

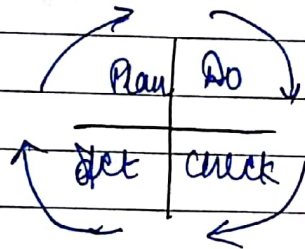
## Total quality management (TQM)

Customers always come first

Quality - conformative to requirement-

- 1) focus on customer
- 2) continuous improvement
- 3) employee empowerment

## PDCA cycle



- also called Deming's wheel
- created by Shewart

## 7 problems solving tools :-

- 1) Cause & Effect diagrams
- 2) Flowchart
- 3) Checklists
- 4) Control charts
- 5) Scatter diagrams (w/o upper & lower control limit)
- 6) Histogram
- 7) Pareto analysis

## Kaizen

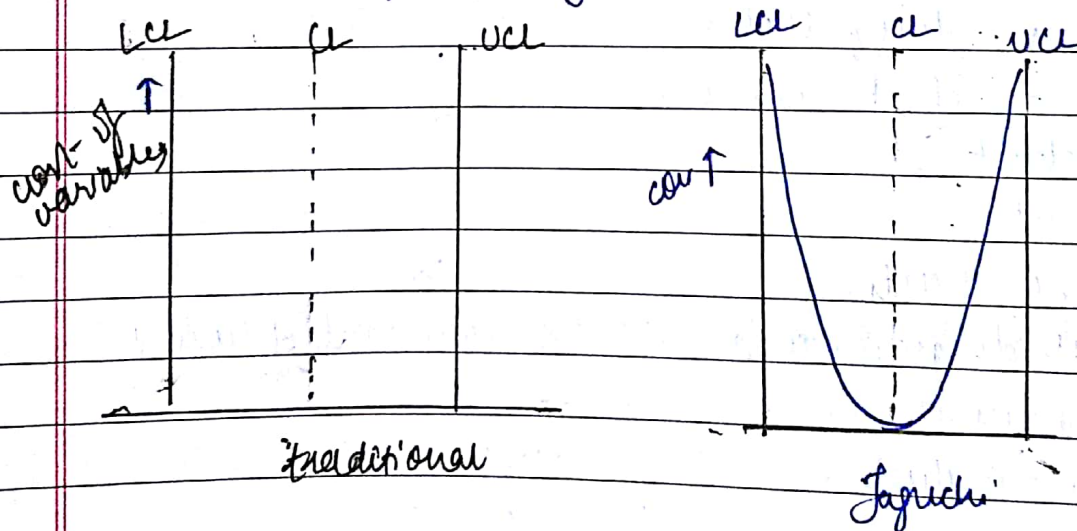
Kai	Zen
↓	↓
Continuous	Good

It is Japanese for gradual and orderly continuous improvement over a long period of time with minimum ~~using~~ financial investment with participation by everyone in the organization

- 1) Eliminate Muda (waste)
- 2) When in doubt, go to Gemba (workplace)
- 3) Involve the people
- 4) Take immediate action & based on data find the root cause.
- 5) Standardise.

Jaguchi loss function

- Loss - cost to operate
- failure to function
  - maintenance & repair cost
  - ~~for~~ customer satisfaction
  - poor design



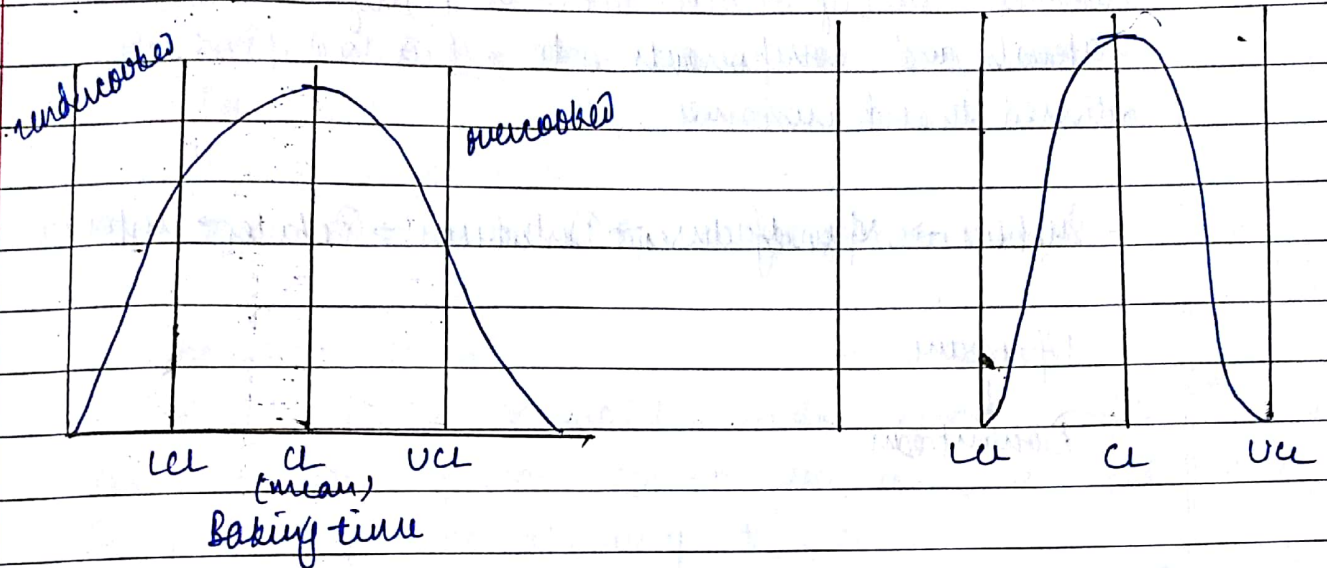
Jaguchi's view is that quality within the LCL and UCL does not matter.

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The term  $\sigma$  is used to designate the distribution/spread/variance about the mean of a procedure.



$\sigma_6$  is a metric that indicates how well a process is performing. It measures the process capability to produce. A deflection (spike) is anything that produces customer dissatisfaction.



dpmo - defects per million opportunities

3.4 dpmo

$\sigma_6$  is 99.999% accurate

