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The Future of Asset Management

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ABSTRACT

This article explores a broader vision for asset management than has been previously articulated and brands this vision ***Strategic Asset Management (SAM)***. Based on successful experience with our clients, **SAM** is an integrated set of processes that systematically derive the highest value from plant assets, through a consistent philosophy, plans and objectives, and cooperative involvement by everyone in the plant. SAM represents a higher level of performance than is currently practiced or even recognized by the manufacturing community today.

Any useful model to guide action will have several characteristics:

- Simplicity. All of the greatest ideas are simple in concept. If not kept simple, they are not fully understood or remembered, and fail as guiding principles.
- Intuitive. Readers should be able to understand the underlying principles without guidance.
- Utility. The model should work consistently in application.
- Completeness. All necessary elements of success should be contained.

Our experience with the ***Strategic Asset Management*** (SAM) model indicates these criteria are met. However, you as the reader will need to make your own judgments.

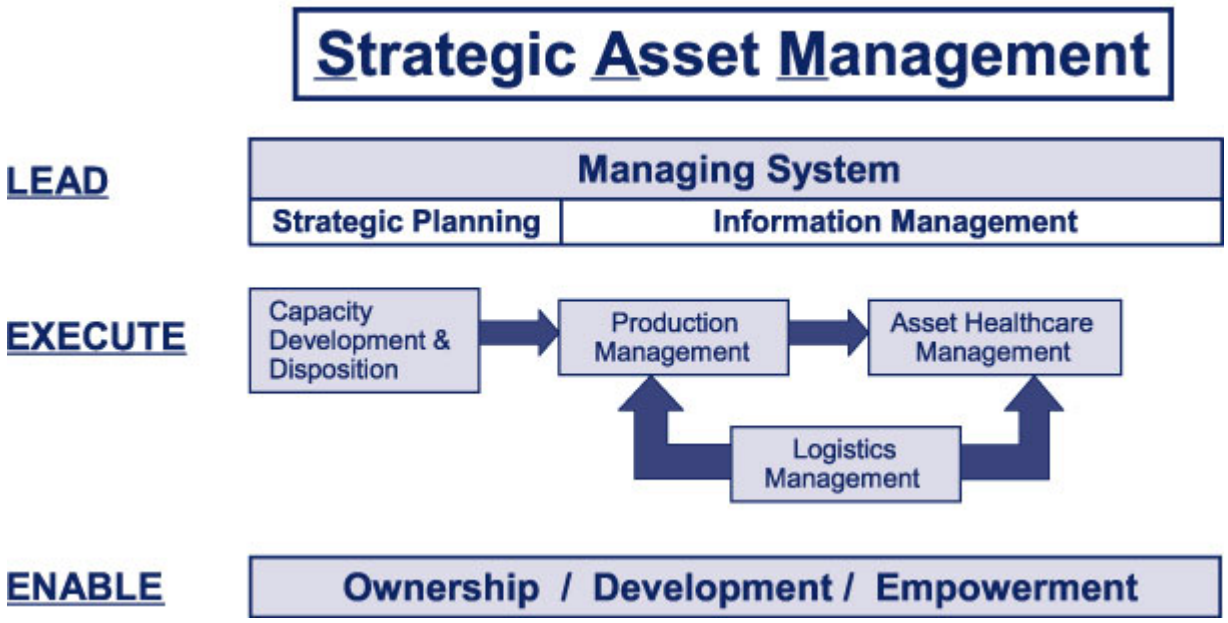


Figure 1- The SAM Model

Our description of *Strategic Asset Management (SAM)* begins with the key elements of success, namely ***Lead, Execute and Enable.***

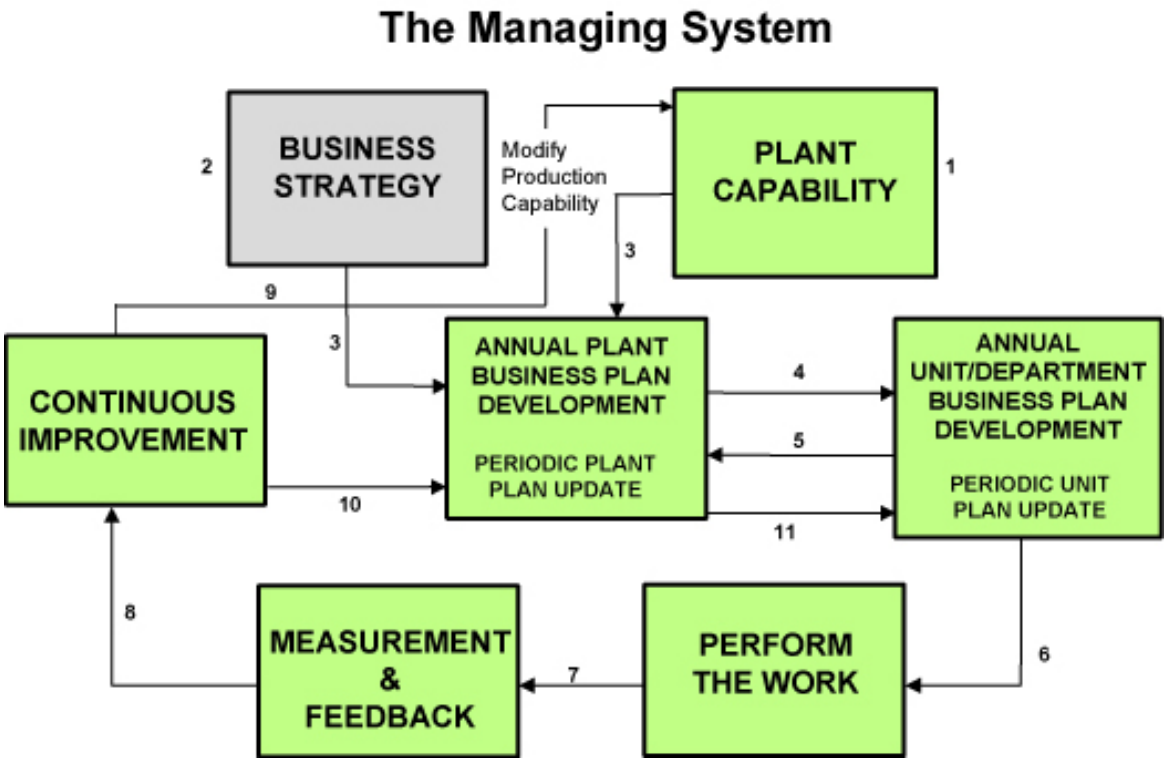
LEAD. There are hundreds of books written about leadership, and each one has some valuable point to make. Frequently, though, the description is of individual leadership, and often charismatic leadership. Leadership in the plant setting, in our opinion, is creating consistency of purpose and action. Manufacturing is a large set of complex and interrelated systems of marketing, technology, finance, human resources, execution functions and equipment. Physical Asset Management then must take all of these into account.

Putting things as simply as we can into the SAM model, the LEAD element consists of the Managing System, Strategic Planning and Information Management.

Managing System. Disciplined, aligned action is the underpinning of any human endeavor. Examine any consistently great achievement and you will find alignment and discipline. That is the purpose of the managing system. Among the elements found here are:

- Top down and cascaded goals. Goals of profitability at the company level become volume and product mix goals for the plant. At the unit level these become volume goals, equating to equipment availability and product quality goals. For the operator these become daily production and equipment surveillance goals. For the craftsman they become equipment condition goals.
- Plan-Do-Review. Everything we do is a process. Take emergency maintenance for instance. The process is: 1. get a request, 2. go do it, repeated all day long. Even a planned and scheduled job doesn't improve the system without a review process to examine the effectiveness of the plan, the execution of results, and a critical understanding of what is happening with the equipment.
- Measurement systems. Assuring that in addition to outcome (lagging) indicators, each job in the plant has process (leading) indicators will enable each worker to make a more positive contribution.

Figure 2 The Managing System



- Reward systems. Each plant rewards behavior in subtle ways. It may promote the overbearing craftsman to a supervisor position because "he gets people going". We may reward equipment breakdown with money and admiration (overtime and "attaboys"). We may reward production achievement at any cost to people and asset condition. We reap what we sow, so we must be careful that our reward systems actually encourage proactive behavior. Proactive maintenance can't happen in a reactive managing environment.
- Roles, responsibilities and accountabilities are clear. If job expectations are not clear and results measurable, we have muddled accountability. Fingers point in all directions, and the blame game goes on all day. Being proactive in such a system takes more courage than most people will risk. Clarifying jobs and accountabilities is a leadership function.
- Feedback. This is part of the Plan-Do-Review process, but gets special emphasis. We shape behavior by giving honest feedback without punishment. Under the right circumstances people *want to improve*. Leadership fails if it doesn't capture that spirit.

Strategic Planning. In every plant environment we encounter we hear the same (legitimate) complaints: "Improving maintenance is important, but we just don't have time. We have 4 major plant initiatives and 5 corporate initiatives, and don't know how any of them are going to get done!" Or, "Everything we do is a 'flavor of the month'. We seem to start lots of stuff, but never finish".

How do you set a plan that is timeless? One that has approvals all the way to the top of the company? How do you assure you have a single initiative instead of 20? **Through the act of *strategic planning!***

The product of functional strategic planning is *alignment around a multi-year improvement plan.* To get alignment requires more than a few words in a book. It requires that every level of the organization believes the content of the plan is the most important set of things the company can do with its resources. That means a real and compelling business case for the senior executives. For plant executives it means working on those things which are most practical, which make a difference in daily control of the work and reduction of variance. For the staff functions it means an understanding of the support they must render to enable the plan to be successful.

The elements of the Strategic Plan are these:

1. Benchmarking the function. Where are we today? What are the measures saying?
2. Developing a vision for the future of plant operations. Difficult to do, sometimes requires "Industrial tourism" to see the bigger picture, and using outside help to understand what's possible. This part has to be done right, or the plan will fall apart. Our clients have found the Execution Triangles (Production, Logistics and Asset Healthcare) to be valuable to setting the vision. *See Figure 3.*
3. Identify Gaps. Where do we fall short of the vision?
4. Identify Strategies to close gaps. It would be easy to shortcut this task. But one may find that, for instance, a distributed control system may be a strategy that helps with product quality, product mix direction, faster changeovers, and equipment condition monitoring. So one strategy covers several gaps.
5. Describe Projects to implement strategies. This can get creative, and will be an integrating force. For instance, a planning and scheduling project may be combined with a safety improvement initiative. Preventive maintenance improvement may combine with an ISO calibration standard.
6. Develop the implementation plan. It will require resources, so don't shortcut or lowball what the implementation will require. Remember that training won't create new behaviors. People need to be coached for new behaviors, and measures put in place to determine success.

7. Develop the Business Case. By integrating the initiatives into a single Strategic Plan we can avoid the silliness of double counting for results. Was contractor reduction due to the purchasing initiative or planning and scheduling? Who cares? As long as the goals for contractor reduction were met, and we stayed within the resource guidelines we requested and received approvals for.
8. Create the implementation governance structure. Plant leadership integrates the Strategic Plan into the Annual Planning Cycle, and the entire Managing System is engaged to see that the results of the Strategic Plan have accountabilities built into the entire organization.

Information Management. The good and bad news: as of the end of the last century most plants are now working with an ERP system. Initial results are typically very negative: lots of rejection of the new system as hard to use, can't get reports out. But slowly organizations learn to live with and even like the new systems.

A deficiency typically find in IT is confusion regarding the difference between the *system* and the *tool.* The system is your set of internal processes and procedures. The tool may be the SAP PM module. When your actual work process and methods aren't reflected in your tool, the disconnect creates great dissatisfaction and waste. But when integrated, there is great synergy to get information to manage the business.

SAMI's method is quite simple. After the Strategic Plan, we undertake a detailed design for one or more of the Execution functions. In that design process we assure complete alignment between the tool and work processes, leading to a virtuous cycle of increasing understanding and utility of the system.

EXECUTE. Four functional areas exist in any manufacturing environment. These arenas are the typical focus of leadership. If done well, they lead to *functional excellence.*

- Capacity Development is usually considered to be the Design Engineering and Project Management functions in an organization. This function consumes $100's of millions in what are often risky bets made on optimum market assumptions. A thoughtful and disciplined method to assure excellence in the assumptions, design, construction and preparation for production can be a valuable tool.
- Production Management. Everyone in the plant believes with good reason that production is the reason we are all here. And indeed this is the vehicle for value creation.
- Logistics include materials management, purchasing and movements of people and materials. This function can make or break the Production and Asset Healthcare Management functions.
- Asset Healthcare Management. Is this just another term for maintenance and reliability? Perhaps at some levels it is. But it is concerned with optimizing and integrating with all parts of the business based on risk and value, and so goes beyond the traditional boundaries of M&R.

We have developed improvement models for Production, Logistics and Asset Healthcare. Indeed, the Asset Healthcare model is the well-known *SAMI Triangle*, relabeled and integrated in the context of *Strategic Asset Management.*

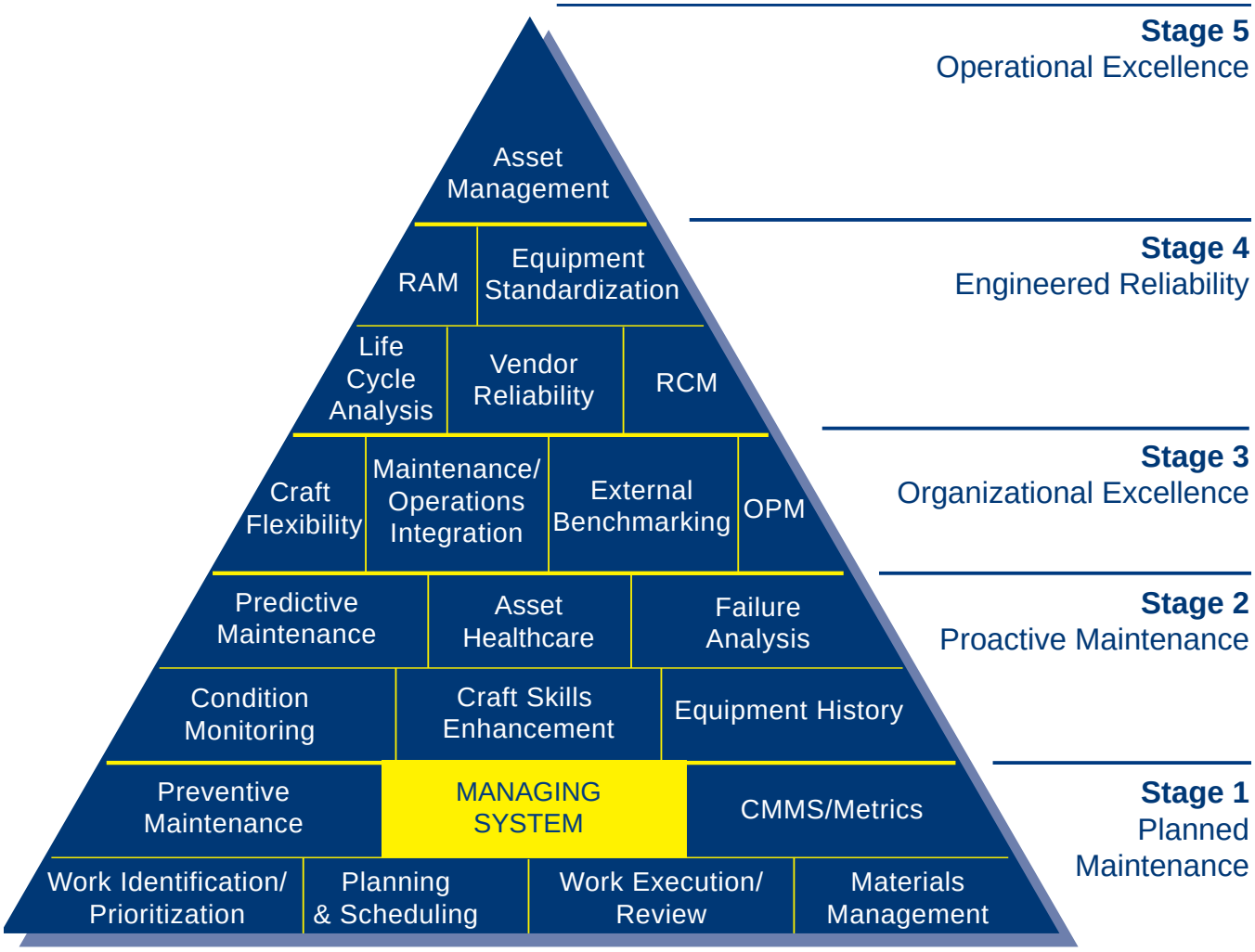


Figure 3: The SAMI Asset Healthcare Triangle

Note: Please see www.samicorp.com *for details of the SAMI Production and Logistics triangles as well as the corresponding maturity matrices detailing the characteristics of an organization at each stage of the models.*

ENABLE. Many programs for change are viewed as a simple matter of documenting procedures and providing training. If these things are done, change should happen, right?

Wrong. Human nature doesn't work that way. Prescriptive formulations may work for machinery, but (fortunately) the human machine is more complex!

First, why do I say this is fortunate? Most of our corporate clients have a large number of related but disintegrated goals. Safety, reliability improvements, 6 Sigma, Lean Manufacturing, Supply Chain rationalization, etc. These are often presented to the plant as a series of corporate staff visits, all requiring the plants time and attention. If the plant acted on the sum of these "required programs" with full gusto, they would quit producing product. Their time and attention would be taken in team meetings, developing procedures, and trying to rationalize the differing demands of each program.

Fortunately, plant personnel know their jobs are tied to making budgeted quantities of quality product. So their view of change is to ignore these directives until they evaporate from lack of momentum and commitment. Their approach is well-rewarded; most programs do indeed get replaced by the next wave of "best practice" from corporate. I apologize to readers who have corporate development roles, as I may

seem cynical. But in my experience the only change that lasts in the plant are those things that make sense to the guy on the plant floor. Safety, for instance, is in his best interest. It may have taken a decade or more of emphasis on safety, but everywhere we go we see good results and lasting change.

Some criteria for change of any kind to take hold in the plant are:

1. Intellectually it makes sense to the plant population. That sense means that improved productivity will *likely* result from such a program.
2. The plant population has a major say in how it will happen in their environment. They have the power, collectively, to determine *whether* it will proceed, and *how* it will proceed.
3. They see true commitment to the results. That means a number of things.
    - Some executive's future is tied to making this happen
    - It has worked somewhere else that is similar enough to their environment
    - The leadership team are all on board, no quibbling or sidebars
    - Results are measured and posted at visible locations in the plant
    - Valuable line people are assigned to the job, taken from other important tasks

Ownership. How do we *enable* our work with our clients? What might apply to your own organization?

Leadership Consensus to Proceed. SAMI won't proceed with billable work unless and until we know our client's leadership team, at the appropriate level, has consensus to proceed. Sometimes that means refusing an order for services from a plant manager, for instance, if we don't think the operations manager is fully supportive. To accept work under these conditions violates a cardinal rule, namely: *Anyone who has not been consulted does not feel he has to support the decision.* No matter how assured the person at the top of the organization is that the group will follow his decision, our experience is that lack of commitment by the *entire* leadership team is the number one cause of failure for improvement initiatives.

Worker Consensus to Proceed. We usually begin our client engagements with a baseline assessment of current processes, practices and results. Our clients typically believe this is because we need the data to know how to improve. The more important reason by far, however, is to engage the organization in a decision-making process that includes representation from all areas. Our assessments are designed to touch the greatest number of people practical, to solicit from them their issues, ideas and experience. There is an interesting pattern we almost always see. Leadership wants us to get the hourly workers to be willing to change; the hourly workers in turn challenge leadership to do its job and lead with strength of purpose, consistency and with high standards. The assessment process brings their views together, enabling them to see they want the same results: a productive, safe and competitive workplace where people are valued.

Develop a Workable Process and Passionate Owners. Virtually every engagement we participate in has a work process design phase. The designers, typically a team of 8-10 part-time people, represent all types of jobs and all levels of the organization. We ask for leaders, even if those leaders can be negative at times. This team goes through the forming, storming, norming and performing stages of development, and we are careful to prepare them for the "J" curve effect (they go down emotionally before they go up). Their product is a completely thought out work management process, with all the details that will enable it to work in their environment. Our experience is that the product is 95% the same as virtually any other plant's. The 5% difference is critical, though, in practical workability. But the most important result of the design is a team of people who see the future and are passionate about making that future happen.

Client-Driven Implementation. Only when workers see peers passionate about change will they pay attention. Outsiders (consultants) are seen as nuisances to be avoided. But if your respected peer is deeply committed to a new method of work, you will pay attention. And if he is willing to risk your

relationship by making it not-optional, then you will believe it is a worthy change. Our consultants *support the client* in making the changes, not the other way around.

You may note that most of SAM description thus far is about enabling change, not about the core maintenance or production process. We assure that we have qualified experts in the work processes on the teams. Our clients seldom fail because they don't understand best practices, but because they can't get them implemented. We have learned to focus on change because it is the critical barrier for success!

Development. It is possible that your people can work at much higher levels than they are today. In a reactive environment vs. a proactive environment these are frequent roles:

Job/Role	Reactive Environment	Proactive Environment
Craftsman	Component Replacer	Troubleshooter/RCF analyzer
Operator	Victim, Problem Identifier	Proactive Worker, Minor Maintenance
Supervisor	Expeditor	Work enabler, coordinator, troubleshooter
Engineer	Troubleshooter	Equipment defect elimination/optimization

Changing these roles is partially a matter of removing obstacles to being proactive and clarifying expectations, roles and responsibilities. But to a significant extent there is a requirement to assist people to be able to fill new roles. This requires training, but much more than training. It involves coaching and testing the limits of the individuals in the job. Some operators are mechanically inclined, and some are not. Some will be eager to take on new roles, and some very resistant. Development takes time and energy for a supervisor to understand what is possible, and work with each of his people on a specific development program, customized to the specific task, and the native abilities of the worker. A training organization can be invaluable here, but the task cannot be delegated. The approach must be rifle shots, not grandiose, one-size-fits-all programs.

Empowerment. The "E" word has lots of bad connotations from the failures of quality programs in the 80's and early 90's. The popular method of empowerment was a week's worth of training in "soft skills", and an admonition that they should step up and be their own bosses. The result was lack of direction, anger, *disempowered* supervisors and management, and a decrease in productivity. Lee Solomon, founder of Solomon Associates who benchmark most of the world's refineries, once told me: ***"There is a high, negative correlation between implementation of self-managed work teams and performance".*** Empowerment as implemented not only didn't work, but it made things worse.

What ***is*** empowerment? It is enabling a worker to do more, and to take responsibility for his own performance. How can this best be done? First, by having a disciplined and well defined system to follow, and enabling the worker to be successful in the context of the system. Next, is to develop the worker to be successful in an expanded role. Finally, we give the worker the tools to understand whether he is mastering the job. This includes measures, feedback, coaching and encouragement. Empowerment is the **result** of a disciplined system of work, *not a prerequisite*.

Results. Leadership alignment around the strategic direction of the organization may be the single most important result of implementing the SAM model. This cohesiveness within an organization will certainly lead to financial results as well. These results are still being documented. However, SAMI clients have achieved benefits in excess of $100M within a short period of time by taking a strategic approach to operations excellence. The chart below depicts an actual cost/

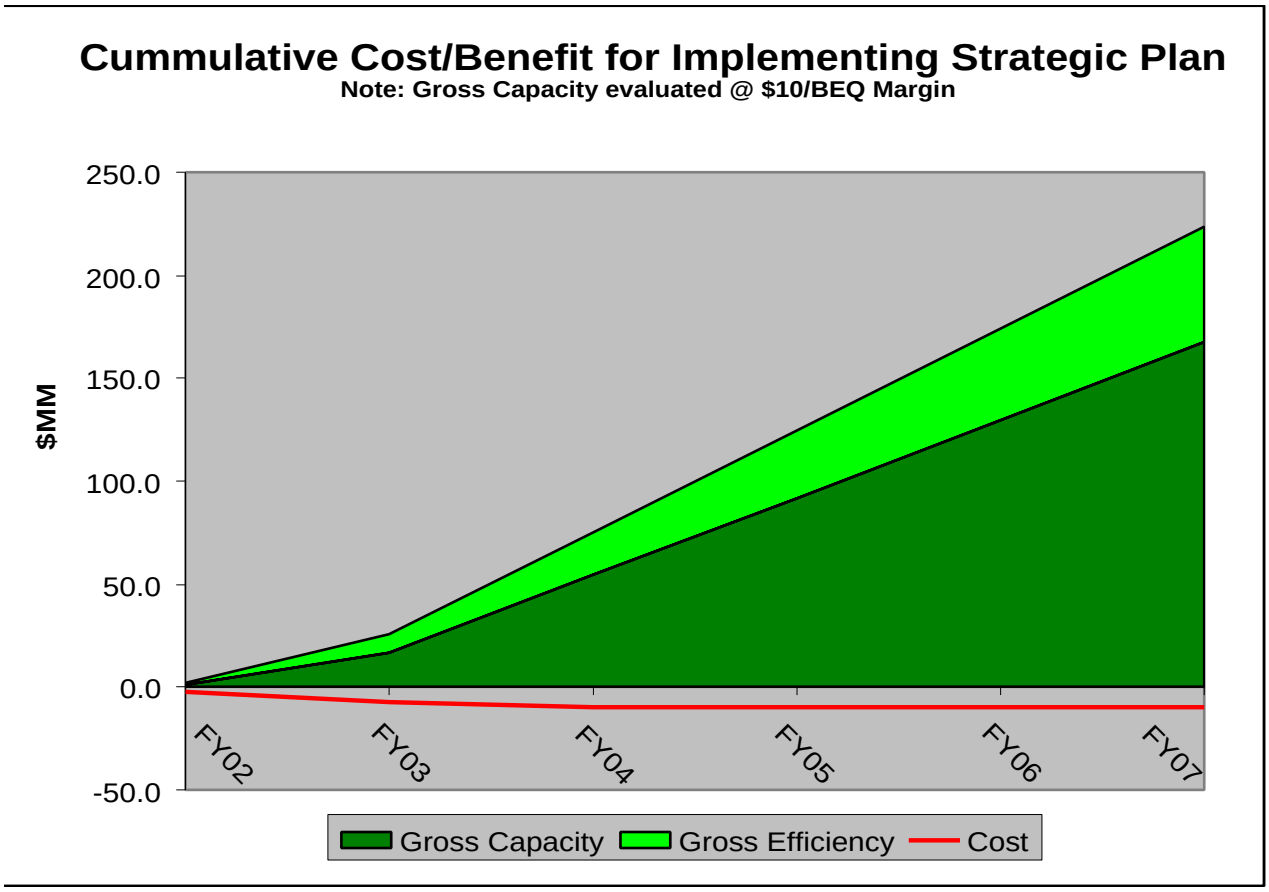


Figure 4: SAM Cost/Benefit Analysis

benefit analysis detailing financial benefits from increased efficiency and increased plant capacity versus the costs of implementing the SAM model over a period of a number of years.

SUMMARY

Strategic Asset Management is the systematic process that enables the dream of *Operations Excellence*. It emphasizes a logical approach to best practices through the developmental stages of the EXECUTE Triangles. Functional excellence will never be enough, however, to be the best. LEAD functions are the glue that bring all the pieces together in an optimized set of systems, especially through the mechanism of the *Managing System and Strategic Plan*. Finally, we can only be as successful as our workers' endorsement and participation in these functional excellence practices. We must ENABLE our people to bring us the success we all desire.

We are able to become the best if we start our journey with the right model.