

WE DELIVER CHANGE!

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THE PRESIDENT'S CORNER



Introducing Organizational Excellence! Organizational Managing System Stage 1 The Operational Strategic Plan

SAMI's approach to operations improvement is quite unique in my experience. We often find that operations improvement efforts are ad-hoc where someone has a good idea (usually a senior manager), tells (rather than sells) it down the organization, and creates some resources to deliver the results. At any point in time, we find more than a dozen of these good ideas launched in plants around the world. They are often designed to fail from the start, not by intention of course, but through a misunderstanding of human nature. When people are engaged to develop and implement a solution they have ownership of the result. When people are ordered to work differently, they usually consider the change optional.

We find that dealing with multiple initiatives is considered to be a distraction by everyone in the organization, except the project owner. They have little focus and little integration and they call upon the same resources to develop and implement plans, such that there is little time to attend to any of them. The result is confusion, exhaustion, and learning how to make the numbers look favorable.

This is a very typical look at manufacturing organizations around the world. The game is on to figure how to make the numbers look "green", and thus get annual bonuses. Do you recognize this in your plant? Is there a solution?



Organizational Excellence

Advanced Practices

Team-based Excellence

Group Optimization

Organization Managing System

Figure 1: SAMI Organizational Excellence Model

What if:

1. There was an improvement play-book and everyone in the organization was following it?
2. The playbook was simple, understandable, and made sense to everyone in the organization
3. Everyone knew their role in each play and knew they had control over the outcomes for their piece?
4. Measures were clear, as are things we know will make a difference in the business
5. The size of the prize is high, big enough to motivate everyone for change?

As we see it in SAMI, only when these conditions are available can you expect to see the results of efforts and investments in change.

Our vehicle is the OSP, the Operational Strategic Plan. The purpose of the plan is to create a logical, integrated, high value plan for operations excellence that will give guidance for many years in the future.

	2008 COURSE CALENDAR	
	Planning and Scheduling for Maintenance 3 Day Course	
InterContinental Regency Bahrain, Manama, Bahrain		
Aug. 9-11	Oct. 18-20	Dec. 13-15
Planning and Managing the Maintenance Shutdown 3 Day Course		
InterContinental Regency Bahrain, Manama, Bahrain		
Aug. 12-14	Oct. 21-23	Dec. 16-18
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Organizational Managing System Stage 1 1 How to Measure Success 2 Applying Lean Principles at Process Industries Part II . 3
<p>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.</p>

HOW TO MEASURE SUCCESS

BY DAVE ARMY, CMRP



When working with clients, we are often asked the question, “How will we know when we’re done?” The fact is, ultimate benefit measures reflect the end results of what people are doing at the front end of the process. For example, there really is no such thing as productivity without acknowledging

that people are doing the work. Productivity is the amount of output per unit of input (labor, equipment, and capital). There are many different ways of measuring productivity. For example, in a factory productivity might be measured based on the number of hours it takes to produce a good, while in the service sector productivity might be measured based on the revenue generated by an employee divided by his/her salary. Understanding the work process, committing to it, and continually looking for ways and techniques to maximize output are all behaviors.

Most of us don’t tend to think of metrics this way. In fact, the way we label results takes the people out of the equation. Well, with one major exception, reprimands upon failure to meet targets. For us to truly manage a process we have to place people and their behavior back into the equation. We must conceptualize a managing system that includes people’s behavior.

If indicators were taken and used in the spirit for which they were created, that would be one thing. However, human beings have a natural aversion to being measured and held accountable for performance. No matter how well intentioned the indicators that we’ve set up are, the people on the floor level will find a way to circumvent them. In fact, we have found clients that we’ve worked with to be quite ingenious when it comes to finding ways to “beat the system.” So while these indicators track the apparent success of the process, they don’t tell the whole story. The key to achieving results and sustaining the process is to combine process indicators with behavioral indicators.

We have found it extremely beneficial to focus on behaviors as part of any initiative, no matter the business or industry. In the past we would talk about “Best Practices” while we now talk specifically about “Best Behaviors.” With any initiative, we often spend a great deal of time identifying the indicators that will give us reassurance that the process is working. If we’re really on the ball, we’ll not only develop results indicators, but also process indicators. Tied into other systems these provide quantitative evidence of success or lack thereof. What happens when the pressure is reduced i.e., consultants or external help goes away? Often organizations revert to the old and comfortable ways, or we find that the quantitative evidence has been creatively dealt with and results aren’t what we think or wish. We call this phenomena “Organizational Hysteresis” or the tendency of an organization to revert back to its former shape. You know, it’s back to business as usual.

We have discovered that it is not enough to just manage the numbers. What is of the most value is that along with developing the process is to develop a list of behaviors we want the organization to exhibit and then develop behavioral metrics that are aligned with the desired behaviors. After process installation, or hard wiring, we program the organization by coaching and facilitating to those desired behaviors and then provide qualitative measures.

Don’t panic, quantitative measures are still useful. Various attempts at measuring organizational performance at different

points of process are well known. There are outcome measures, cost/benefit analysis, and continuous performance parameters, but to measure change in behavior and individual change in performance, and beliefs; qualitative measures have extensive value. Much of traditional measurement has been based on quantitative measures, and there is history of value for those kinds of measures among technical managers and engineers. There is a desire for the “hard numbers” and “show me the numbers” information but unfortunately, there aren’t hard numbers or statistical processes that are effective in tracking behavioral change. There is a dilemma in using “self report” data to evaluate the effectiveness of outcomes in behavioral change. Therefore, it is wise to use qualitative measures to assess to what degree people are doing the required behavior. This means answering or observing, none of the time, some of the time, most of the time, and all of the time reports or assessments. This must also be correlated with actual change in the outcome. Therefore, the qualitative measures must be interpolated with the hard number outcome measures (bottom line numbers, profitability, cost/benefit). Therefore there has to be intelligent analysis and integration of both kinds of measures.

How Do You Establish Best Behaviors?

The human psyche is broken down into three main elements for the sake of Change Management. Changing beliefs, knowledge and vision is the intellectual or cognitive component. Changing what is done, how it is done, and what is gained is the behavior component. How we respond to the success, failure or stress of the endeavor is the emotional aspect and not one to be ignored. All three elements are interdependent.

Assessment of current behaviors and beliefs is important to establish when doing baseline “as is” metrics and indicators. An example of this is the typical belief that “we are heroes if we drop everything or do whatever we can to correct a problem.” In a reactive business environment this is the norm. There is a rush or sense of pride and accomplishment. “See how quickly we responded and got the show back on line.” Or, “We get the job done, no matter what.” These beliefs are often reinforced by an informal reward system, promotions, and pats on the back, etcetera.

In most business process improvements, our desire is to change the reactive belief to one that stresses zero defects and a planned, measured, predictable approach to our work. This leads to more profitability for the company, paying off for the individual by maintaining employment, providing a different level of satisfaction, and removing the chaos from the day. The new belief

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APPLYING LEAN PRINCIPLES AT PROCESS INDUSTRIES

PART II

BY HERB LICHTENBERG



In Part I of this article we discussed the adaptation of the concepts of Lean Manufacturing and Six Sigma to process-manufacturing industries and we discussed seven types of waste defined by Lean manufacturing that make a production system inefficient and costly. 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.

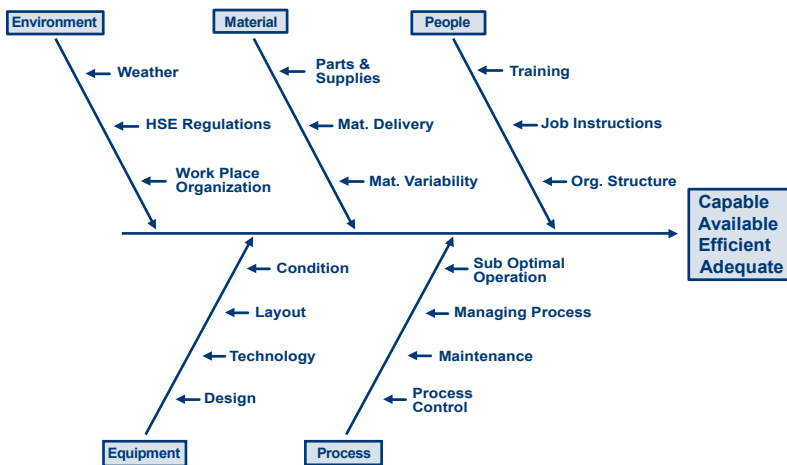


Figure 1

The root causes of these wastes may be identified by means of fish-bone (Ishikawa) diagrams (Figure 1). They can be used as "straw models" to identify the root causes of wastes in your specific value stream and then the appropriate methodology/tool can be applied to address it.

While the causes of process manufacturing waste vary, a few occur regularly:

- Equipment condition
- Suboptimal Operation
- Design & Technology
- Availability due to changeover and set-up time.

Equipment condition refers to machines that are not properly maintained. Equipment in poor mechanical condition has poor availability, produces poor-quality product in inadequate quantities, and operates inefficiently. In short, they operate wastefully! A maintenance kaizen event is the appropriate process-improvement tool to return the machine to an optimum mechanical condition. To sustain the improvement, a long-term maintenance program such as Asset Health Care (AHC) or Total Productive Maintenance (TPM) must be installed.

Suboptimal Operation is a second major cause of waste. Typically process manufacturing involves a combination of physical parameters. These could be a combination of temperature, pressure, density, flow rate, moisture level, and chemical concentration that are set at the machine to process the material.

If these settings are suboptimal, then the process operates sub-optimally in terms of throughput, quality, and efficiency. These types of optimization problems are ideally solved using the Six Sigma methodology and tool set.

Design and technology are two other major causes of waste. In brown-field plants that have been in operation for many years, it's not uncommon to find equipment that is obsolete with regard to both design and technology. Such equipment can operate wastefully in terms of availability, quality, throughput, and efficiency, much like those in poor mechanical condition.

Improving / upgrading equipment design/technology is an engineering problem requiring technical analysis and designed experimentation.

Availability can also be adversely affected by product changeovers and by long setup times after a process has been taken down for maintenance. In this case, quick changeover techniques such as Single Minute Exchange of Die (SMED) may be applied to reduce setup times and improve availability.

There is, however, a word of caution before applying these methodologies and tools. In many companies, becoming Lean seems to be primarily concerned with implementing tools such as "one piece flow", "value stream mapping", "standardized work", or "kaizen events", but the expected results have not always followed.

By contrast, Toyota has stayed focused on its principles and not the tools. At most Toyota plants, there are no dedicated change agents or black belts.

Value stream maps are rare and only used in problem areas. There are no value stream managers and only small portions of the plants contain actual standardized work charts and many of the daily tracking systems are highly computerized. For the last 50 years, "TPS at Toyota has been primarily concerned with making a profit, and satisfying the customer with the highest possible quality at the lowest cost in the shortest lead-time, while developing the talents and skills of its workforce through rigorous improvement routines and problem solving disciplines." This stated aim is mixed in with the twin production principles of Just in Time and Jidoka (build in quality at the process). This emphasis on process improvement to obtain results rather than the implementation of tools is the main reason why Toyota has continued to see success on so many dimensions, where others struggle.

Nonetheless, the use of Lean, Six Sigma and also Theory of Constraint tools in the right context can be very useful in process industries for improving, throughput, costs and customer service. The proper approach is to adapt the tools to the process after due consideration of the situation at hand. In other words, focus on the advice of Mr. Takashi Ohno, the founder of the TPS methodology at Toyota. "Ask what the greatest point of need for improvement is and start from there."

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is one that states, responding to emergencies means that the process has failed, and that if not identified, addressed and corrected could lead to the demise of the company.

Interviewing all levels of the workforce to find their beliefs and how they go about their jobs is important for establishing baselines. This is used to identify how the organization has moved once the process improvement begins. It also starts the sense of buy-in, as you are asking for employees for their information. But you must honor that contribution. This information can also be used to establish scorecard “red light” behaviors.

It is extremely important that prior to commencing any installation or implementation activities that the new desired behaviors are identified. Can you think of some? Well, here are a few I can think of:

- People attend planning meetings and are prepared to make decisions
- A worker knows, with certainty what he or she will be working on or expected to accomplish during the next day or week
- A worker is confident that he or she will be allowed to perform that identified activity

- Leaders practice open and honest communications
- Key Performance Indicators are understood and the indication of a negative trend is an opportunity to learn
- Reactivity is not rewarded
- Feedback is honored and encouraged

And the list goes on.

Determining the desired proactive behaviors and beliefs becomes the basis for the new process. Behavioral observations and self reports of sometimes doing things the “new way” but occasionally reverting to the old behaviors signal the need for intervention (coaching). It is important to praise this transition phase and refrain from focusing on “not good or fast enough” to encourage continuation to desired and expected behaviors and beliefs. Reward and reinforcement create the desired behavioral change. Punishment only causes resentment and resistive behavior. In the next article, I’ll let you know how we can measure this.

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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