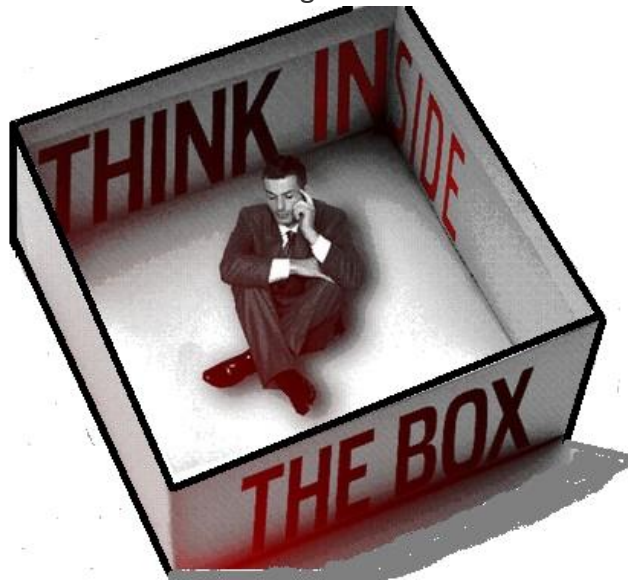


Looking Inside the Box May Yield Great Results

Our motto 'Helping Good People Get Better' has given us real insight into opportunities to dramatically improve your operations. Whether you are focusing on cost containment, service improvement or preparing to grow, working with your existing team to identify step function improvement opportunities is the best place to start. Your current team has critical knowledge and insight – what they need is a structure and analytic process to help organize and prioritize a plan for moving forward. We provide the structure and analytic capability along with experienced project management.

For the past decade and more, everyone in business was told that success in a rapidly changing world required constant "thinking outside the box." The result has often been financially and



ethically disastrous. The traditional view of creativity is that it is unstructured and doesn't follow rules or patterns. Would-be innovators are told to "think outside the box," "start with a problem and then brainstorm ideas for a solution," "go wild making analogies to things that have nothing to do with your product or service."

We advocate a radically different approach: thinking *inside* the proverbial box, not outside of it. People are at their most creative when they focus on the internal aspects of a situation or problem—and when they constrain their options rather than broaden them. By defining and then closing the boundaries of a particular creative challenge.

Often looking inside the box is the best way to bring order to a chaotic situation. Taking an introspective look at your business helps you learn to tell the difference between what can and cannot be controlled by management, and focus on the areas that will make the most difference. You also gain insight into:

- The economic management principles that never change - so you can devote your attention to the things that are changing all the time;
- The value of a disciplined approach to planning for profit.

Businesses add complication and complexity as they grow. Winners and losers exist side by side in product offerings and among customers. Sorting through the noise to focus on the core and eliminate the waste is a constant management challenge.

We have found that the strongest enabler of scalable, sustainable process improvement is a strategically designed business process analysis that defines how certain work gets done, where and by whom. Furthermore, leading companies use techniques such as business process improvement programs, to enable sound, sustainable business cost management.

Usually, there is no shortage of ideas for cost improvements, from plant-floor workers to engineers and customer service reps to plant managers. However, too often a structure is lacking for communicating, reviewing and approving suggestions. As a result, there is excessive time between idea generation and implementation—or, worse yet—a failure to implement.

To address this problem, process improvement programs should have a well-defined first phase with an objective to rapidly turn actionable ideas into results, focusing on quick wins that can generate benefits within a few months.

Speed can be achieved by using a streamlined screening and approval process and by instilling a sense of urgency throughout the workforce with a comprehensive communications program. Focusing on quick wins can lead to additional programmatic benefits:

- Momentum and energy as the workforce sees tangible results and becomes motivated to share more ideas with management.
- A self-funding mechanism that supports subsequent phases of a transformational program.

Quick wins typically are generated when key stakeholders—such as operators, administrators and managers—gather to scrutinize current practices. Ideally, brainstorming and evaluating improvement ideas become part of weekly routine in a systemic approach as a more cost-aware culture is developed.

While speed is of the essence in initial efforts, it is important that company leaders be wary of quick fixes such as headcount or percentage-based budget reductions. Near-term targets might be achieved, but there is the risk of hindering longer-term, structural transformation. Hasty reductions can divert attention from the need to optimize processes and build a culture of operational excellence.

We think the best way to develop a plan is to work with your current staff utilizing an organized task force approach. Our typical engagement follows these steps:

1. Technical and Business Process design - the first step is to analyze and define detailed business processes that span the entire business cycle from customer order to customer invoice, including customer service, production, logistics and quality control operations. Business processes can be seen individually, as discrete steps in a business cycle, or collectively as the set of activities that create the value chain across the company and associate that value chain with the requirements of the customer. The goal of this step is to implement business change, whether that change is primarily organizational (improve the business' operating processes), technical (implement or integrate software systems), or a combination of the two. For every client the process design for production operations and product quality management is a combination of business operating processes and software implementation and integration.
2. Identify and develop where necessary the information technologies that support the business processes. This might mean:
 - a. Software integration to eliminate redundancies;
 - b. The use of wireless hand held computers for electronic data capture that is simultaneous with physical inventory events examples include;
 - i. Barcode scanning
 - ii. RFID Tracking
 - c. Efficient safety label and related document production that is on demand, linked to the production job ticket and fully traceable; and,
 - d. Progressive data capture procedures from production measurement equipment during the actual batch production process so that inventory files are current.
 - e. Accurate machine and labor utilization data capture.

3. Data mining and cleansing – today’s ERP suites can store vital data about products, production equipment, customers and suppliers in an integrated database. However, many clients still rely upon independent databases or spreadsheets. Each source needs to be identified, redundancies eliminated, conflicts resolved and gaps filled as a prerequisite to transferring the data to the company’s single enterprise wide system ERP.
4. Improve document generation – often vital information about product safety, formulations, manufacturing procedures and customer and supplier information is stored in separate electronic files and/or file cabinets, or a document management system. This means each time the information is needed it must be retrieved manually. The underlying data that is used to produce these documents must be stored in the ERP system and this embedded data is maintained with a full audit trail. As a result each time a relevant document is produced the most current data is used to generate the document.
5. System integration - An important consideration for each client is leveraging current investment in their overall IT operation. While many modern ERP systems have a variety of modules, there are still functionally specific applications that are used to meet departmental needs. To leverage overall IT investment in a cost effective manner it is important to integrate current systems as efficiently as possible and avoid creating or perpetuating standalone manufacturing systems. There are many examples:
 - a. A standalone Lab Information System and ERP system is not integrated to facilitate the overall production and customer service processes. MRI can design and develop the functional points of interface between these software systems;
 - b. HMI devices to control and track the production process. This information is vital to supporting the tracking of production via ERP. The output data from these devices is de facto the input data related to the ERP production process. Integration is needed to pass the planned production as represented in ERP to the appropriate HMI device; receive the electronic HMI data as it becomes available; and, electronically pass the results back to ERP.
 - c. Routing Optimization. Utilize routing optimization to plan the best use of the company’s fleet resources to meet order demand. The demand information is integrated from the ERP, the optimization plan and truck assignment is passed back from the routing application.

6. Develop a training and roll out program that fits the unique requirements of each client;;
 - a. Recognizes that small companies have limited resources and that each employee has a vital operational role;
 - b. Stresses the need for teamwork and explains why their work is important to the company's success;
7. Develop a set of enhanced operational metrics - to support the company's improvement program, MRI recommends that management adopt a set of metrics commonly associated with Lean Manufacturing. Management cannot possibly measure thousands of variables with equal attention and diligence. When one or two are elevated to the top -- treated as overall process outcome metrics rather than event metrics -- the motivation to optimize those few variables is created, usually to the detriment of variables not elevated to high-level status. There are five golden metrics that really matter: total cost, total cycle time, delivery performance, quality and safety. All others are subordinate. Activities and efforts in manufacturing that result in improving one or more of these performance measurements, without degrading performance to any of the others, support good performance. Actions resulting in improvements to subordinate metrics but not to any of these five are meaningless. In the markets that each client wants to penetrate further there are two of the five 'golden' measures that distinguish the company.
 - a. Delivery performance - Delivery performance is the percentage of customer orders shipped when the customer requested them to be shipped. It should not be modified to accommodate company policies or shipping promises. It is purely a metric of manufacturing's ability to meet customer requirements.
 - b. Quality - What is meant by quality will vary by company, but it must be quality in the eyes of the customer. As a result, customer returns or warranty claims are typically the basis for this metric. It is not a summary of internal quality metrics. It is important to realize that those metrics are only important to the extent that they provide information management can use to minimize cost, improve flow and meet customer quality requirements.

8. Guide the overall effort to improve each client's IT environment so that data is properly protected, servers are configured for maximum efficiency and desktop computers are consistently set up.

9. Develop a long range information plan. Technology is ever evolving. Maintenance of the plan must be linked to the company's strategic direction and optimize the use of contemporary technologies. An information plan needs to be developed to facilitate the company's strategic objectives. We will help identify the information technologies and applications software that will complement each client's business directions as well as create a continuing planning process.

The planning process identified in these nine steps are intended to help you create a continuous improvement program that adapts to an ever changing world and helps your staff keep pace with these changes.