

What does a Pilot Prove?

By: Henry F. Camp

Implementing a whole new way to approach logistics and inventory management can be a daunting task. Our clients typically can not anticipate all the implications of transitioning their supply chain from Push to Pull. Before taking the plunge, IDEA first suggests a pilot to test the concept on a small scale. A pilot reduces risk by reducing exposure and creates opportunities to gain Client buy-in. This paper discusses what can be expected from piloting IDEA's replenishment solution. It answers the title question and several others, such as: Can a pilot help me extrapolate the sales benefits that are reasonable to expect from a full implementation? How do I choose the right subset of our products for the pilot? How long should the pilot last?

Measuring Sales Improvements

IDEA's replenishment solution, which we call Elucidate, is based on developments of Dr. Eliyahu Goldratt's Theory of Constraints or TOC for short. In another article on our web site (www.ideallc.com) entitled *How the TOC Distribution Solution Increases Profits* by Dr. Goldratt, Stewart Witt and Kevin Fox, the authors detail nine ways sales are increased. One of the key reasons to start with a pilot implementation is to identify the magnitude of sales increases that can reasonably be expected from utilizing the full replenishment solution. The rule of thumb is: sales increases are normally an order of magnitude larger than measured shortages. For example, if you measure shortages at 3% currently, the TOC replenishment solution typically unearths 30% more sales. For more reading on this subject, this author humbly recommends his paper on the subject titled *The Illusion of Service Levels in the 90th Percentile*. This document is also available on the website.

The pilot will include a subset of the client's products. After IDEA manages this group of SKUs for a reasonable amount of time, we simply look at the change in those products compared to the rest of the items that continue to be managed conventionally.

For products that are sold to the client's customers, we look at the change in sales volume of pilot items compare to the rest of the items. Assume items in the pilot grew an average of 19.1% over the period we benchmarked while the rest of the products sold 4% less. Since the only difference is the TOC replenishment solution, we conclude that it produces about 23.1% more sales than the conventional approach. The chart below shows the value of such a change to a manufacturer for which raw materials are 45% of sales. Assumptions made here are that only 2% of sales is needed in new operating expense to manufacture 23% more product. Most of the additional production can be handled by the existing staff and equipment. The Elucidate pilot suggests net profits can be multiplied two and one half times.

	Current	Future
Sales	100%	123%
Raw Materials	45%	55%
Operating Expense	48%	50%
Net Profit	7%	18%

(all percentages are of current sales)

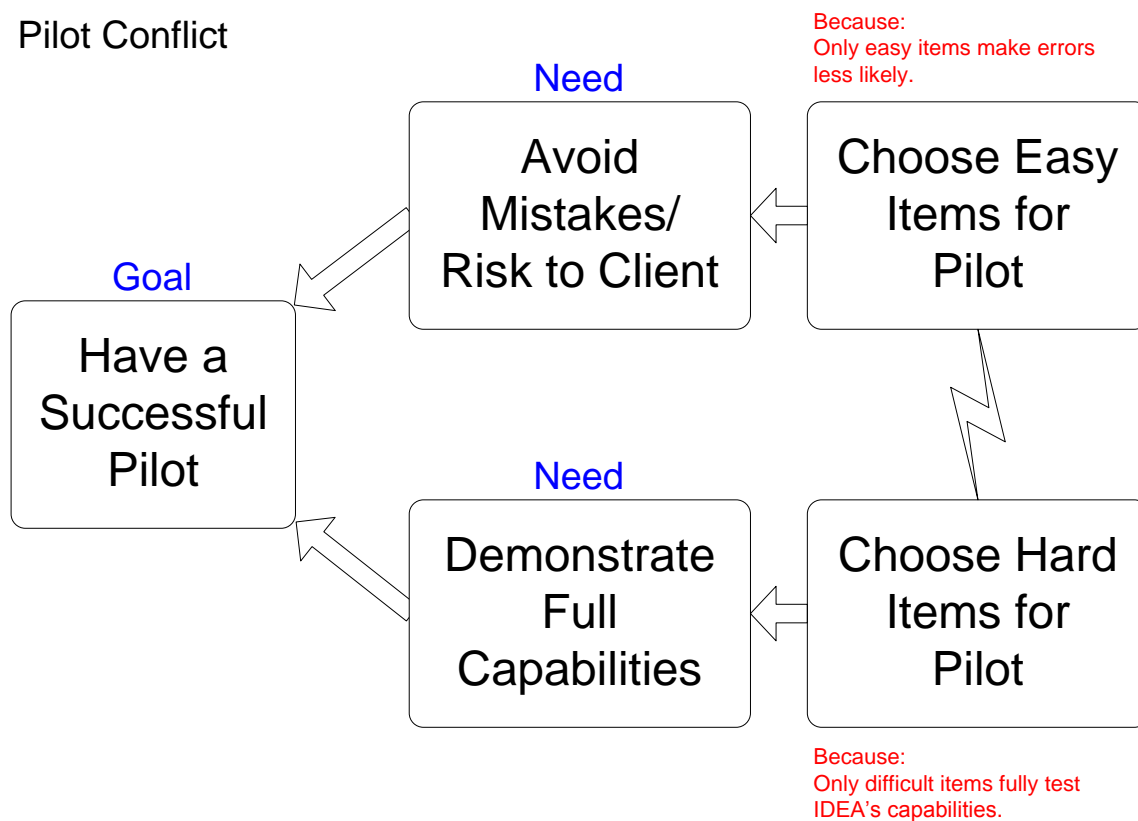
Similarly, if the products in question are raw materials, we measure availability rates. How much of the time are pilot items available to the next stage of the manufacturing process compare to the rest of the raw materials? In most cases, the differentials will be much smaller. The second measurement is the length of time the outage lasts for both the pilot products and the other components. Remember, however, that the cost of production downtime due to the lack of availability is huge. If even part of a plant stops producing, it may cause the loss of sales of the whole system until the raw material supply is again available.

Either way, if life gets easier and better for items covered by the pilot, we have a way to predict what the impact would be under a full implementation of the pull replenishment system. Knowing what to expect allows IDEA to reasonably measure the benefits its system brings to its clients in terms of increased sales or productivity. Clients thus have a good sense of one of the benefits they are get from IDEA.

Which Products to Include in the Pilot

The choice of which products to include is an interesting one. We want a successful pilot. That is our goal. In order to meet the goal, we must make sure mistakes are minimized. To make sure there are few mistakes, we must choose products that are easy to implement, because if the products are easy, only then are mistakes less likely. OK, fine. We also need to show IDEA's system can handle all the challenges it will experience during the full implementation. To meet that need, it is necessary to choose products that are hard to implement, because we won't have proven anything unless we tackle tough issues. Oops, we have a conflict. The necessary conditions are opposites. See the following diagram:

Pilot Conflict



IDEA believes in the TOC principle of inherent simplicity. To be specific, we don't think any conflict has a reason to exist. Conflicts don't exist in nature. We don't let them exist in our business world. To break the conflict, we inject the following: IDEA's replenishment solution is so well tested and monitored that any item can be handled without mistakes. Therefore, even if we chose difficult items, risks to the client are far less than continuing with their current approach. Before we ever get to the point of running a pilot, the client has agreed that there are problems, issues and undesirable effects in their business. The pilot is the first step toward improving the client's world.

Now the gloves are off. We can and should choose difficult products. Even when we do so, we still meet both needs. However, so long as some of the products are tough enough to prove that IDEA's approach can handle anything, we should also choose easy ones. If these are left out, then a client might reasonably argue that sales improvements on complex products are not indicative of the entire product mix. Since there may be difficulties which are encountered which were not expected, the only logical approach is to pick products for the pilot randomly. The sample size should be large enough to ensure that an example of most of the universe of products is represented in the scope of the pilot.

Duration of the pilot

It is not essential that the pilot wring every last benefit from the SKUs included. TOC's five focusing steps and Pareto analysis are used as prioritization tools. They insure that the most significant results are seen quickly. Six to eight average replenishment periods is enough to see where the pilot is going. Add to that three weeks of training, spread throughout the pilot to gain buy-in for the full implementation. So if items are usually replenished from the plant or supplier in 10 days, three months would be a good pilot. Add more time to be further convincing is important. In any case, do not embark on the full implementation without clear results from the pilot.

Pilot = Proof

The pilot has three purposes. First, prove to nay-sayers that IDEA's replenishment solution works as a means to

- increase sales/productivity,
- improve response times to customers/plants with less inventory,
- reduce operating expense,
- be a robust long lasting, easy to live with solution,
- reduce risks and
- get quick results.

Secondly, a proper pilot creates an agreed upon target for the full implementation. And, thirdly, it establishes a way to attribute results between the client's efforts and IDEA's, so the client always knows how much return there is on their investment in IDEA's services.

IDEA'S WAY OF THINKING	IDEA'S METHOD
<ul style="list-style-type: none"> • <i>Neither an accurate forecast nor changing vendors is required for success</i> • <i>There is a way to both increase sales and reduce inventory</i> • <i>Supply chains sell less when clogged with inventory</i> • <i>In the long term, unless the supply chain sells more no link can sell more</i> • <i>We must help clients gain buy-in internally and with supply chain partners</i> • <i>The majority of our fees are based on improved return on inventory</i> 	<ul style="list-style-type: none"> • <i>Verify the existence of inventory imbalances and the benefits of moving from a "Push" to a "Pull" system</i> • <i>Gain top management buy-in to the assessment and support of the approach</i> • <i>Build knowledge and understanding across the supply chain, at all levels</i> • <i>Utilize systems that deliver actionable information, integrated with existing software</i> • <i>Work with you until expected results are achieved</i> • <i>Share the tools and know-how to continually improve results</i>
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