Continuous Improvement Toolkit

Flow Process Chart
- **Flow Process Chart**

- A symbolic representation.
- Illustrates the sequence of actions within a process.
- Records the steps of a process along a vertical line.
- Used when analyzing the steps in a process.
- Helps identify and eliminate waste.
- Sometimes called **process sequence chart**.
- Flow Process Chart

- It can be drawn up as the process is happening.
- This allows getting an accurate description of the process.
- A person for example can follow a part, noting how and when it is produced, moved, checked and stored.
- This ensures that what actually happens gets recorded.
- Later when analyzing the process, some steps become obvious candidates for improvement such as:
  - Non-value-adding activities.
  - Long delays.
  - Excessive transportation.
Common Process Problems:

- Non-value adding steps.
- Errors and rework.
- Unnecessary activities and duplication.
- Bottlenecks.
- Long cycle times and excessive delays.
- Missing and unclear steps.
- Too many inspections or checks.
- Complex procedures.
- Departure from procedure.
- Dead ends.
- Costly steps.

--- Flow Process Chart
Flow Process Chart

Common Symbols:
- **Operation** – produce or process something.
- **Inspection** – checking of items to ensure correct quality or quantity.
- **Storage** – storing materials or other items.
- **Transport** – movement of people, materials or other items.
- **Delay** – idle time of people, material or machinery.

- **Operation**
- **Transport**
- **Inspection**
- **Delay**
- **Storage**
- **Rejection point**
- Flow Process Chart

Three Types:

- A **man-type** chart which shows the actions of a person.
- A **material-type** chart which shows what happens to a product or item.
- An **equipment-type** chart which shows how a tool or other piece of equipment is used.
Example – Material Type Chart – Egg Tray Production Process:

- Waste paper in store
- Convey to mixer
- Pulping and mixing
- Convey to forming machine
- Forming
- Drying
- Inspecting and counting
- Staking for packing
- Packing
- Convey to warehouse
- Egg trays in store
Example – Supplier Invoice Processing:

- Enter invoice into system: 15 minutes
- Match invoice to purchase order: 10 minutes
- Send for authorization: 5 minutes
- Wait for payment to be authorized: 60 minutes
- Bring back to the Accounts Office: 5 minutes
- Pay the supplier: 30 minutes
**Flow Process Chart**

**Example – Supplier Invoice Processing:**

<table>
<thead>
<tr>
<th>Step #</th>
<th>Time (min)</th>
<th>Distance (meters)</th>
<th>Step Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td>X</td>
<td>Enter invoice into system</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td></td>
<td>Match invoice to purchase order</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>85</td>
<td>Send for authorization</td>
</tr>
<tr>
<td>4</td>
<td>60</td>
<td></td>
<td>Wait for payment to be authorized</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>85</td>
<td>Bring back to the Accounts Office</td>
</tr>
<tr>
<td>6</td>
<td>25</td>
<td></td>
<td>Pay the supplier</td>
</tr>
</tbody>
</table>
## Example – Supplier Invoice Processing:

<table>
<thead>
<tr>
<th></th>
<th>Operation</th>
<th>Transport</th>
<th>Inspection</th>
<th>Delay</th>
<th>Store</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of steps</strong></td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Time (min)</strong></td>
<td>40</td>
<td>4</td>
<td>10</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td><strong>Distance (meters)</strong></td>
<td>-</td>
<td>170</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

- **Flow Process Chart**
Further Information:

- What do we think of a process is not necessary what it actually is.

What you think it is…

What it actually is…

What you would like it to be…

Hidden factors
-- Flow Process Chart

Example – Can Making Process:

[Diagram of the can making process showing the flow of materials and decisions at each step, including symbols for Start, Flow Process Chart, Yes, Delay, Dropout, Fallen, Scrap, BDI, Coater, Coater Oven, Decorator, Overvarnish, BRC, Decorator Oven, Auto Sampling, Inspection, Light Tester, AV Camera, Rogue Can Detector, Scrap, Pickup To Warehouse, and End.]