Strategies for Overcoming Asset Management Implementation Barriers

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Contents

02 Introduction
  Overview of the Elements of Asset Management
06 Asset Management Program Implementation Barriers
08 Organizational Readiness and Sustainability
010 Creating Alliances Across Organizational Boundaries
Introduction

Implementing an effective Enterprise Asset Management (EAM) program is sure to benefit any company with assets, although putting such a program in place can potentially come along with its own set of unique challenges. When trying to promote a change within an organization, it is important to recognize that not everyone involved may be initially as enthusiastic about the change as you know they should be. In the coming pages, we will discuss:

• The elements of Asset Management Best Practices; how we at Genesis Solutions define and measure against the various elements of asset management to allow a common basis for understanding.
• Some common barriers to effective implementation of EAM Best Practices.
• The importance of an organization’s ability to embrace and sustain the changes driven by Asset Management Best Practice processes.
• And lastly, how to create momentum within your organization and strategies to create alliances with other departments to help ensure the long term success of the program.

Overview of the Elements of Asset Management Best Practices

What is Enterprise Asset Management (EAM), anyway?

Here are two similar definitions that came up on the internet as the result of a quick Google search:

• The optimal lifecycle management of the physical assets of an organization; including design, construction, commissioning, operations, maintenance and decommissioning/ replacement of plant, equipment and facilities. *(Wikipedia)*
  
  “Lifecycle management of physical assets” requires that a business process be in place that can effectively define, measure, analyze, improve, and control physical assets throughout their lifecycle — a reasonable expectation of an effective maintenance program strategy.

• The management of the assets of an enterprise across departments, facilities, business units and geographical locations. EAM integrates techniques for holistic control and optimization throughout asset life cycles, including design, commissioning, operations and replacement. *(Techopedia)*
  
  “Across departments,” however, implies a much more comprehensive concept than effective maintenance; and suggests the need for a more comprehensive strategy for implementation and success.
The chart below depicts how GenesisSolutions defines the **Elements of Enterprise Asset Management (EAM):**

- **CMMS Functionality & Utilization:** This is the software tool required to document your processes and performance. Is it capable, is it used, is the data accurate, is the data complete?

- **MRO Inventory Management:** The procurement supply chain for parts, includes not only how inventory is managed and controlled, but also how parts are sourced and tracked; whether inventoried or on demand only.

- **Metrics & Performance Improvement:** To provide monitoring and control; of your process, your people, and your assets. The primary tool for driving continuous improvement.
• **Maintenance & Reliability Strategy:** Focused on your equipment (new, in service, out of service, retired). How failure occurs, mitigating consequences of failure, or preventing / predicting failure before it occurs. Genesis uses a multi-step process we call Reliability Based Maintenance (RBM).

• **Organizational Readiness:** Addresses leadership, sponsorship, roles and responsibilities within the maintenance and engineering organizations, as well as impacts and requirements of other parts of the wider organization.

• **Planning & Scheduling:** A staple, and perhaps the most critical process for managing the maintenance function. Required “Mission Control” for all aspects of effective maintenance execution and performance monitoring.

• **Work Management:** How does work enter the process? How is it authorized, prioritized, planned, executed, and completed? How is it accepted by the customer, and how are feedback loops provided in the system to drive improvement opportunity?

These Elements are highly interactive and interdependent; and as such there are potentially many other ways to categorize the totality of EAM, but we believe this Genesis model depicts a comprehensive asset management program.

We have additional Elements for industries with special requirements such as:

- Asset Acquisition and Disposal.
- Instrument Calibration.
- ISO 55001.
- Regulatory Compliance.
  - PSM -Mechanical Integrity.
  - FDA.
Genesis has developed a tool to measure these elements called the **Enterprise Asset Management Maturity Continuum**:

As a part of the Lean DMAIC process we have created the EAM Maturity Continuum that defines various levels of excellence toward EAM Best Practice. During an initial assessment process, we classify each site within the organization on this continuum to understand the opportunities for improvement.

Note that for each of the elements, there are characteristics listed that typically indicate the level of maturity EAM competence. It is not unusual that an organization will identify with several of these characteristics; and that they may indeed be scattered across the full maturity spectrum.
from Reactive to Enterprise. The objective, of course is to move each element to the right as you proceed along the maturity continuum in a continually improving EAM organization.

There are a few key points to note when undergoing an EAM implementation.

- **Clearly Defining the Scope of Asset Management**
  - Whole life management of the physical assets of an organization to maximize value.
  - Includes all steps from design to decommissioning of plant, equipment and facilities.

- **Not simply just another “Maintenance Program”**
  - Encompasses management of assets across all departments and business units.
  - Improves utilization, performance, and profitability of the entire business.

- **Asset Management has a Positive Impact on the entire Business**
  - Every department should benefit from an effective asset management program.
  - Defining “What’s in it for me” for every department and business unit is key.

- **Although maintenance has the majority, the entire organization has responsibility for its success**
  - Maintenance is a business partner in delivering shareholder value.
  - Maintenance is the leader in coordinating the availability, deployment, and value optimization of the physical assets of the corporation.

### Asset Management Program Implementation Barriers

With a base understanding of the elements of EAM and how to use the Maturity Continuum to determine where your organization lies and how to drive improvement, we can delve into the barriers to its implementation. Consider that unless, and until, you have developed this (or another equally comprehensive) EAM strategic master plan with actionable tasks to be accomplished and measured, you will never overcome other barriers – you ARE the barrier!

**Companies decide to implement an asset management program to improve equipment reliability. Why?**

*To ensure that operations is always available to meet market demands. An asset management program is the major driver behind asset availability for operations. There can be several other reasons for moving toward EAM – including regulatory edicts, cost improvement, workforce reduction, capital investment constraints, etc.*

**Most of these programs focus on “hard skill” performance.**

*This entails learning new concepts, training on new activities / processes,*
rolling out Proactive Maintenance (PM) strategies, aligning the program with corporate initiatives, tracking progress to completion, and, in many cases, celebrating minor successes.

The program that was delivered starts strong, but immediately things begin to go wrong. Why?

There are a number of reasons things could go wrong. Work crews assigned to preventive maintenance get diverted to other plant priorities, equipment scheduled to be out of service for PM’s cannot be shutdown due to production requirements, or sometimes various key members of management who supported the program from the outset are the very ones who permit the interruptions to take place, diminishing the potential value to the organization.

The real question we need to answer is why does this happen to well-intentioned reliability-driven change process throughout industry?

The answer is that the process change is a victim of the organization’s culture. Often there is a lack of vision, leadership, or inertia, unrealistic expectations, and poor planning.

Without proper attention to organizational culture, sustainable change is not possible.

The need to address Organizational Culture is paramount to achieve a sustainable change and process improvement. Too frequently “quick wins” and “low hanging fruit” are the enemy of real continuous improvement and sustainability. The unfortunate paradox is that without early success, there will be no commitment to the initiative, but with “quick wins” inevitable comes doldrums or backsliding of progress.

Two concepts that are critical success factors to the longevity of any change:

1. Organizational Readiness.
2. Sustainability.

The program has a positive impact on the entire organization. It is essential to establish detailed and achievable expectations – within the maintenance organization, among other parts of the business unit, and most importantly at the senior executive level. These expectations should include both short and medium term accomplishments and must be tempered with an understanding of roles and responsibilities; as well as an anticipation of at least some level of uncertainty.
Organizational Readiness and Sustainability

In order to organize an effective implementation, focus on the following concepts can help to improve the odds of success and help assure sustainable improvements. First, the Cultural Infrastructure – EAM Governance: The EAM governance provides oversight and direction to execute the EAM Program and manage the change process for sustainability. It must have senior leadership involvement to effectively drive culture change. Second, the Vision and Value Statement: The Vision sets the overall strategic direction the business intends to pursue over the long haul. Third, Determining Roles and Responsibilities of the Maintenance Organization: In changing a culture, specific roles and responsibilities must be defined in the organization. Reporting relationships and how functions are tied together are very important in changing a culture. How roles interact with outside department roles is also critically important, so it is helpful to use a RACI Chart. Fourth, it is important to have in place a Documented EAM Master Plan or Roadmap: The elements of the EAM Master Plan collectively support process improvement and asset reliability. The credibility of any initiative depends on how well the plan is developed, and a very clear execution plan.

Various team members need to be involved in order to successfully make changes, and this team will be responsible for overseeing the project. To the right is a sample Program Support Hierarchy diagram. At the top, we have the Executive Sponsors, which ultimately have the largest role for encouraging cultural change. However, the Steering Committee works together to create a Charter (Vision, Values), decides how to Operate when the Vision is achieved, endorses Senior Management, introduces EAM training to Steering Committee Members, establishes activity objectives, goals, and policies/procedures, and issues monthly / quarterly communications. Ideally, the Vision Statement for the Steering Committee would be, “A collaborative team of facility professionals will focus on identifying, sharing and developing Best Practices based on rigorous Continuous Improvement efforts across the organization’s maintenance and reliability functions.” The vision needs to encompass a diverse and collaborative team that understands the master plan and embraces the incremental nature of a continuous improvement program. Below the Steering Committee, there is the Asset Management Council (AMC). This team is comprised of key stakeholders who know the business process. They convene routinely in order to set agenda items and discuss direction, and communicate the EAM charter and their progress made towards end state. They ultimately direct the progress, report to senior leadership, and hold the Team Leader accountable. The Team Leader provides leadership, organizes the EAM activities to achieve business objectives, identifies areas of opportunity, and coordinates community functions.

Another incredibly effective collaboration method is to gather Communities of Practice (CoP). The concept was first proposed by 2 cognitive anthropologists (Lave, Wenger) in 1991. These
are when groups of people who share a passion for something that they do get together regularly to learn how to do it better. A CoP can evolve naturally because of the members’ common interest in a particular domain or area, or it can be created deliberately with the goal of gaining knowledge related to a specific field. They can provide the critical mass required for a collaborative approach to improving cultural processes, accelerate the creation, sharing, and leveraging of knowledge to improve business performance, provide subject matter expertise, and promote a learning organization.

When maintenance organizational goals align with and support the business strategy, every person in every role understands how they tie in with the vision, value and objectives; organizational and individual performance metrics are reviewed and part of the visual workplace, and there is a Reliability culture being demonstrated at the shop floor, the benefits of implementing a full EAM Program can be recognized.

The below chart shows the importance of having all elements in place to promote a positive change, from Vision & Strategy, to an Action Plan, to Resources, to the appropriate Knowledge, Skills, and Abilities (KSAs), to Positive and Negative Incentives.
When there is no vision, no strides can be taken, even with the correct people, and there just remains confusion. Without an Action Plan, there is a false start and no guidance. Without the right resources, there is no one to perform the job and thus, we find frustration throughout the organization. Without the KSAs necessary, the program cannot be implemented properly, and we are left with anxiety. And without incentives (measurements and positive reinforcement), there may be change, but it will be gradual and not as helpful to the organization. Incentives should also include assessing the need to recycle back to the action plan step for mid-course corrections. Having all five components will lead to sustainable change, which is the ultimate goal.

Creating Alliances Across Organizational Boundaries

Once a vision and implementation plan are set, resources are secured, roles and responsibilities have been developed, everyone has been trained them and provided with a solid framework for monitoring progress and rewarding achievements, then sustainable success is underway! However, there is still one last essential step to success, and that involves creating collaborative alliances across organizational boundaries.

There must be collaboration within the Maintenance Department, itself. The four main areas of focus are Leadership, Vision, and Strategic Planning: Become a leader, not just a manager / supervisor, and take the long term view – get out of the “weeds”; Process: Develop processes that support the strategic plan, then execute, control, and improve the process to create a reliability culture; Teaching, Training, and Skills Development: Ensure the entire maintenance department has the knowledge, skills, and ability to execute and support the process and the vision, and take time at every opportunity to check for understanding and mentor your entire organization; and lastly, Support, Empowerment, and Barrier Elimination: Protect those employees working the process from attacks from inside and outside the maintenance department, and provide highly visible rewards for successes, but be willing to accept setbacks.

There must also be collaboration with other departments, to address critical needs outside of the Maintenance organization. The four primary areas of focus here are to Find Common Ground and Common Goals: Goals such as quality, Safety, and Regulatory Compliance or Cost Control and Capacity Growth are typically universally aimed for within an organization; Form Alliances with Receptive Peer Departments: Start small, start with “easy wins,” and collaborate with aligned departments to address outlier departments. Reciprocity can be used to strengthen relationships within a department. Understand needs and expectations of: Production, Quality, Accounting, Procurement, Safety, Sales, Marketing, Distribution, and Information Services; Become the Intimidator: Knowledge (of the business) is Powerful, and data and facts are incredibly influential. Rather than allowing business decisions to be made based on purely emotional rationale, use data in a passionate way to be effective. Learn the language of the business, and of the department you collaborate with; and Provide
Leadership, Stay the Course: Reinforce your plan with other departments at every opportunity (become a salesman and cheerleader for asset management), and maintain the long term strategy, even in the event of tactical setbacks. Momentum is key.

A few techniques to consider are to:

- Engage other departments based on ease of onboarding (start with easiest).
- Take a phased approach to create alliances, start with the departments who buy in and prove the concept.
- Develop the value proposition for each respective department (“what's in it for me?”).
- Address importance of culture change and senior leadership involvement.

When you are ready to get others on board, consider the above chart. 15% of your Stakeholders are made up of “Family and Friends”, who support the change and engage without influence. This group needs to stay engaged as change agents and champions. However, another 15% are made up of “Fighters and Foes”, who oppose change and feel threatened by it. This group will need to be neutralized early on but eventually brought on board creatively. It is important to know who these individuals and departments are and develop a specific strategy to have them “lead, follow, or get out of the way”. And, lastly, the large majority (70%) are “Fence Sitters” who often wait and see. This group is typically made up of individuals that want to keep their heads down and avoid being a target or rocking the boat. Inside of your organization fence sitters can be an insidious source of chaos. They need to understand the participation is “not an option.” Outside of your organization, this group needs to stay informed and should be engaged strategically to ensure they ultimately support the effort. They will be on board once the winds are steadily in the right direction!