

Glossary of Lean Terms

Term	Definition
5S	<p>A workplace organization method that reduces wasted space and resources while increasing employee efficiency. The 5S elements are Sort, Straighten, Shine, Standardize, and Sustain.</p> <p>Sort - Determine what is needed and unnecessary, eliminating unnecessary material and steps.</p> <p>Straighten – Keep everything needed in an orderly fashion so items can be accessed easily. Includes changing the workflow to minimize movement such as twisting, bending or in an electronic environment extra clicks.</p> <p>Shine – Clean desktops, machines, floors, and walls, looking for sources of filth.</p> <p>Standardize – Make process, procedures, and responsibilities standard so that any abnormality becomes obvious.</p> <p>Sustain – Instill self-discipline to sustain improvements.</p>
8 Forms of Waste	<p>The goal of Lean is to eliminate waste, which is defined as any activity that does not add value to a product or service. The following list describes the 8 Wastes commonly found in organizations.</p> <p>Overproduction – Producing more (product or service) than is needed or before it is needed.</p> <p>Waiting – Wasted time waiting for the next step in a process.</p> <p>Transportation – Unnecessary movements of products and materials.</p> <p>Over-Processing – More work or higher quality than is required by the customer.</p> <p>Excess Inventory – Products and materials not required by the customer.</p> <p>Motion – Any movement of people that does not add value to the product or service.</p> <p>Defects – When work isn't completed right the first time.</p> <p>Underutilized People – Not using people's talents, skills, and knowledge.</p>
A3	<p>A tool used to document the process of scientific problem solving which follows the Plan, Do, Check, Act (PDCA) Cycle. It was pioneered at Toyota to keep problem solving documentation consistent, structured, and concise. The term "A3" derives from the paper size used for the report, which is the metric equivalent to 11" x 17" paper.</p>
Batching	<p>A mass production approach in which large lots of items are processed and moved to the next process, regardless of whether they are actually needed. Also known as "batch and queue." Contrast with "single piece flow."</p>

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Enterprise Planning	<p>An approach to identify and track the success of the fundamental work of the agency. It is based on Lean thinking, focusing on processes in the agency's value stream and the outcomes of those processes. These cut across organizational silos to show the interdependencies and collaborations needed to continuously improve. Measures help to identify improvement opportunities as well as opportunities for new initiatives and strategic growth. Enterprise Planning requires high levels of employee involvement and results in every employee understanding how their daily work contributes to agency goals and outcomes.</p> <p>Agency Strategy Map* – A single page illustration that shows the routine work that must be managed for the agency to achieve its mission, vision, and key goals. The map also captures the outcome measures and process measures used by the agency to gauge how well the core processes are being managed and how capable they are of meeting the strategic desires of the agency. Measures are used to either identify opportunities for improvement and collaborative problem solving, or to identify strengths and opportunities for new objectives, targets or services.</p> <p>Program Strategy Map* – A single page illustration that shows the routine work that must be managed for a program to achieve its purpose. The map also captures the outcome measures and process measures used by the program to gauge how well the core processes are being managed and how capable they are of meeting the strategic desires of the program. The primary purpose of program measures for managers and teams to make data driven decisions for managing and improving their work.</p> <p>*Strategy Maps were developed for the unit, program, division, and agency (listed from smallest to largest entity).</p> <p>Core Process – A set of routine activities that must be done well in order to deliver value to customers and attain desired outcome measures.</p> <p>Operating Process – The routine core processes that create, produce, and deliver the primary services and/or products to customers.</p> <p>Supporting Process – The routine core processes that are essential to enabling the operating processes to function.</p> <p>Purpose Statement – A sentence describing the reason a program or unit exists.</p> <p>Process Measure – Quantifiable indicators of how effectively a core process is functioning, in the areas of cost, quality and time. Process measures answer the question: What will show us that we are doing the routine work well?</p> <p>Program Hypothesis – A statement of the belief that members of a unit or program hold about their work and the impact it will have. The hypothesis is structured as an "If...then" statement. For example: "If we do our core processes well, then we will achieve our stated outcomes." Program measures provide data to verify the team's hypothesis.</p> <p>Outcome – An observable result or change in performance that derives from the effective performance of core processes.</p> <p>Outcome Measure – Quantifiable indicator of overall performance that answers the question: How will we gauge progress toward our key goals?</p>

Term	Definition
Enterprise Planning (cont.)	<p>Core Process Lead – A member of the Management Team who serves as the primary advocate for the measure, and leads collaborative problem solving when the measure is outside its target range. The Lead monitors selected core process measures monthly and initiates problem solving as necessary. The Management Team collectively chooses measures and establishes expectations for routine data gathering and reporting of measures. The Lead reports to the agency on the health of measures and on efforts to problem-solve. The programs and divisions gather measures using tools provided by the Process Improvement Program.</p> <p>Outcome Lead – A member of the Management Team who defines the details of the outcome measure (including targets), establishes routine data gathering and reporting of the measure, and serves as the primary advocate for the measure, particularly in leading collaborative problem solving when the measure is outside its target range.</p> <p>Customer – An agency or entity that receives or uses our services or products.</p> <p>Partner – An agency or entity we work with to deliver services and/or achieve a beneficial result.</p> <p>Stakeholder – Any individual or entity with an interest in or affected by what we do.</p>
Gemba	<p>Japanese term for “where the work occurs.” The gemba walk is an activity that takes teams to the front lines to look for waste and opportunities for improvement by observing the actual work in the actual location being done by the actual people.</p>
Hypothesis	<p>An idea or explanation to be tested through study and experimentation. Also referred to as an “educated guess” or “if/then statement”. Hypotheses are often used in Lean to validate whether changes to a process yield the expected results.</p>
Huddle	<p>A short daily meeting focused on three basic questions.</p> <ol style="list-style-type: none"> 1. What did I do yesterday? 2. What am I doing today? 3. What do I plan to do tomorrow? <p>The purpose of the huddle is to create a transparent workgroup that communicates openly, solves problems, self-manages, and tracks meaningful data to manage work and achieve goals.</p>
Idea Board	<p>A visual tool used to capture and track improvement ideas discussed during team huddles. Ideas are tracked in three simple categories: “Ready”, “Doing”, and “Done.” A “Parking Lot” is used for ideas that require additional analysis, communication, or problem solving.</p> <p>The “Ready-Doing-Done” format can also be used for individuals to track and prioritize daily work outside of the huddle setting.</p> <p>Source: Personal Kanban</p>
Just-in-time	<p>Providing what is needed, when it is needed, in the quantity needed, and the quality level needed.</p>

Term	Definition
Kaizen	A Japanese term that means “change for the better” through continuous, incremental improvement.
Kanban	A visual signal used to trigger action. Originally developed at Toyota, where colored kanban cards denoting factors such as quantity, part type, and manufacturer were used to facilitate just-in-time inventory control.
Mistake Proofing	The use of process or design features to prevent errors or the negative impact of errors.
PDCA	Problem solving process that mirrors scientific problem solving. Stands for “plan, do, check, act”.
Pull Production	A method of production control in which downstream activities signal their needs to upstream activities. Pull production strives to eliminate overproduction and is one of the major components of a complete just-in-time system.
Push Production	Processing large batches of items and moving them to the next downstream process or into storage, regardless of the actual pace of work in the next process.
Root Cause Analysis	A process to guide people to discover the source(s) of a problem, with the goal of implementing improvements to prevent the problem’s recurrence. Common forms include the 5 Whys and Fishbone Diagram.
Scientific Problem Solving	A method of problem solving involving the recognition and formulation of a problem, the collection of data through observation and experimentation, and the formulation and testing of hypotheses. Scientific problem solving follows the Plan, Do, Check, Act (PDCA) cycle.
Single Piece Flow	The ideal state where products move through a manufacturing process – or people move through a service process – one at a time, without stopping or waiting. Contrast with “batching.”
Standard Work	A formally defined and documented process to perform a work task. Includes factors such as methods, steps, criteria, tools, materials, machine settings, training requirements, etc. Widely considered as the foundation for continuous improvement.
Value-Added Criteria	To be considered value added, an activity must meet all three of the following criteria: <ol style="list-style-type: none"> 1. The customer must care about it. 2. It must change the fit, form, or function of the product or service. 3. It must be done right the first time.
Value-Stream Mapping	<p>A Lean technique used to analyze and design the flow of materials and information required to bring a product or service to a customer.</p> <p>Current State Map - Shows the process as it is operating right now, highlighting areas of waste.</p> <p>Future State Map – Shows how the process can look after improvements have been implemented.</p> <p>Cycle Time (C/T) – Total time required for a process step (includes T/T).</p> <p>Touch Time (T/T) – Amount of time a product or service is actually being worked on.</p> <p>Queue Time – Waiting time for a product or service to enter next process.</p>

Term	Definition
Value-Stream Mapping (cont.)	Lead Time – The total time a customer must wait to receive a product or service after placing an order (or initiating the process).
	Takt Time – The rate at which products must be made in a process to meet customer demand.
	Incoming Yield – Percent of time that input from previous step is fit for use in current step (complete and accurate).
	Rolled Throughput Yield (RTY) – The probability that a single unit can pass through a series of steps complete, accurate, and free from defects.
	Handoffs – The number of times a product changes hands in a process on its way to being completed.
Rework Loops – When a work product contains errors (incomplete or inaccurate) and must be sent back upstream to be fixed.	Variation Represents the difference between an ideal and actual situation. Reducing variation creates more uniform, dependable process output.
Visual Control	A method of communicating information by using visual signals instead of texts or other written instructions. The purpose is to allow quick recognition of the information being communicated, in order to increase efficiency and clarity.
Work-in-Process (WIP)	A partially completed work product which is not yet available to a customer or end user. Lean principles consider excess WIP to be an indicator of waste caused by bottlenecks in the process or an unstable supply chain.