VSM
VALUE STREAM MANAGEMENT

DEFINITION

- Value stream: all activities (both value add and non-value add), required to deliver product to the customer.

- Value stream management: a management method focused on increasing the flow of business value to the customer from order inception to on-time product delivery.

VSM is a key practice of a Lean enterprise. The purpose of VSM is to optimize end-to-end processes and systems to maximize the flow of customer value. VSM enables communication, collaboration, and aligns organizational goals with customer needs. This is accomplished through: value stream mapping/storyboarding, gathering, and interpreting up and downstream information/data, and focused improvements.

KEY TENETS OF VSM

Inherent to streamlining processes is the focus on Value-Adding (VA) activities, reduction of Non-Value-Adding activities (NVA), and the elimination of waste. Simple concepts, but worth a quick review:

Waste*
Anything that adds cost or time without adding value.

Value-Added (VA) Activity*
Any operation or activity that transforms material into a product or service the customer is willing to pay for.

Non-Value-Added (NVA) Activity*
Any operation or activity that adds cost, time, and resources the customer is not willing to pay for.

*Click on links provided for words featured in previous Words of the Month (WoM)
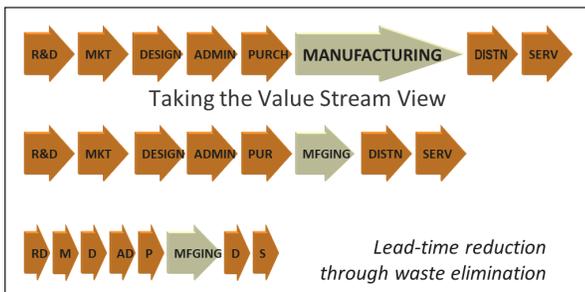
VALUE STREAM MAPPING (or Storyboarding)

Value Stream Mapping is the tool that makes VSM visual. The purpose of mapping is to create a manual or electronic flowchart that uses icons to document each step in a process (including the material and information flows) for a particular product or product family, from supplier to customer. The resulting map will reflect what is and what is not working, allowing for waste to be identified and eliminated, and process cycle times to be improved.

Your value stream map should be end to end, including transactional activities (ordering, planning, scheduling, and communication processes), and up and downstream operational processes.

SIPOC

SIPOC (Supplier – Input – Process – Output – Customer), is a mapping diagram used early in the design phase of Value Stream Mapping to provide a snapshot of project scope and process flow. SIPOC summarizes the flow of materials put into a process by the supplier, converted to outputs, and the resulting product/service delivered to the customer, vs. Value Stream Mapping which is more focused on the individual, detailed steps of a process.

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Taking the Value Stream View

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Lead-time reduction through waste elimination

8-STEP VSM ACTION PLAN

In its condensed form, VSM is often referred to as a 4-step process (reference Steps 2, 4, 6, 7); however, our 8-step plan breaks out additional activities (especially Steps 1-3), that must be in place before getting started:

1. **Gain management commitment**
    Management needs to commit time and resources (both their own and others i.e., appointing dedicated value stream champions), and ensure the process is linked to the strategic plan.

2. **Determine/identify customer product/process families**
    Identify families using the 80/20 rule and Product Quantity Analysis where products are sequenced by volume and grouped by similar processes. Production resources are then allocated given current demand.

3. **Create a knowledgeable, cross-functional Lean project team**
    It is important to ensure all team members have a good understanding of Lean techniques and measurements that will be used throughout the VSM process. Consider member's understanding of process **flow***, **takt***, **Kanban***, **standard work***, load leveling, dock-to-dock, first time through, on-time delivery, and build-to-schedule, then provide training as needed.

4. **Draw the current state map**
    Draw the existing material and information flow for each product family (based on volume), reflecting what the actual process looks like from start to finish, including uncovered waste. Reminder: do not rely on historical reports; *go to* **Gemba*** to collect accurate, real-time data.

5. **Metrics and current state analysis**
    Various metrics (quantifiable measurements of tactical activities), are used in VSM to: reflect customer expectations in quality, cost, and delivery; draw out NVA waste/variation; provide basis for current state systems and process analysis; and visually link results with specific improvement initiatives.

6. **Determine and draw the desired future state map**
    A future state map is about creating a vision: what should the ideal process look like? Keep in mind the following questions: Are you operating to the pace of customer demand? Where can you apply continuous flow? How can you control upstream production? How can you simplify the processes and the system? Can you combine, eliminate, or automate activities or processes? Consider how you can apply Lean techniques such as takt, cell design, standard work, Kanban, line balancing, etc. as you design your future state map.

7. **Create a kaizen proposal**
    (future-state action/implementation plan)
    Your proposed plan and milestones are presented, and the process of Catchball is used to facilitate a top-down/bottom-up, back-and-forth exchange of ideas between workers and managers.

8. **Implement – with an action/implementation plan**
    While this is the final step, it is not where things end; the objective is to continually improve. Focus on SOP's, identify opportunities, take action, and repeat the 8-step cycle, always making sure to connect key improvement opportunities identified via value stream mapping to the organization's strategy deployment process.

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VSM *(VALUE STREAM MANAGEMENT)*

RESULTS / BENEFITS OF VSM

VSM is a systemic practice to improve end-to-end processes, allowing your organization to:

- see the flow of customer value and achieve 100% on time delivery as planned
- link material and information flows
- summarize actual lead and process times to better understand improvement opportunities
- eliminate silos (transition from silo culture to a value stream culture)
- expose non-value-added activities, such as scheduling and production control wastes (i.e., overproduction, unevenness)
- create a leveraged approach for system optimization and standardize repetitive activities
- develop cross-training/multi-skilling, and a common language to improve communication, cooperation, and learning
- establish a time-management and work-balancing system to make work easier and safer
- shorten feedback loops, create reliable outcomes, and improve customer responsiveness

VSM PITFALLS AND MISCONCEPTIONS

Immediately address common pitfalls that occur when mapping both material and information flow, including:

- Creating maps that are not observation-based
- Prioritizing "fancy" electronically-generated maps over hand-drawn versions; the focus should remain on the information, not the maps themselves
- Focusing only on value-add processes / not recognizing wastes
- Skipping drawing the "future state"— indicates lack of intention for VSM to be a long-term, transformative process
- Not bringing suppliers into VSM processes
- Automating non-value-added information processes

VSM BEYOND MANUFACTURING / TAKING IT BACK HOME

The benefits of VSM and mapping flow are universal and can be applied to all industries. Any step-by-step process with a clearly-defined beginning and end becomes a value stream management opportunity.

For a more in-depth look at Value Stream Management, **click here** to listen to the 2020 webinar "*Now is a Good Time to Go Back to the Basics of Value Stream Management*," delivered by Productivity Inc. consultant James Vatalaro.

Consider how you can apply VS mapping techniques to improve process flow and efficiency in your own environment — morning/evening routines, housecleaning, vacation planning, home improvement projects, etc. — any repetitive, multi-step process where waste and NVA activities are inherent.

VSM – NOT TO BE CONFUSED WITH

DMV. Been to the Department of Motor Vehicles recently? Nope, no waste in those processes! Pick number 1,064, and they're calling number 11, which could be anywhere from a 50-minute stint to 6 hours of insufferable waiting. A VSM team would have a field day current-state-mapping to uncover bottlenecks, inefficiencies, and NVA. Any volunteers? Pack a lunch Tim Wood, it's gonna be a long day.

INSPIRATIONAL QUOTES

"All we are doing is looking at the timeline from the moment a customer gives us an order to the point we collect the cash. And we are reducing that timeline in the value stream by removing non-value-added wastes."

  Taiichi Ohno

"The most dangerous kind of waste is the waste we do not recognize."

  Shigeo Shingo

7 Deadly Wastes in Lean — Defects, Inventory, Motion, Transport, Waiting, Overproduction, Overprocessing. TIM WOOD