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Creating A Reliability Culture in Your Company

Creating a reliability culture in your company as a prerequisite for implementing an effective Strategic Asset Management Plan

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The pressure for companies to be increasingly cost-effective and competitive in Enterprise markets has created a new awareness of the importance of Asset Management as a strategy that can drive significant improvement in financial results. An effective Asset Management strategy typically produces a 20-50 % reduction in Maintenance cost accompanied by a 15-25 % increase in throughput with no

capital investment in production equipment. The net effect on the bottom line is often several million dollars per site annually. The gain in production capability is a competitive advantage that can be leveraged to increase sales, reduce inventory, increase customer satisfaction, reduce cycle times or reduce capital intensity. Pacesetter companies are beginning to put in place enterprise reliability database systems that enable implementation of company-wide reliability strategies for achieving results similar to those just cited.

Modern corporations must continuously compete for capital by increasing shareholder equity. Recently, pacesetter companies in many industries have realized the importance of Asset Management as an enterprise strategy that can improve financial performance. One of the most powerful approaches to increased value is improving manufacturing asset availability and utilization.

Benefits of Asset Management:

1. Accurate analysis of equipment maintenance, repair, and replacement records.
2. Increased availability of production systems and equipment.
3. Fewer failures of production systems and equipment, resulting in fewer unplanned outages.
4. Improved product quality associated with a reduction in costs related to losing or reprocessing product.
5. Lower costs for system and equipment maintenance, spare parts inventory, and capital replacement.
6. Enhanced morale among management and the hourly workforce as they learn to enjoy a proactive environment instead of surviving in chaos.
7. Additional real capacity as operating units are able to operate at higher levels for sustained periods without excessive equipment failure.
8. Higher profits from the compounded effect of reduced conversion costs and increased production levels.

Figure 1: Benefits of Asset Management

An effective Asset Management strategy typically produces a 20% - 50 % reduction in Maintenance cost accompanied by a 15-20 % increase in production with no capital investment in production equipment. The net effect on the bottom line is often several million dollars annually per site. The gain in production capability is a competitive advantage that can be leveraged to increase sales, reduce inventory, increase customer satisfaction, reduce cycle times or reduce capital intensity. SAM strategies are part of the move to corporate quality management and there is no single initiative that works for all companies. There is a common characteristic that all successful SAM Plans share in that the benefits associated with successful implementation extend beyond the traditional maintenance cost savings.

The term “Reliability” is defined as the probability that an asset will function as intended over a specified period of time under a specified set of conditions. “Availability”, on the other hand, is the percent of time an asset will function as intended. “Maintainability,” refers to the effort required to keep or return equipment to the condition needed for it to perform its intended function. Reliability and Maintainability work together to determine Availability which in turn provides opportunity to enhance Asset Utilization (AU).

In a recent study, a major Strategic Consulting Firm identified improving AU as the most powerful technique available to corporations for improving shareholder equity. This paper discusses the cultural change and human resources required to achieve an Asset Management Strategy across the enterprise.

In the past, Reliability Initiatives have been restricted to site level programs that achieve impressive results on the short term at individual manufacturing sites. These benefits often are lost due to management changes, failure to establish a “Reliability Culture”, and lack of corporate level support. The ability to duplicate results across multiple sites is restricted due to cultural differences, lack of consistent business processes, and plain old territorial jealousies. Strategic Asset Management programs that incorporate a change to a “Reliability Culture” are designed to overcome these deficiencies and achieve significant and permanent improvement in corporate financial performance.

This paper addresses the creation of a “Reliability Culture” to support the changes necessary for implementing Strategic Asset Management.

Three profitability enhancement mechanisms exist

- Eliminate waste
 - This mechanism includes all strategies based on cutting

costs, expenses or assets that have been determined to be non-value added in delivering an offering to a customer. Initially this mechanism tends to be low risk and offers high rewards but eventually will lead to a downward spiral if cost reductions don't include culture change.

- Change the rules of the game
 - This mechanism includes all strategies based on changing either the offering, the market's perception of the offering, or how the offering is delivered to the customer. Changing the rules of the game can offer the highest rewards but also the highest risk.
- Improve fixed asset productivity
 - This mechanism includes all strategies directed at ensuring processes consistently operate at peak performance. Typically, the risk-reward relationship for improving reliability falls between the prior two strategies.

Of the three, the one that we can influence the most is to eliminate waste, wasted time, wasted materials, and poor quality product. If we focus on Asset Management, define the work processes properly, and enable our people through training, tools and development the end result will be improved fixed asset productivity.

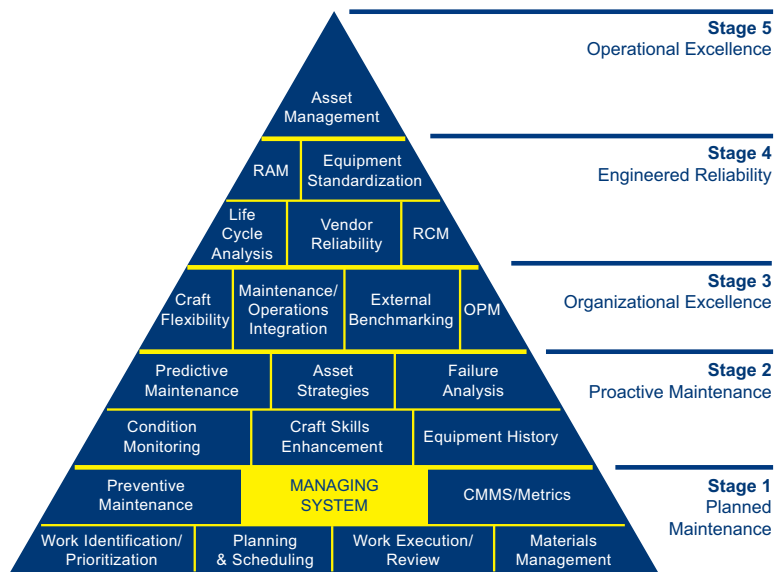


Figure II SAMI Asset Healthcare Triangle

So, What is Asset Management

Asset management is a term more frequently encountered these days. Used in the plant context, it seems to imply a broader view of the plant asset than solely maintenance and reliability. Other concepts spring to mind: suitability to purpose, the business value of the maintenance activities, the competition within the plant for scarce resources, and lifecycle valuation for equipment.

Four Characteristics of a Reliability Culture Always Exist

1. The Organization Is a “Learning Organization”

That is there is an effective “Managing Process” in place that continually assesses results, identifies opportunities for enhancement, and implements these enhancements. Good is never good enough in a Reliability Culture.

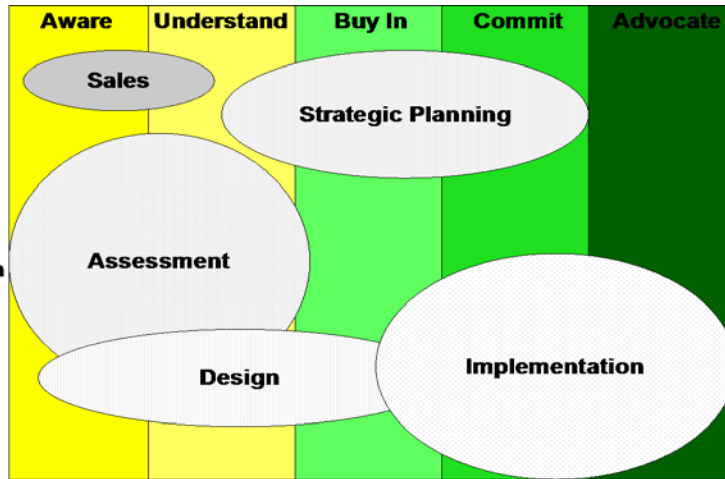


Figure 4: Changing Culture

2. There Is a Single Best Way of Doing Things

Business processes always exist. In the absence of well-engineered processes, people create their own processes. This is why different processes exist within organizations for doing things. In a Reliability Culture, there is only one best way for conducting the work that is based on established best practice. Everyone recognizes the importance of consistency.

3. The Maintenance Focus Is on Proactive Work and Failure Avoidance

The maintenance emphasis is on preventing equipment breakdown by using pro-active processes supported by effective planning and scheduling. Schedule attainment is a site wide value shared by all functions. Schedule break-in is a rare occurrence.

4. The Production Focus Is on Improving Asset Utilization

Production employees assume responsibility for their equipment and conduct minor maintenance activities to keep it in good shape and to monitor its health. Production management understands the value of Asset Utilization and focus efforts on attaining optimum output and consistent performance.

The answers to the following questions will give you a perspective on your current culture.

How Do We Measure Results? The answer should be a reflection on our focus on Asset Utilization.

How Do We Define Success? Success is represented by consistency of operations with very few unplanned outages and pride in our ability to maintain a high level of schedule compliance with very few interruptions.

What Do Management Discuss in Regular Meetings and On the Street? Management talk in terms of Key Performance

Indicator (KPI) levels, trends, and plans for improvement. KPI's are known by management without looking them up in reports.

What Does the CEO Discuss in the Annual Report? The CEO discusses process reliability and plans for improving Asset Utilization in the Annual Report. If It Doesn't Exist; How Do We Create It?

Change Behavior – Change Thinking - Change Culture Production reliability is the product of People Reliability, Process Reliability, and Equipment Reliability. This may represent a serious paradigm

shift for your plant or organization. You must expect and plan for people to resist the change.

Changing culture takes a lot of time..... some experts say at least two years of changed behavior. In Figure 4 we depict the involvement required for various levels in the organization during the four core activities required to develop a Strategic Asset Management Plan, Assessment, Strategic Planning, Design, and Implementation. Involving the various levels in the appropriate activities is the key to initial buy-in. If you want to change the culture, you must begin by changing the behaviors associated with the old culture, then allow the people time to change the way they think and to adopt on institutionalize the new culture. Attempting to go too fast and trying to do too many changes concurrently can result in a disaster. The chart in Figure 5 maps the steps that we go through in establishing change. At SAMI we have tools to monitor and measure the workforce engagement at all levels for each of these steps. Moving up the chart requires a reasonable amount of time, proper incentives, and understanding of the WIIFM.

Production reliability must begin with reliability of the people and the work processes they follow in doing their work, Figure 3. Core work processes must be clearly defined as must the roles that each person will play in the processes. Performance measures and target levels for each must be developed and established to support the change. Great care must be given to insure that the measures adopted provide incentive to move in the desired direction. Too often we establish measures that motivate the workforce to react in an undesirable way.

To establish ownership among the workforce and first line supervision, you must involve all stakeholders in the development of the new work processes, roles and performance indicators. Define the “what’s in it for me” (WIIFM) element for each all level in the organization and clearly communicate this to everyone to achieve alignment.

- For Senior Management it is definitely a financial issue in terms of reduced cost and increased throughput.
- For the Sales Department it is increased reliability of delivery and more product to sell with fewer quality issues.
- For Middle Management it is improved financial performance and fewer headaches in managing the manufacturing process.
- For Supervision it is a more proactive environment in which to plan and execute their daily activities.
- For the Workforce it is the satisfaction of a job well done in a calm environment that enables them to do their work with less interruption and firefighting.

Within your organization you can probably identify several more benefits at each level if you give it some thought. In several facilities Craft Reliability Awareness (CRA) programs have been useful in motivating the hourly workforce to behave and begin to think differently. In these programs a crafts person is given the opportunity to document each time he acts to improve the reliability of equipment instead of simply repairing it. Awards (Wal-Mart gift certificates) are given for each incident that is reviewed and approved by the CRA committee and the crafts person receives recognition on

the facility bulletin board and in the facility newsletter. This type of Change Program is usually accompanied by some Reliability Training for the workforce to teach them basic reliability issues and identify opportunities that they should consider.

In summary, be sure to include the following steps in your Change Management program:

1. Clearly assess the current status and build a business case that provides management with a compelling argument.
2. Engage all stakeholders in the strategic planning and design of the new system.
3. Clearly identify the work process and roles to be followed for each of the core activities in your system.
4. Enable the workforce to follow the new processes through training, coaching, rewards, measures, and accountability.
5. Define the WIIFM for each level of the organization and provide appropriate performance indicators to encourage and establish accountability.
6. Communicate success at every opportunity and involve all stakeholders.....you can never over communicate!

A Reliability Culture requires significant effort to establish and is virtually difficult to sustain.

We'll all manage our assets this way someday!

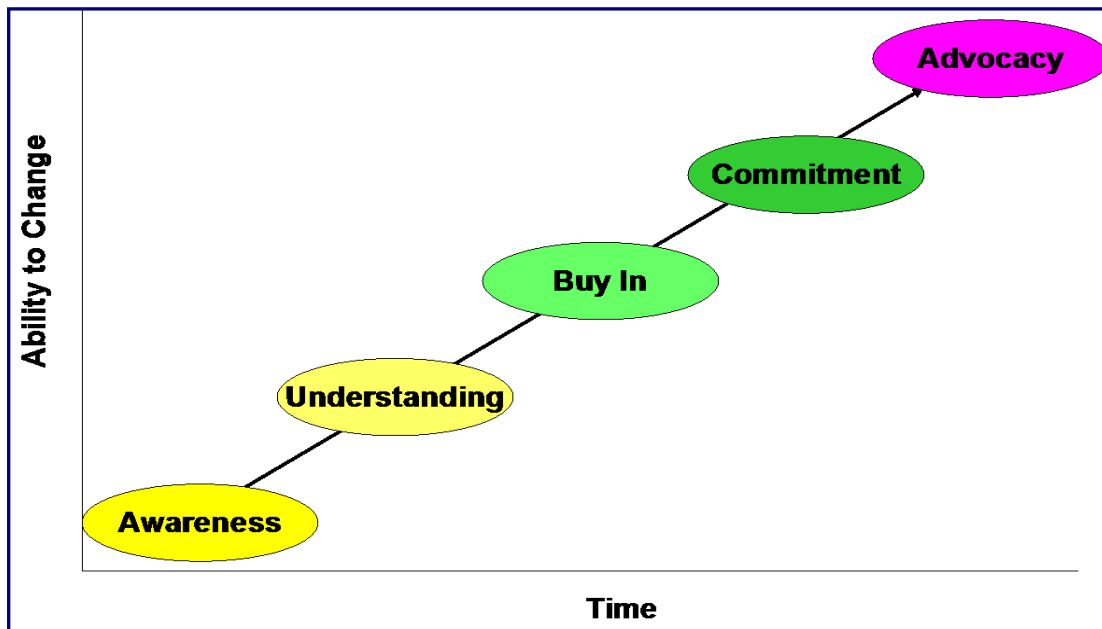


Figure 5: Steps to Establishing Change