

Value Stream Mapping

Overview & Current State



Value-Stream Mapping - What Is It

- A value-stream map is a visual tool that maps the process the material and information flows
- It helps us to effectively implement Continuous Improvement by:
 - Giving a "big-picture" view of the current-state value stream and it's sources of waste
 - VSM is extremely straight forward
 - Opportunities for flow improvement are obvious
 - Provides a blueprint for the future state





Value Stream Mapping - What is It

- A Value Stream Is the set of Activities Required To Deliver A product or service (Or Product Family) To The Customer
 - Physical
 - Information
 - Material
- In Many Cases, The Total Value Stream Map Encompasses Multiple Companies And Plants & Process' s
- A "Big-Picture" Scope Is Needed To Avoid Selective Implementation Resulting In Isolated Efforts Within a Sub-Optimal Process





Value Stream Mapping - Why Use It

The Fundamental Insight

- Focus on each product and its value stream rather than the organization
- Allows Leader to translate Business Strategy into Site deliverables
- Basis for the Implementation Plan & Budgeting
- Ties together Continuous Improvement techniques
 - Lean
 - Six Sigma
 - Validation
 - Executive Steering Committee





BD Leaders Understanding About VSM

- Knowledge and understanding of VSM map concepts and use is a *must*
- Business Strategy linked to VSM and then to Continuous Improvement initiatives
- Understand how improvements shift inputs and outputs along the VS
- VSM to be used in making decisions on resource deployment
- VSM to be used in Budget decisions





Value Stream Mapping - A Tool

A Process Improvement Tool Identifying "As-Is" Process and Improving by Creating "To-Be" Processes



The only way to improve is by eliminating waste!





VSM - Highlights Areas of Waste

Elements of production that add time, effort, cost, but <u>no</u> value



Things to Remember about Waste:

· Waste is really a symptom rather than a root cause of the problem

Waste points to problems within the system (At both process & value stream levels)





Learn to Recognize the Types of Waste

From Taiichi Ohno, Architect of the Toyota Production System



Lead time reduction is achieved by identifying and eliminating waste

Overproduction / Making To Much Ties up capital, diverts production from customer requirements, loss of inventories **Transporting / Moving Things** Unnecessarily increases production time, extra WIP **Unnecessary Stock / Inventory** Ties up capital, risk of changes Waiting Decreases productivity, wastes personnel resources **Unnecessary Motion** Increases production time, unnecessary operator motion Processing Poorly designed / incapable processes Defects Scrap, rework, returns





Search for the Perfect Process

Every Step in Each Process is:

- Capable right every time (6 Sigma)
- Available always able to run (TPM, Process's)
- Adequate with capacity to avoid bottlenecks (right-sized tools & lean manufacturing system design)





Objective for Every Value Stream

Correct specification of value

Elimination of <u>wasteful</u> steps

"<u>Flow</u> where you can"

"Pull where you can' t"

Management toward perfection





Drive Higher Performance



What To Do?

It's the Lead Time!

- Get each process to produce only what the next process needs when it needs it.
- Orchestrate (control, manage, regulate) operations to get ever closer to this ideal, ever shortening the lead time.

"All we're trying to do is shorten the time line..." Taiichi Ohno



ORDER



Value Stream Mapping Goals

- Drive out the wastes in every process
- Reduce manual handling, time, and costs
- Improve Customer-Service Levels externally and internally
- Speed up processes by removing the non-value added, not by hurrying
- Improve Productivity
- Improve the overall Work Environment

The scope tends to be far broader on Business Process VSM's





Example: Current-State Value Stream







Example: Future-State Value Stream







Where Can You Engage?

Begin by Mapping a Single Process Within Your Business

- Target Processes That Will Big Yield Potential / Opportunities
- Obtain Necessary Commitment Of Resources
- Start At The End Of The Process And Move Upstream
- Define Metrics To Measure Progress
- Refine The Future State Value Stream Map As Necessary
- Expand the Mapping to Include Suppliers and Customers





What Can Be Achieved?

- > 75% of wasted steps are now eliminated
- Quality is higher and consistent from start to finish
- Transport links and information needs shrink dramatically
- A giant leap requiring strong principles of collaboration but potentially a "game changer" for every participant in the extended value stream!





Who Can Make It Happen?

- The desire to change can come from anywhere along the value stream
- The initial need is a collective decision by senior management
- The next need is for multi-function value stream teams to identify and remove obvious waste
- The continuing need is for longer-term collective value stream analysis moving toward ideal states



