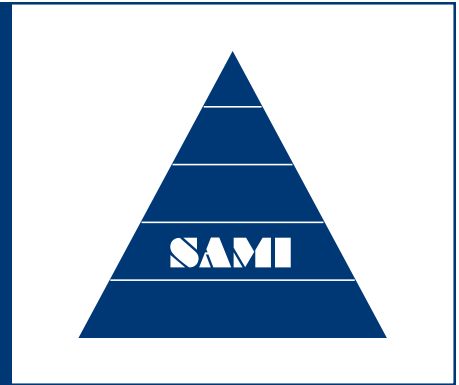


WE DELIVER CHANGE!

# THE SAMI TIMES

Fall 07 Volume 8 Issue 3



## THE PRESIDENT'S CORNER

### "Bringing Light to Dark Places" and Change Management: Part II



By Brad Peterson

*In Part I we discussed many times we become the "effect" of events and people outside our control. In this final segment we will discuss how we can become the cause of our work by following the SAMI APDISC (Assess, Plan, Design, Install, Sustain, Certify) process.*

We engage the right people in every stage of APDISC to get alignment, engage their energy, and implement according to an aggressive plan. The results are consistently excellent, and sustained over time.

In the Assessment, we may speak or interact with half the workforce, engaging them in identifying what must be fixed. In the Plan, we get leadership to describe the future state where they wish to find themselves, and develop a detailed plan and business case to get there.

In Design we engage 8-10 people from the plant's hourly workers, to make consensus decisions about how the new processes will be used by all involved parties. The system your own people come up with works better than any consultant or group of managers or engineers would develop. The Design Team gets incredibly energized about how differently things can operate in the plant. No wasted efforts, no recriminations, just good productive efforts on the right stuff.

Install is the time we teach people the new system before we go live. The Design Team members, supported by SAMI, have developed the training materials for every level of the organization, so that they can understand their roles and responsibilities in the new operating model.

In Sustain, the main drivers behind the new processes and practices are YOUR OWN PEOPLE! Primarily, the Design Team members do the training and the coaching to help people understand the new system, and get comfortable with it. This speeds up internal acceptance, learning, and finally mastery.

Finally, we (SAMI) certifies each area that has implemented the new system. This gives a clear feedback mechanism as to the progress each group

has made in the mastery of the new behaviors. People are always motivated to do well and not look bad in front of their peers. Certification drives home the new behaviors to make the plant run better than every before.

Net effect: People are doing what they believe in, what they designed, what works in their unit. They have learned how to cooperate for the good of the whole team, and how to solve problems together. They have learned how to learn.

Finally, they have become the CAUSE in their work life, and this transfers to their home life as well.

Change Management, as a discipline, is to remove barriers to improving operations. At SAMI we think that's a limiting goal. Rather, we seek to ENABLE our clients to live better lives, at work and at home.



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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.

# ASSET MANAGEMENT FOR NEW FACILITIES

## DESIGN, CONSTRUCTION AND START-UP

BY JIM DAVIS



Perhaps the singular most damaging mistake in industry today is the common practice of overlooking Asset Management concepts during the design, construction and start-up of major new facilities. The global cost of this poor management practice is truly astronomical. New facilities experience excessive unplanned downtime resulting in excessive costs and loss of critical production due to quality and quantity issues. These losses can be avoided by implementing proper business processes and good operational planning prior to facility start-up.

Designing for RAM (reliability, availability, maintainability) in Stage 1 of Capacity Planning will return significant benefit during early operation of the facility. 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).

Planning for future operations is just as important as the RAM Process. Establishing asset criticality, maintenance tasking, and spare parts inventory during the construction phase will assure a smooth start-up of the new facility as well as accelerated achievement of consistent operation at or above design capacities. At this point we should also develop organization structure, recruiting requirements, on-boarding plans, critical spares assessment, and a training needs analysis.

This concept / process is extremely critical in the Middle East today, where the current crude oil market is delivering a huge influx of cash into the region. Companies in the region are using the opportunity to invest heavily in the expansion of existing industrial facilities as well as in the development of new facilities and new industries. These industries can be very competitive in global markets due to their geographical location, the low cost of expatriate labor from third world countries, and the very low cost of energy in countries where crude oil is produced at an average cost of approximately 2.5 US Dollars per barrel and is burned in boilers to generate electricity and desalinate seawater.

But where do we start? Operating practices? Maintenance practices? Design? Reviewing academic studies, discussions with consultants, and the results of benchmarking indicate that the “lost Asset Utilization (AU) opportunity” is about evenly divided among problems in Operations, Maintenance and Design. Most companies have initially concentrated on improving reliability of existing plants. This allowed us to defer capital investment. Shifting the focus to new facilities

during the Design – Construct – Startup - Operate cycle can return huge benefits in terms of lost production control. Improving the design process permits maintenance and operability issues to be understood early, facilitating training and other preparation before operation. Reducing or eliminating problems designed into the facility, facilitates a smooth start up and early operations consistency, allowing operators and maintainers to attack remaining problems in a more focused fashion.

The activities that are required to be addressed are outlined by project phase below.

### Project Design Phase

- Conduct reliability, availability, & maintainability (RAM) assessment of design
- Develop the work management system
- Conduct an organizational design
- Develop the staffing strategy
- Development of The Managing System for the Startup & Operations Phase
- Review and select an ERP (enterprise resource planning) system for the facility
- Create Expectations, Goals and Measures for the Project through the sustainable operations phase

### Project Construction Phase

- Plan and conduct workforce recruitment and onboarding
- Conduct workforce preparation & training
- Configure, install and test the ERP system and load asset and parts data
- Establish asset criticalities, planned tasking and spare parts and maintenance materials requirements
- Acquire, document and store spare parts and maintenance and operating materials
- Create the startup and commissioning plan
- Business Process Design for the Operations Phase
  - > Asset Healthcare Management
  - > Operations Management
  - > Logistics Management

### Project Startup and Operations

- Install and Integrate the business processes designed during construction
  - > The Managing System
  - > Asset Healthcare Management
  - > Operations Management
  - > Logistics Management
- Establish the Managing System (key performance indicators, target values, and tracking mechanism)
- Train the entire staff on the business processes and Managing System
- Coach management and staff until the processes are culturally ingrained and sustainable

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**Jim Davis** is the Managing Director of the Middle East. With 30+ years in maintenance management his focus is on developing and implementing Asset Management Strategies as a way of increasing profitability through better Asset Utilization for our clients. [jdavis@samicorp.com](mailto:jdavis@samicorp.com)

# IMPROVEMENT INITIATIVES

## WHY DON'T THEY WORK ALL THE TIME

BY BOB MORAN, CMRP



I would be less than totally honest if I attempted to pass off the genesis for this article as totally my own work. The truth of the matter is that it has been adapted from an article by Herb Lichtenberg, SAMI VP Production...and based on my personal experience with many clients over past couple of years.

We have all heard the cartoon quote from Walt Kelly's 1970 Earth Day poster that proclaimed that "We have met the enemy and he is us." Based on what I have seen, it certainly seems to apply to many organizations around the world. In fact, I can't remember the last client I have worked with in the past 7 years where SAMI was the first consulting organization that the client had turned to. Often by the time we are engaged, our clients have shelled out untold sums of their hard earned money to numerous consulting firms (large and small), with little or no results to show for it.

Numerous studies have shown that, by the companies' own admission, more than two thirds of their improvement efforts do not achieve expected results. The findings from the studies that involved customers and suppliers found that from their vantage point, the improvement performance was even worse. That's a dismal track record considering increased global competition for both markets and investment dollars. Most companies have a sound understanding of their operational challenges and competitive leverage points. They take unprecedented actions to improve their performance, yet these efforts fall short of their goals. Why?

The most common explanation is that the initiatives failed because either top management lacked commitment or failed to stay engaged. Once these improvement efforts were initiated, they moved their attention to exploiting a host of other market opportunities. Consequently, interest at lower levels waned and improvement slowed down. This often resulted in the eventual under-funding and under-resourcing of the improvement effort.

A related factor is that often specific improvement methods were selected because of their popularity or "curb appeal" and forced on operating level managers, who did not understand the approach or how it would strengthen the company's competitive position. These managers lacked enthusiasm and commitment which eventually resulted in poor implementation...particularly when they focused on tools and not systemic issues.

A third reason given is that the selected methodologies lacked alignment, or were in conflict with the company's strategic goals. As a result, initiatives had conflicting goals and were in competition for common resources.

Fourth, the improvement efforts lacked a documented plan, structure and metrics for

accountability. As a result the organizational alignment needed to produce the desired results was missing.



Although other reasons for the lack of success can be found in the studies, the four factors illustrated above, either individually or in combination, are due the lion's share of the blame. It is therefore logical to conclude that the following conditions are key success factors for implementing operational improvement initiatives:

- Top management must be visible and stay engaged...for however long it takes to achieve the desired benefits.
- Middle managers and their staff members must understand and buy into the philosophies and tools. They must also understand the impact these philosophies and tools can have on the company's ability to compete.
- The philosophies and tools that are selected must be compatible and aligned with the company's strategic objectives.
- A structure and process must be developed that aligns the organization around the same objectives and provides a means of tracking progress.

Part II of this article will be published in the Winter 07 issue of the SAMI Times and will discuss the steps to be taken to fix the issues outlined above that are barring the way to a strong, successful improvement initiative.

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During the Project Design / Construct Phase there exists a “project mentality” which focuses on facility start-up and operation as the end objective. The thought processes are all focused around delivering the project within specification, on-time and within budget. A serious shift is required when moving to a sustained operating mentality. The AP/DISC Process (Figure 1) is designed to help us make the transition in a structured approach that will make sure we think of Start-up as a beginning instead of the end objective.

We begin during the Design Phase by conducting an Assessment of the project using the Capacity Triangle (Figure 2) as a guideline. The Assessment identifies gaps between the current operations planning and a world class standard. We then develop a plan to close the gaps and a business case for doing so. Once the plan is accepted by management, we proceed to design the business processes and organization for the new facility based on the SAMI Pyramid for Asset Healthcare, Logistics Management, and Production Management. During the construction phase we move to installing the business processes, asset database, asset tasking, spare parts and BOM’s and more. Prior to the start-up phase we install the Managing System and remaining processes, establish KPI baselines and tracking mechanisms and coach the organization through achieving sustainability. Having achieved all of this, we can now expect a smooth transition

from Project Mentality to Operational Mentality and expect to achieve a stable operating facility very quickly.

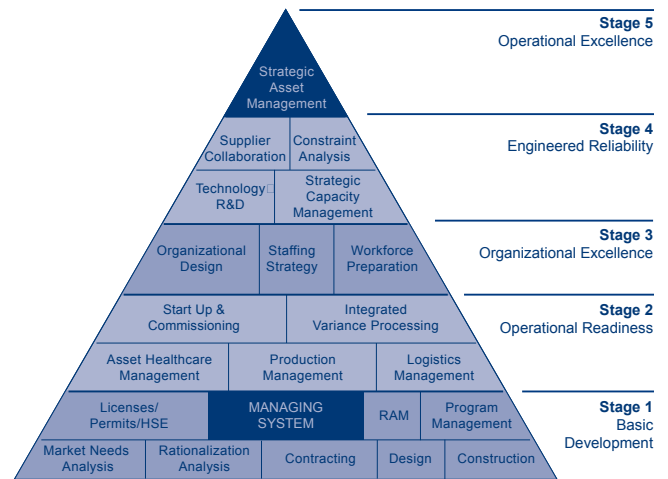


Figure 2 - The SAMI Capacity Planning Triangle