



## ***Finding the Best Solution...***

Research and experience indicates that half the criteria for successful work or process improvement is attributable to working on the right things. Similarly, when seeking to solve problems it is vital to find the best solution out of multiple options.

This newsletter focuses on that issue and on the importance of avoiding the common pitfall of settling on the first solution – in other words, decision-making based on a false choice.

Bill Conway

## ***Escaping False Choices***

by: Sheila Julien, Senior Associate

How often are we faced with a choice between a problematic status quo and a solution that creates problems of its own? Business leaders often find themselves with these kinds of difficult decisions: significant problems or opportunities versus proposed solutions that cost too much, take too long to implement, or carry adverse unintended consequences of their own. Here are some examples:

- A large chemical company had opportunities to increase sales by \$60 million if they could expand production capacity, but the capital investments would cost \$20-\$30 million and would take 18 months to implement.
- A data processing company received too many complaints about quality but the market and margins would not bear additional costs for 'QC.'
- The manufacturing company needed to cut raw material costs without weakening its suppliers.
- Breakthrough technology that cost too much to be commercially viable.
- Centralizing the Purchasing function had reduced responsiveness and efficiency but when it was decentralized, it lacked sufficient controls and access to expertise.

In most problem solving situations, the first idea is the barrier to the second idea. Steve Jobs hit the nail on the head, observing, *"When you first start off trying to solve a problem, the first solutions you come up with are very complex, and most people stop there."* In every example cited above, the people working to solve the problem had stopped at the first idea. Once an idea was developed the attention shifted toward evaluating the return on investment and lining up support rather than improving or replacing the idea with something better, faster, less expensive, or more effective. They stopped too soon!

The best idea is almost always hidden somewhere behind the first idea. In order to arrive at the best idea, you have to keep going. As Steve Jobs observed, *"... if you keep going, and live with the problem and peel more layers of the onion off, you can often arrive at some very elegant and simple solutions."*

When you are faced with this kind of 'false choice' between two weak options, neither of which will really suffice, you need to press on toward a breakthrough solution that meets all the needs. Innovative problem solving is remarkably accessible, but you won't get there without three important things:

- Facts and data to surface the errors in the underlying assumptions,
- Involvement of people close to the work and of outsiders or people from 'adjacent' processes, and
- Most importantly, the leadership to inspire the problem-solvers to persevere until the needs are truly met.



## Use Facts & Data to Test Assumptions of Surface Root Causes

Each of the examples of false choices cited above ultimately reached a breakthrough solution after someone surfaced facts or data about the problem that provided a ‘Eureka!’ moment, exposing an incorrect assumption that kept the group from moving beyond the false choices. Often that underlying assumption was shared widely enough to qualify as ‘conventional wisdom.’

Challenging assumptions with facts and data is essential to overcoming the false choice. For example, the Loan Servicing Department of a large regional bank had data to show they spent almost 15% of the total department capacity chasing or returning loan files. But after months of discussion, the executive team decided not to approve the \$100,000 capital investment for a document scanning system. The Servicing Department resigned themselves to continuing the paper file chase.

But in a process improvement session, the problem came up again. This time someone from an adjacent process asked why they needed the files. What information was required and why? The assumption underlying the document imaging solution was that they needed the whole file, but when they gathered the data, they realized that over 95% of the time, they just needed one or two simple data elements from the file, such as book and page# of the recorded deed. A moment later, someone was suggesting adding those data elements to their Core computer system before the file was put away. Before the week was out, productivity was improved by almost 15% and file control was improved –with no capital outlay.

When a manufacturing company in the Midwest needed to increase their responsiveness to customer demands, the initial solution was to substantially increase their finished goods inventory because they produced each model just once a month. They assumed they could not produce the complete set of products more frequently because the time required to change-over the line from one model to another was too great. But when they gathered data about what consumed the change-over time, they found much of it could be reduced or eliminated. By cutting change-over time in half, they were able to improve responsiveness to customer demand while decreasing instead of increasing finished goods inventory.

The data processing organization believed they could not address the complaints about errors because they could not afford more staff for ‘QC’ to check the work and fix the mistakes. They assumed the only way to increase quality was to find and fix errors. But when they studied the types of errors and drilled down to root causes, they found that a few simple changes, some [poka-yokes](#), and a couple of well designed job aids enabled them to simultaneously increase quality and reduce the amount of inspection and rework.

How do you know the right data or the right question? Brainstorm a lot of questions and surface and test all assumptions. And it helps to have a diverse group of people on the team.

## Involve the Right People

In order to gather the facts and data and devise workable solutions, you need to involve the people close to the work, people who live it every day and understand all the nuances and challenges. But to surface assumptions and ask questions that lead to breakthrough information, it often helps to include people with a little distance from the work. Sometimes it is very useful to include someone from the outside who has some problem solving experience. Often the most useful and creative insights come from people who are adjacent to the work – either suppliers or customers to the work process – or people in the organization who do similar work in a different department.

For example, when a distributor wanted to reduce inventories, they brought in two of their suppliers to help them study the replenishment process. By collaborating on the design of the ordering process, they greatly improved the synchronization of their processes which resulted in lower inventory for both the suppliers and the distributor: a win/win.



Another company had centralized its Purchasing function to increase controls and capture quantity discounts, but they were unhappy with the speed and responsiveness. The centralized group did not understand all the needs of the departments they served. By pulling together a team of people from around the company, they collaboratively designed an effective decentralized system that empowered people to make purchases within budgets yet leveraged a very small central Purchasing Department to negotiate contracts and provide specialized skill when needed.

### **Sometimes Inventive Problem Solving Tools & Methods Can Help Resolve Contradictions**

The most widely used inventive problem solving tool is Triz. Most commonly used by engineers, Triz can also stimulate inventive thinking about a variety of problems. In a nutshell, Triz takes the contradiction one is working on (such as ‘this process must be simple to use but cover a variety of complex situations,’ or ‘the material must be strong but must be malleable.’) and directs the user to consider two or three alternative strategies for addressing the particular type of contradiction or problem. The solutions are general, not specific, and in some ways resemble an oracle’s wisdom. But they almost always introduce a new angle of thinking about the problem, and that often produces a breakthrough idea. Doug Hall’s team at Eureka Ranch has developed a nifty and easy to use Triz tool. (For more information about this tool, contact us at [mj.king@conwaymgmt.com](mailto:mj.king@conwaymgmt.com))

Goldratt also offers advice on how to resolve contradictions. In his book, *It’s Not Luck*, Goldratt describes methods of surfacing undesirable effects or ‘negative branches’ and working with people until the solution is improved so that it ‘trims each negative branch.’ Goldratt recommends soliciting input about what can go wrong from ‘the most unappreciated resource’ in any organization: the nay-sayers. These are the people who you can always count on to identify all the reasons why ‘it won’t work.’ This is valuable input into the creative problem solving process – not to discourage the team, but to help the team anticipate and resolve the negative impacts while the solution is still in the design stage. The design of the solution is not complete until every negative branch has been satisfactorily ‘trimmed.’

### **The Essential Ingredient – Inspiration to Persevere**

But the data, the well-rounded teams, even the fancy tools often do not get us to the solution we need. Why? Because we stop too soon! Not one of these is sufficiently powerful to overcome our near universal inclination to stop at our first idea.

Without someone providing the leadership to understand and explain the full set of requirements a solution or innovation must meet, the chances are slim that it will meet all the requirements. Yet once the requirements are defined and explained, ordinary people can arrive at extraordinary solutions.

The criteria for success are what determine when the team has finished inventing. Following are some examples, famous and obscure, of how the right leadership inspired good people to push on past the ‘false choice’ to achieve a fully effective and lasting solution:

- Xerox invented the mouse, but it cost \$300 and only worked for two weeks. Steve Jobs saw it, recognized its potential, and immediately defined the conditions of success: this tool had to cost no more than \$15 to build and must operate reliably for 2 years. The rest is history.
- The chemical company mentioned earlier had an opportunity to increase sales by \$60 million if only they could increase production capacity, but the engineering study concluded it would cost ~25M and take 18 months — at which point demand was far from certain. Bill Conway convened a meeting with engineers, operators, maintenance folks, and management and explained they needed solutions they could implement in 60 days to raise capacity 60% and asked how to do it. He posed the question in terms of a crisis, if we had to double the capacity in 60 days or the nation would face a critical food shortage, what would we do? Over the next hour or so, the group identified the constraint: the pump. Someone pointed out that instead of waiting months for a new pump, there were used pumps for sale in the trade



magazines that they could get within days and at a great price. Within 90 days they were producing 60% more.

- The CEO of a small company had a dissatisfied customer requesting a significant financial concession due to a problem for which responsibility was arguably shared. It seemed like a win/lose situation — the only question was which one was going to lose how much. When the CEO convened his staff to discuss the problem, he asked the group to identify a solution that would strengthen both the relationship with the customer and the well-being of the organization itself. The condition for success was a win/win solution. As a result, the group surfaced the need for additional facts and data that eventually led to a solution everyone was satisfied with.
- Sometimes it just takes one dissatisfied person on the team to probe for a better solution. One small team was working on solving a technology problem, and all of the proposed alternatives and vendors seemed too expensive relative to the cost of the problem. With one person dissatisfied with all the choices, the group talked it over for another 20 minutes before hitting on a way to address all the 'must have' requirements with in-house technology — a significant savings.

In a false choice situation, the missing ingredient is most often someone to clearly identify and explain the criteria for success, criteria that will result in a lasting advantage for the organization. It is not necessary to have an answer in mind — merely to ask the question persistently and persuasively enough to inspire people to continue to work on developing a better solution. Whether it is the sponsor or the team leader, the CEO or just anyone on the team, someone must articulate the need and inspire the team to find a faster, cheaper, better solution.

To quote Steve Jobs, whose vision and refusal to accept a false choice shaped the 21st century: ***“Never settle!”***