



The Fast Track to Performance Breakthroughs: Testing improvement Ideas in Advance

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A multi-billion dollar packaging manufacturer reduced manufacturing waste by half and decreased machine setup time by 35%, providing millions of dollars in additional profit.

Across industries and geographies -- chemical plants in Texas, paper companies in Maine, telecommunications companies in Illinois and Colorado, and refineries in Alaska -- a cost-effective, breakthrough approach to improvement called MVT (multivariable testing) has produced similarly dramatic gains in productivity and quality.

How is this possible? By testing improvement ideas in advance to determine whether they will work.

There's no shortage of ideas for improving productivity and quality. Everyone from top consulting firms to executives and their frontline employees generates such ideas in abundance. Unfortunately, only about one quarter of those ideas ultimately work. In a study of over 14,000 performance improvement projects, MVT found that only about 25% of the ideas for improvement succeeded, no matter their source. About 50% of the ideas made no difference, and the remaining 25% actually hurt performance.

These results confirm something most people have long known -- good ideas can come from anywhere -- and they point to something that we've often failed to do -- test ideas in advance to determine which ones will work.

Some of the core concepts behind MVT originated during World War II. I first developed the overall process while I was working in the U.S. government nuclear weapons manufacturing facilities in Oak

Ridge, Tennessee. Today, through the evolution of the process, we can quickly and accurately test 20, 30, or 40 improvement ideas simultaneously. At no risk and almost no cost, we can quickly determine the precise combination of actions that will result in rapid and dramatic performance breakthroughs.

This determination is no small feat. Consider a management team confronted with 20 separate improvement ideas. An exploration of all possibilities results in 1,048,576 possible combinations. The probability that the single most perfect combination is already in place approaches a million to one. For 30 ideas, the odds are a billion-to-one, and 40 ideas represent a trillion-to-one probability that the "right" combination has already been found. Yet finding the right combination is precisely what sophisticated testing methods can do. For example:

- Using this testing approach, one of the world's largest chemical companies implemented a combination of improvement ideas for yield and capacity that generated \$35 million in cost savings at a single site in three years.
- A \$10 billion retailer tested 18 ideas for profitably increasing stores sales and found a combination that would increase retail sales by \$175 million and retail margins by \$85 million.
- A \$30 billion manufacturer tested 32 ideas across 5 vertically integrated sites and was able to reduce the average defect level of a component used in solar panels from 3000 to just 2, resulting in increased capacity in a critical growth business.

- A major online professional services company identified 160 ideas for improving the performance of sales representatives, tested 20 of those ideas, and implemented 4, resulting in a 29% increase in new business revenue.

These and many other companies have achieved such results simply by putting together two longstanding "technologies": the harvesting of ideas from all sources and an efficient process for testing those ideas.

Those who doubt that such apparently obvious conjunctions can have such far-reaching impact should consider the cell phone. Cell phones combine telephony and radio technology, both of which had been around for more than a century before they came together in a deceptively small package that has profoundly altered the way we live and work.

The path to breakthrough performance lies not in hiring unpredictable and expensive experts. Rather, it lies in the ability and willingness to put two and two together -- improvement ideas and testing.

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