**Definition of Value**

Activity physically changes the product (or adds information)

Must be done right the first time (i.e., it should not be rework)

Customer must be willing to pay for it

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**DOWNTIME**

- **Defects**: Efforts caused by rework, scrap, and incorrect information
- **Overproduction**: Production that is more than needed or before it is needed
- **Waiting**: Wasted time waiting for the next step in a process
- **Non-Utilized Talent**: Underutilizing people's talents, skills, and knowledge
- **Transportation**: Unnecessary movements of products & materials
- **Inventory**: Excess products and materials not being processed
- **Motion**: Unnecessary movements by people (e.g. walking)
- **Extra-Processing**: More work or higher quality than is required by the customer

Source: GoLeanSixSigma.com
LEAN: improve speed  SIX SIGMA: improve accuracy  LEAN SIX SIGMA

**DMAIC OVERVIEW**

<table>
<thead>
<tr>
<th>TOOLS</th>
<th>DEFINE</th>
<th>MEASURE</th>
<th>ANALYZE</th>
<th>IMPROVE</th>
<th>CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEPS</td>
<td>Define the problem, goal, process, customer, and inform others of project progress</td>
<td>Determine current process, create a plan for data, then update project charter</td>
<td>Examine the process, display the data, identify issues, then update the project charter.</td>
<td>Brainstorm solutions to problems, select and implement solutions, and measure to ensure improvement.</td>
<td>Ensure process is managed and documented properly, apply improvements, and share success!</td>
</tr>
<tr>
<td><strong>5S steps</strong></td>
<td>Sort (Seiri)  Straighten (Seiton)  Shine (Seiso)  Standardize (Seiketsu)  Sustain (Shitsuke)</td>
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