

## Why Technologies Fail

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November 2011

Have you ever been part of the introduction of new technology that failed to deliver the benefits you hoped for and counted on? If so you can probably list a dozen specific reasons for the failure. This article seeks to go beyond these *specific* issues and examine the *systemic* reasons why these new systems so frequently fail to achieve the ROI expected at the outset of the project.

Dr. Eliyahu Goldratt is an Israeli physicist who became an expert and consultant in the business of manufacturing along the lines of W. Edwards Deming. Dr. Goldratt deduced principles from his observation of production in manufacturing that can be usefully applied to the production of tax returns or audits. He asserts that pretty much all economic activity is *production* of one sort or another.

He is an original thinker who believes that good production is simple rather than complex and that large, game changing improvements are not only possible, but there for the plucking. He scoffs at the idea of improvement by small increments. He has made a career out of studying constrained business processes until he could identify the false assumption that was blocking the process. An easy way to get started with Eliyahu Goldratt is to read his novel [The Goal](#), which explains his Theory of Constraints in the context of a story. Initially rejected by 40 publishers, it is an ongoing best seller. There are a lot of good ideas to mine from the work of Dr. Goldratt, but this article will focus on just one of them.

In his audiobook [Beyond the Goal](#) Dr. Goldratt talks about why technology fails and he uses MRP and ERP software as examples. He knows that this software can make an extraordinary difference in the productivity of a company and he commences to wonder why it is so often the case that companies make large investments in proven software and then fail to realize the results. After much assimilation of examples of such failures, he distills his observations into two general principals. For bottom line improvements to be obtained from a technology investment the adopting company must do two things:

1. *It must adopt new rules for operation that take advantage of the new technology.* This is fairly obvious and most companies make a good effort to do this.
2. *It must let go of the old rules of operation that were in place to compensate for the lack of this new technology.* This is usually the harder thing to do.

We see examples of this in the business of accounting every day. My company offers a consulting service we call Practice Review. The process is to document the internal procedures that get the work from the professionals, turn it into a bill and collect the fee and then make recommendations to improve those processes. We often find that

the procedures in place are not based on the current software technology, but on the rules put in place for technology installed one or more generations ago and now no longer in use.

Here is a common example. In the '80's most billing systems were paper-batch based. The time and billing software generated detailed WIP reports which were marked up by the billers by hand and turned over to data entry personnel who made the changes to the WIP and created a bill transaction. The invoice itself was often separately generated by word processing. All this paper was stored in each client's billing folder, which was then brought back to the accountant's desk when it came time to bill the client again. These files, often containing years of bills and marked up WIP reports, were in many cases several inches thick. In the '90's software companies began providing onscreen billing programs that allowed the billers to review WIP and make billing decisions around it onscreen and many firms adopted some aspect of this new technology. *But in a great many cases the paper cart with the massive client billing folders continued to be used as a key step in the billing process.* The new technology had been introduced and to some degree new rules had been adopted to take advantage of the new technology, but the old rules that were needed to manage a paper billing system were left in place.

And no one thought it the least strange.

It is hard to be conscious of one's own culture. This is why outside consultants can be valuable. A good consultant can make the firm conscious of its own procedural culture, which is the first step toward examining the rules and assumptions that underlie the process.

Clearly the big savings in the production of bills is only realized when the firm fully commits to obtaining the information needed for billing the client directly onscreen and eliminating the production and archiving of paper.

This first example is intentionally old. Most firms have gone through the transition from batch to onscreen billing and over time many have eliminated the paper truck. Here is a more recent example that I believe is still in the early stages of adoption.

In the early days of time and billing paper timesheets were collected and entered twice a month, purely to support billing. As a result, engagements only really got reviewed at the end when the partner looked at the WIP in order to prepare a bill. At that point, if the project had gone off the rails and was 50% over what the traffic would bear there was nothing to do but write it down and rebuke the staff involved for letting it happen. Now timesheets may be recorded daily and work can be recognized as WIP as soon as it is entered. Among other things this has made it easier to bill on completion and that's a good thing.

But the real bottom line gain lies in the opportunity to monitor (and manage) the project while it is *in process* rather than waiting until the end. It is this level of review that catches the project *before* it goes off the rails and allows a constructive intervention with the project team or with the client - perhaps negotiating a whole new project to deal with the scope expansion that good timekeeping can reveal. Potentially that 50% loss could be turned into 50% more revenue. For example, if a \$20,000 project comes in at \$30,000, with the old standard process you would have a write down of \$10,000 and a realization of 67%. If you can meet with the client when the scope starts to creep and negotiate an expanded scope, you are looking at \$10,000 more revenue and a realization of 100%. Not bad!

But there are very few firms who have adopted the habit of monitoring an engagement in process and let go of the habit of saving the review to the end, even though present day software supports it.

The technology that will allow firms to do this exists in the better practice management systems, but although that technology may have been purchased and installed, adoption of new process to realize the benefits is a separate question. In my experience this is not widely done.

We should not be surprised or critical that it is difficult to let go of past practices. Often these processes have served the firm well and have become deeply embedded in the production culture of the firm. These processes have been refined and tuned to the highest efficiency that they are capable of delivering and the firm's most senior people have been using them with good results for years. In addition these practices often have secondary benefits that must be reviewed and either discarded or met in some other way.

Change is hard. It takes time to learn how to use a new technology well and in that first period of new adoption we feel inefficient and incompetent. I can still remember when I first learned to operate a typewriter. I was painfully slow! But I stuck with it and now I can type fairly quickly and accurately without having to think about where my fingers are going. So it is with the adoption of almost any new technology. Initially it will feel like two steps backwards and many will want to revert to earlier processes - because for the moment these are more effective.

Steven Covey focuses his work around *habits*. His point here is that until the behavior we seek becomes habitual, it is unlikely to be much use. Successful adoption of new technology requires that we both learn *new habits* and discard old ones. Not an easy thing to do.

So how do we overcome the resistance to change that is built in to every organization and nearly every person? Let us first recall Dr. Goldratt's general principles:

1. We will need to adopt new procedures that take advantage of the new technology.
2. We must find, examine and let go of the old operating procedures that were in place to compensate for the lack of this new technology.

It seems to me that the plan must have the following elements:

- Bring in an outside consultant who is knowledgeable in the new technology and able to work with people and groups. The role of this individual or team is both as a consultant who has useful knowledge and perspective to offer and as a coach to help the leadership manage the change. I note that most management teams are not well-versed in change management.
- Define the benefits of the new technology and reduce these to good processes that work *for your firm*. This may take several iterations as there is rarely just one "best practice" to be adopted.
- Define the process that the new technology is replacing and especially what needs to be abandoned going forward. This is easy to say but actually requires a lot of hard work to see these ingrained processes clearly.
- With the help of the consultant and key stakeholders, plan and publish the implementation process.
- Obtain buy-in from those concerned, modifying the plan as needed. This is extremely important as it is easy to sabotage the adoption of a new process. Sometimes mere indifference is enough.
- Provide good training on the new processes to stakeholders and a readily available source of support as the inevitable questions and frustrations arise in the early use of the new technology.
- Invite feedback from the adopters and continue to refine the new processes in response to that feedback. This is the path to best practice for your operation.
- Involve the consultant/coach at every stage.
- Keep measuring the results. Are you obtaining the ROI that you sought?

I write this from the perspective of a long-time observer and vendor to the accounting industry. But do your own clients not have these same issues? Do you have any clients that have invested in new technologies and been disappointed in the results? It seems to me that there is a valuable service here that accountants can offer. But read [The Goal](#) first!

This might be in the context of opening a business coaching practice at your firm. Commercial Logic has partnered with Shirlaws USA ([www.shirlawscosting.com](http://www.shirlawscosting.com)) to provide training and certification to accounting firms in this rapidly growing line of business. Call us to learn more and we will put you in touch with the right people at Shirlaws.

[APS Advance Practice Management](#) provides a number of new, even revolutionary technologies that, when adopted as above, have the potential for major improvements to your bottom line. Call us to learn more. Can you afford not to?