Quality Technique: 100% INSPECTION

- Costly
- Not successful in containing defects → Usually no more effective than sampling
- Does not push quality upstream to product and process design

QUALITY

<table>
<thead>
<tr>
<th>Product Control</th>
<th>Process Control</th>
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<tbody>
<tr>
<td>Measured by Acceptability/Conformance to specifications (good enough mentality, work standards)</td>
<td>Measured by productivity and Eliminating variation (in products, process, service)</td>
</tr>
<tr>
<td>Emphasis = Detect and contain through inspection of product/work</td>
<td>Emphasis = Eliminate root causes, waste and inefficiency in process</td>
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<tr>
<td>Quality is separate activity from design and production</td>
<td>Quality is inherent to design and production</td>
</tr>
<tr>
<td>Firefight to solve problems, management system</td>
<td>Continual improvement of processes – &quot;Journey has no end&quot;, PDCA</td>
</tr>
<tr>
<td>System = Post-process Inspection, Rework</td>
<td>System = Preventative checks/measures, Use statistics (and various team tools) to improve process</td>
</tr>
<tr>
<td>Quality Control Group/Department</td>
<td>Everyone is involved in quality</td>
</tr>
<tr>
<td>Must catch bad product</td>
<td>Must catch &quot;what customer wants&quot; (VOC)</td>
</tr>
<tr>
<td>Focus = product</td>
<td>Focus = Process</td>
</tr>
<tr>
<td>Quality is a product characteristic</td>
<td>Quality is a product, process, service characteristic</td>
</tr>
<tr>
<td>Predominant in Pre-1980’s</td>
<td>Growth from 1980’s, norm today</td>
</tr>
</tbody>
</table>
Process Control Results

- Uniformity of output, consistency, predictable output
- Less redoing, fewer fixes, fewer errors, reduced rework
- Fewer defects, less scrap
- Increased output, less downtime, less worker/machine time waste
- Increased understanding of processes
- Lower average cost $\rightarrow$ increased profit $\rightarrow$ improved competitive position $\rightarrow$ more responsive to future customer wants

Requirements To be Competitive

- Institute process control to increase quality & productivity (as opposed to product control)
- Quality in design function
- Concurrent design (design with processes in mind)
- Establish quality program which includes all aspects and systems in the company (TQM/CI)
DEMING/SHEWHART CYCLE in Organizational Transformation

Goals/objectives outlined

ACT

PLAN

STUDY

DO

Act to improve

Form action plan

Measure results

Carry out plan

CI (organizational transformation)

- Starts with Values & a vision (statement)
- Mission Statement
- Goals to achieve mission
- Action plan generated to achieve goals (assignments are made)
- Measures (metrics) are identified and plan is tracked daily/weekly/monthly
- Results/Achievements (metrics) are presented

- Process continually repeats
QUALITY SYSTEM

- **Education** sensitizes & creates awareness
- **Awareness** encourages **conformance**
- **Conformance** supports **accountability**
- **Accountability** is necessary for a **quality system**