

WE DELIVER CHANGE!

# THE SAMI TIMES

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## THE PRESIDENT'S CORNER



### Introducing Organizational Excellence!

By Brad Peterson

For as useful as the SAMI Triangles have proven to be, SAMI has found itself in projects whose success was limited in comparison with potential. Well, of course, few projects live up to their FULL potential.

That's not a good enough answer for us, though. We learn from every client and every project, and continuing to learn how to get closer to the mark is something we make a habit of. We have found, not surprisingly, that no matter how robust the system we implement, our clients must have good skills in managing their business. They need to exhibit trust, confidence in each other, and competence at what they do.

We recognize, of course, that organizational development consultants have been doing this for years. But just like other operations consulting firms that are stuck on an acronym (RCM, 6σ, TPM), organizational development consultants tend to have a one-size-fits-all approach. Perhaps its "7 Habits", or "Listening", or Myers-Briggs, or some other diagnostic that gets at some specific dimension of behavior, we've used the same approach as our other triangles, understanding the order of development. What needs to happen first to get sustainable results?

So we've developed the Organizational Excellence Model (Figure 1)! These behaviors are basic to running a business. Functional improvements are very difficult if these behaviors are not cultivated; so we are placing Organizational Excellence under our pyramid! It's the base...and of course the base of a 4-sided pyramid is a square. So we won't call it a triangle, though it started that way...we'll call it our Organizational Excellence Model. You will notice two different colors of blue. Darker Blue boxes represent Managing System Elements. Lighter blue are about Behaviors, and are associated more with attributes than a business process.

Managing System, very simply, is the process by which company goals are decomposed, cascaded down to each level and each person in the organization. The result is statements of roles and responsibilities, usually directed towards objectives of the role, rather than a statement of tasks. It is appropriate that tasks change in the working environment over time, as technology, process, methods or business changes. For instance, the objective of a craftsman is to keep equipment in working condition on a continuous basis. In a reactive

system, his task is emergency repair; in a proactive system the task is to identify a failure ahead of time and to alleviate the risk at the lowest cost to the operation. The objective is the same.

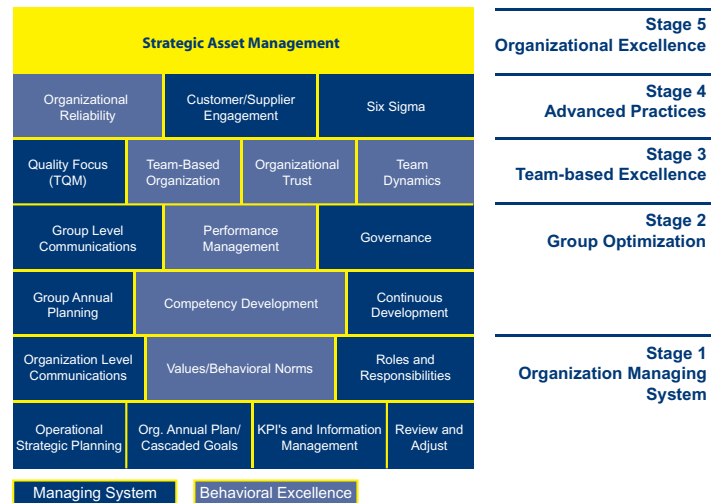


Figure 1: SAMI Organizational Excellence Model

Each role, with its attendant responsibilities, will have a measure of success, a Performance Indicator (may be deemed Key or not) over which the person has control. An operator may not have control over the materials in pipeline, but he can operate his unit to maximize throughput, and to minimize disruption. So the key to the Managing System, is:

- People know what their responsibilities are
- They have measures of their success
- They have control over the measures
- They are taught and coached how to improve the measures they control
- Each level of supervision has an overview of the Performance Indicators of his staff, and creates a summary report for his supervisor of variances and actions to close gaps.

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We are a consulting group for industrial organizations working to improve profitability, efficiency and equipment reliability. Our Mission is to improve our clients' production equipment health, by tapping the desire, creativity and dedication of all plant staff, and our vision is to be the firm consistently chosen by companies serious about making change; because our values of integrity, content knowledge, advanced practices and compassion for the workforce match the values of our clients.

# ASSESSING AND CREATING ASSET INTEGRITY PART II

DESIGN, CONSTRUCTION AND START-UP BY STANTON MCGROARTY, CMRPCMFGE



*Definition: Asset Integrity is the science of creating, measuring and maintaining the set of equipment properties that keep fluids (gasses and liquids) on the correct sides of all their boundaries throughout a processing and storage system. (There are broader definitions, but most of our clients agree on the principle of fluid constraint as the working definition of Asset Integrity.)*

In Part I of this article I covered the three elements that are required for Asset Integrity in a manufacturing setting and are covered in an Asset Integrity Assessment by first identifying the current state of equipment and then determining the status of Asset Healthcare that keep equipment safe and functional. In Part II I will continue with the discussion on the Assessment of Asset Integrity and will cover the design and start-up of an Asset Integrity System.

5. SAMI consultants also measure the maintenance and reliability organizations' ability to generate appropriate, cost-effective strategies for ensuring Asset Integrity. The building blocks for this capability are the elements of Stage 2 Asset Healthcare. This set of resources, coordinated through an effective management system, gives the delivery group the information they need about what services to deliver. A sampling of asset strategies and the criticality drivers behind them provides the core of this investigation.

6. Once the data gathering above is complete, SAMI consultants load sample strategies and risk patterns into an appropriate reliability modeling software package to ascertain the level of risk that remains after execution of the Asset Healthcare strategies that are actually being performed by the organization.

7. After the SAMI/Client team has completed the data gathering and manipulation tasks outlined above, they have compiled a picture of the quality of Asset Integrity protection provided by the current Asset Healthcare effort. This picture will describe the strengths of the current system as well as the areas of safety, environmental, and economic exposure that remain after the current program has been performed.

If important improvement opportunities exist, SAMI normally provides an outline of the necessary project work to solve the areas of exposure and establish the most safe and cost-effective Asset Integrity program for the facility. This plan will be data driven and behavior based to ensure the kind of sustainable change that will provide lasting protection to the facility.

## Typical Asset Integrity Assessment Outputs

- Cost of Unreliability (CoUR) by area
- Top Exposure Areas for Safety, Environmental Impact, and Economic Loss, with estimates of exposure level
- Metric and Behavioral indices to benchmark current operations
- Lists of improvement opportunities in the Asset Healthcare organizations
- Indicators of cost-effectiveness and financial opportunities in the current Asset Healthcare operation
- Suggested path forward to appropriate Asset Integrity levels and maintenance cost management

**Establishing Asset Integrity.** True, sustainable Asset Integrity comes from a learning organization that constantly incorporates the knowledge that it gains from Asset Healthcare operations into improved asset strategies. Such an organization learns from the constant flow of information provided by reliability and maintenance work and uses that information to improve. Thus, as the inevitable tightening of regulatory controls occurs, the learning organization can lead the way into the new regulatory environment, rather than constantly having to respond to new Asset Integrity shortfalls.

The new Asset Integrity system will be designed by a team of SAMI and Client people to engineer the gaps out of current planning and equip the maintenance organization to install the improvements effectively. Guided and supported by Asset Integrity Management software, a larger team will then install the changes, making both the technical improvements and the team-based design approach integral parts of the Asset Healthcare effort. Asset Integrity, as well as sound Asset Healthcare practices are natural outcomes of this approach.



Asset Integrity and statutory risk management are often regarded as necessary evils by facility owners. However, it is usually true that the level of Asset Healthcare that provides sound Asset Integrity also provides economic benefits that may actually pay the cost of the Asset integrity program. In the process of reducing exposure to safety and ecological mishaps, the Asset Healthcare team can produce reductions in maintenance costs and production losses that deliver exciting benefits to all stakeholders in the organization.

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# APPLYING LEAN PRINCIPLES AT PROCESS INDUSTRIES

## PART I

BY HERB LICHTENBERG



"Lean" has assailed our vocabulary the same way that it has attacked waste within a plant or process. From "lean thinking" to "lean enterprise" and "lean manufacturing," the word has created many catchphrases. But what does it mean to be "lean"? It entails shedding waste in order to reduce costs and increase competitiveness.

The two most popular process improvement methodologies in use today, Lean Manufacturing and Six Sigma, originated at Toyota and Motorola, respectively. These pioneering companies are discrete manufacturers. Not surprisingly, the subsequent evolution and development of these two methodologies has focused mostly on improvements in discrete manufacturing. Each methodology has a central focus that has been the basis for its structure and tools. For Lean, it's the delivery of value to the customer through the elimination of waste - anything that is non-value added from the customer's perspective. For Six Sigma, the central focus is the elimination of defects - products or services that do not conform to the customer's specifications.

How do these concepts apply to process manufacturing considering its differences with discrete manufacturing?

Process manufacturing is fundamentally different from discrete manufacturing in the way material flows. Material flows in a continuous stream in process manufacturing, while parts move in discrete batches in discrete. Since there has been so much work done in developing these methodologies in discrete manufacturing and very little in process, it might seem logical to apply them "as is" to process-manufacturing industries. However, this approach is like trying to fit square pegs into round holes. The better approach is to adapt these techniques within a process improvement framework that identifies the various forms of waste in the process-manufacturing value stream, and manages the wastes with the appropriate concepts and tools.

Lean manufacturing defines seven types of waste that make a production system inefficient and costly. These are:

- Over-production: Producing too much, too soon.
- Inventory: Extra production required to buffer process variability.
- Transportation: Movement of materials without adding value.
- Waiting: Increasing production cycle time without adding value.
- Movement: Movement of operators without adding value.
- Defects: Product that does not conform to customer specifications.
- Over-processing: Processing a material more than is necessary to meet customer specifications.

The first three types of wastes above relate to a lack of material flow. By the very nature of process manufacturing, material flows in a continuous stream from one process to the next, without periods of stopping and waiting in between (the possible exceptions being

some batch processing in the chemical and steel industries). Therefore, the Lean ideal of flow occurs by default. As a result, over-production, inventory, and transport are either non-issues or only minor issues in process manufacturing. Movement waste is also less relevant to process manufacturing because operators typically monitor automated equipment. Their movement usually does not have an adverse impact on the ability of the equipment to continue processing the material.



However the three types of waste; waiting, defects and over-processing do exist in process manufacturing and are fertile ground for the application of Lean and Six Sigma methodologies. For instance, product changeovers, which in process manufacturing can sometimes take 18 hours or more, are an example of waiting waste. Defects are the result of production of material that does not meet the specifications of the downstream internal/external customer. Over-processing occurs when the material is processed to a greater extent than is required by the downstream customer. All of these add to costs and can be reduced / eliminated through the use of these methodologies.

In the perfect value stream, products are produced reliably, efficiently, with good quality, and in sufficient quantity at the individual process level and throughout the entire value stream. A suboptimal condition with respect to any of these characteristics constitutes a type of waste. Since no production value stream is perfect, all real-world process-manufacturing value streams will contain one or more of these wastes. These are targets of opportunity for any process-improvement effort.

In Part II of this article we will discuss how to identify the root causes of waste and the appropriate methodology/tool to be applied to address it.

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The Managing System is a closed loop. Sometime we call it "Plan, Do, Review, Act", or similar names.

You would be surprised, perhaps, at how few organizations have a charter of roles and responsibilities for their staff. People literally, up and down the organization, don't know what is expected of them. Frequently, when they started their careers, they were given On The Job Training in the tasks they should perform. When anyone suggests these are the wrong tasks, they will get understandably defensive (i.e. unwilling to change). 20 years ago they were taught job tasks by the "expert" in the job, someone whom they respected a lot. They have no basis to understand that tasks change, but objectives tend to be stable.

Behavioral Excellence is about character, reliability, and trust. Most organizations have a culture where the values they espouse, and the values they practice diverge. That's pretty normal, because organizations are made up of people. We ALL work to make ourselves as attractive to others as we can...it's a part of survival instinct. We have been taught a full range of behaviors, however, from absolute integrity in what we say and how we act, to deceiving ourselves and others as a matter of course. The Speed of Trust, by Steven R. Covey, gives an excellent rationale for what he calls the "Trust Tax" or the "Trust Dividend".

Thus in Behavioral Excellence, we look at company

values and norms, and see how they contribute or detract from performance. We then look at individual performance, from a developmental perspective, and how we can make each person more effective in his environment, not only from a systems perspective, but from a personal development perspective, and life-long learning.

In upcoming issues of the SAMI Times, we will explore the Organizational Excellence Model in greater detail.

#### INTRODUCING SAMI KNOWLEDGE OPERATIONS



SAMI has the knowledge and expertise required to provide quality training that will empower behavioral change within all levels of your organization. Learn more about SAMI Knowledge Operations and our upcoming training programs at [www.samiknowledgeoperations.com](http://www.samiknowledgeoperations.com)

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