

PROCESS IMPROVEMENT MEASUREMENT GLOSSARY

Backlog

The value of unfulfilled orders. The number of unprocessed jobs on a given day.

Batching

Processing transactions in a group. The processing of previously collected jobs in a single batch. Examples of batching are scheduling specific work to be done on only certain days or completing twenty documents before sending them to an editor.

Benchmarking

The systematic comparison of process performance practices and attributes against those of other leading companies for the purpose of process improvement.

Bottleneck

A bottleneck is a step in a process line that limits the throughput of the entire process line.

Cycle Time

The total time elapsed from when raw material enters the production process until the finished product is ready for shipment to the customer. In service industries, the total time elapsed from when a customer expresses a need to when that need is satisfied. Product/service cycle time consists of the normal time to complete a product or service operation. Cycle time = processing time + wait time.

Operator cycle time is the total time it takes an operator to complete one cycle of all the standard work elements in his/her job or specific process (i.e....completing an estimate, answering a customer service call).

First Time Pass Yield

The extent to which a process produces its intended outcome right the first time. The percent of finished product or subassembly/component units that meet all quality-related specifications at a critical test point in the process.

Inventory

In an office environment, this can refer to queues of information, paperwork, electronic files, or project work in-development/work in progress. Goods or materials a business holds with the ultimate purpose of sale, repair or delivery.

Lead Time

Lead time is the time quoted to customers (usually in days or weeks) between the date of purchase and the shipment date. It is the total time a customer must wait to receive a product after placing an order. Lead time is the sum of all the cycle times and wait times for a particular process; or the length of time it takes a good or service to go through the entire process. Also known as "Throughput Time" or "Turnaround Time."

The difference between lead time and cycle time is often fuzzy. Lead time clock starts when the request is made and ends at delivery. Cycle time clock starts when work begins on the request and ends when the item is ready for delivery. Cycle time is a more mechanical measure of process capability. Lead time is what the customer sees.

Non-Value-Added

Those actions that the customer is not willing to pay for. Any activity that does not add value to the production or service. Processing Time minus Value Add Time. Any activity that does not contribute to the value of a process as defined by that process' customer.

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Non-Value Added but Required (or necessary)

Activities required by law, statute or contract. Such requirements may be outside the control of the organization or department and must be complied with. Examples include Health and Safety, Data Protection, Consumer Credit Act.

Percent Complete and Accurate

This metric reflects the frequency of complete and accurate information received for processing. Calculate this as simple percent of total. This is a common value stream metric.

Processing Time

The time that a product or service/activity is being worked on by an employee. In an analytical environment, processing time includes both “think time” and “touch time”. This may be presented as a range to indicate variation, along with a description of variation causes. This is a common value stream metric.

Performance Measure

A dimension of an activity or process – quality, cost, cycle time, or other characteristic – that can be used to judge the effectiveness or efficiency of the process against a target or standard value.

Process

A specific ordering of activities across time and space, designed to produce a specific outcome. Processes have a beginning, an end and clearly identified inputs and outputs.

Processing Time

The time an item is actually being worked on in a machine or work area and the time an order is actually being processed. Typically, processing time is a small fraction of throughput time and lead time.

Rework

Activities that are required to correct a defect produced by a process.

Return on Investment (ROI)

The ratio of gain or loss relative to the investment, usually expressed as a percentage.

$ROI = (\text{gains} - \text{costs}) / \text{costs} \times 100$. It is used as a financial measure to determine value.

TAKT Time

A vital element in balancing single piece production flows, TAKT Time is calculated by dividing the total daily production time (in minutes or seconds) by the customer demand in completed units (television sets, automobiles, applications, etc.). $Takt\ time = \text{net operating time (units)} / \text{customer demand (units)}$. For example, if customers want 480 widgets per day and the factory operates 960 minutes per day, the takt time is two minutes. This means the product or service must be processed every two minutes.

Throughput

The time required for a product/service to proceed from concept to launch, order to delivery, or raw materials into the hands of the customer. This includes both processing and queue (wait) time. It is the rate of products or services produced per unit time that the customer is willing to invest time, money, or resources to obtain.

$\text{Throughput} = \text{Inventory} / \text{Flow Time}$

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Value-Added - Those steps that transform raw materials or activities directly into the features for which the customer assigns value. It is defined as:

- The activity changes the product or service towards something that the customer wants
- It is done right first time
- The customer would be willing to pay for it

Voice of the Customer (VoC)

VoC is a principle of ensuring that the 'real' customer requirements have been solicited and are well understood. The voice of the customer informs and determines the specifications and qualities of the product or service. The VoC is obtained by conducting individual interviews, focus groups, surveys, etc.

WIP (Work In Progress or Process)

WIP is any work that has not been completed but that has already incurred a capital cost to the organization.

Sources:

<http://www.fastenal.com/web/en/218/lean-solutions-glossary>

<http://lean.ou.edu/glossary.html>

<http://www.sapartners.com/lean-glossary/>