measurements
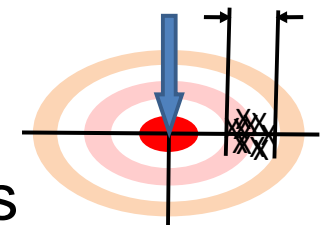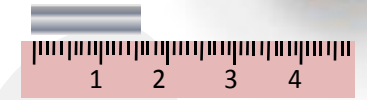
Attribute Acceptability Summary

- ## Between Appraisers
  - \> 80% Needs improvement
  - 80% - 95% Probably adequate
  - 95% > Good for most purposes
  - Approaching 100% may be necessary where there is a risk to safety or of litigation

- ## All Appraisers vs Standard
  - \> 80% Needs improvement
  - 80% - 90% Probably adequate
  - 90% > Green
  - Approaching 100% may be necessary where there is a risk to Safety or of Litigation

- ## Kappa
  - \> 0.7 Needs improvement
  - 0.7 - 0.9 Probably adequate
  - 0.9 > Good for most purposes
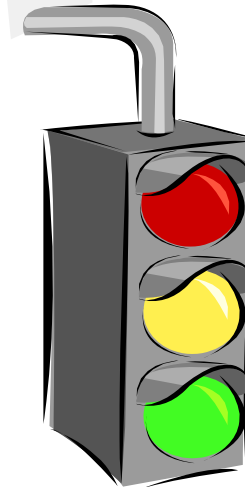
Preferred:- Both Indicators are "Green"