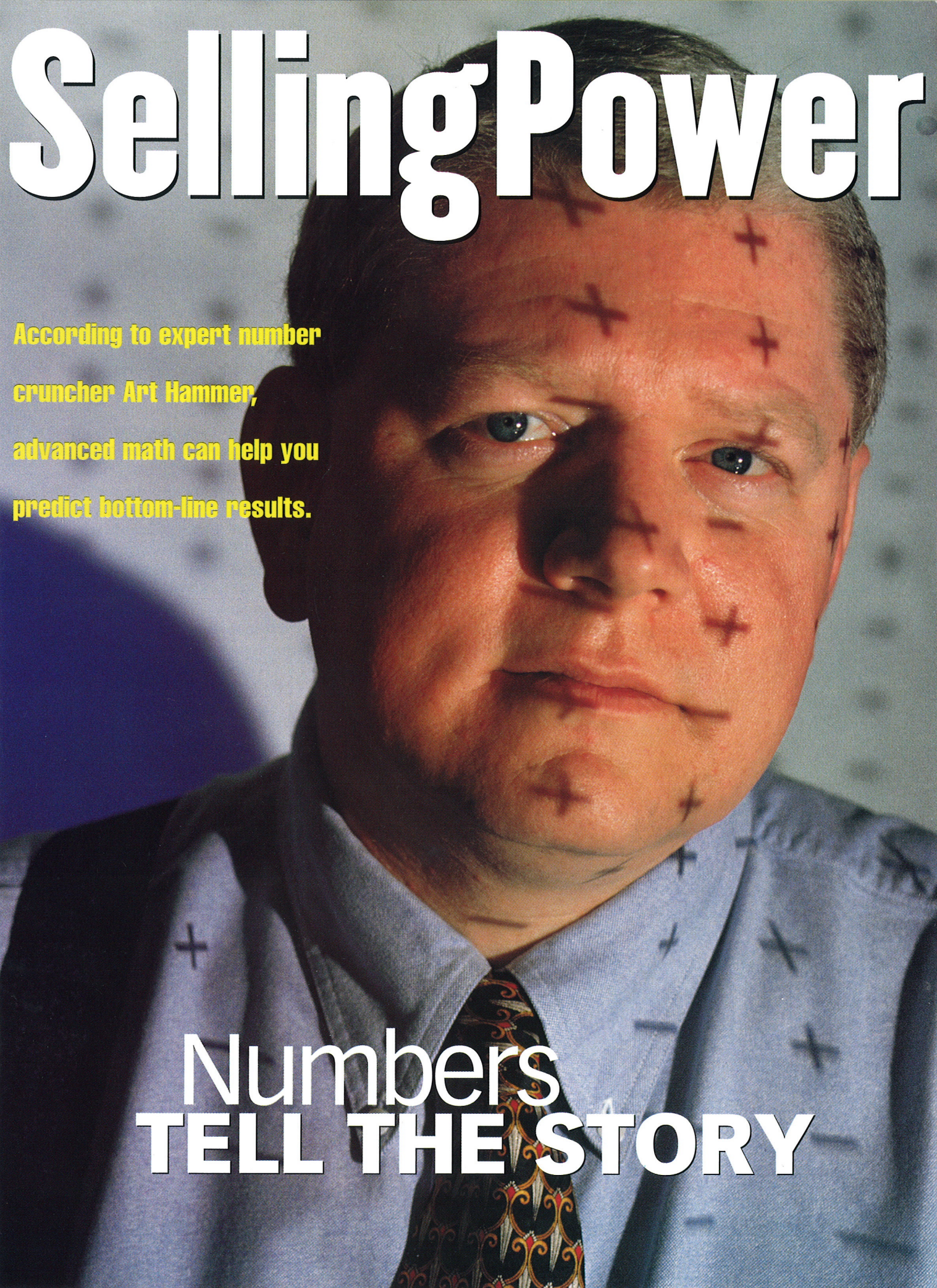
SellingPower



According to expert number cruncher Art Hammer, advanced math can help you predict bottom-line results.

Numbers TELL THE STORY

If you're like most good sales managers, you probably have dozens of great ideas for improving your sales force. With the steady stream of suggestions coming in the door from the members of your sales team, you may even have hundreds more ideas for improvement than time or resources would ever allow you to try.

As a result, most managers act on instinct, letting experience and gut feeling drive decisions about which programs to implement. And sometimes instinct pays off, delivering stellar bottom-line results. At other times, well, perhaps those times are best forgotten.

But Art Hammer, a consultant with QualPro Inc. of Knoxville, TN, says there is a better way. A mathematician and former nuclear-weapons designer by training, Hammer uses high-level geometry and statistics to produce a method of testing that accurately predicts the outcome of different combinations of variables for a range of business applications.

According to Hammer, most decision makers depend heavily on guesswork because they lack the time to sift through and test a range of options. To illustrate his point, Hammer offers a simple example.

"Say you have two ties, a blue one and a red one, and you want to find out which has more impact on sales calls," he says. "You can find out with two tests – one where you wear the red tie and the other where you wear the blue. You have one variable – tie color – and two tests. But what if you want to know whether the tie should have polka dots or not? Now you have two variables, and so you have to run four tests. With each additional variable the number of tests doubles, soon outpacing your capacity to test them all."

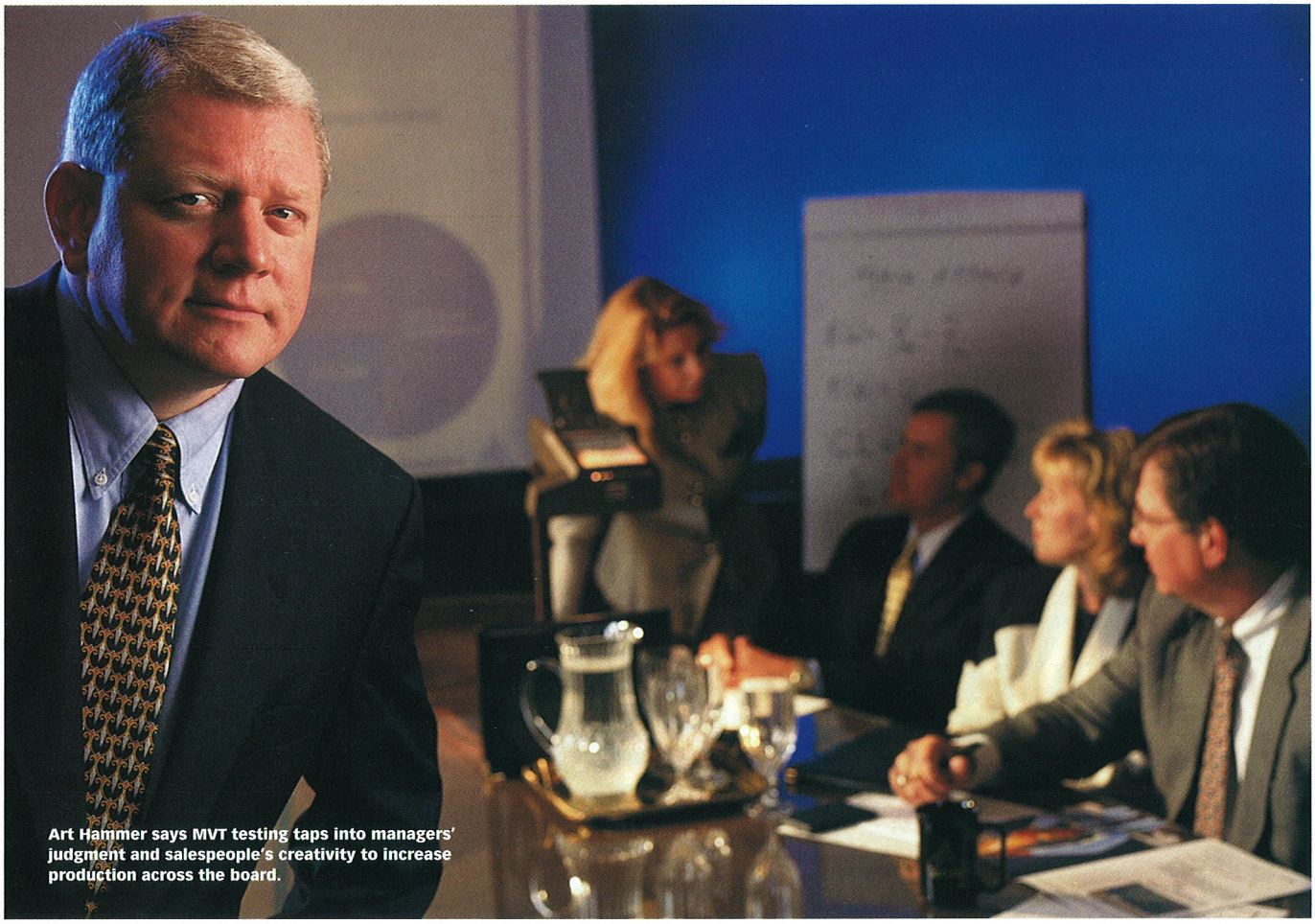
If you also want to find out whether white or blue shirts are more effective, and double- vs. single-breasted suits, not to mention black or brown briefcases, you soon end up having to run far more tests than is remotely feasible. For five variables, 32 tests are necessary. With ten variables, you're looking at more than 1,000 tests. At 30 variables the number jumps to over 1 billion.

Hammer's solution to this dilemma, called "multivariable testing" or MVT, involves far fewer tests but measures the results of the same number of options. By running a short series of trials, each time combining a different set of variables, Hammer says he can deduce which individual variables deliver the best results. With ten variables, he says, instead of a ponderous 1,000 trials, he needs to run a mere 11 tests.

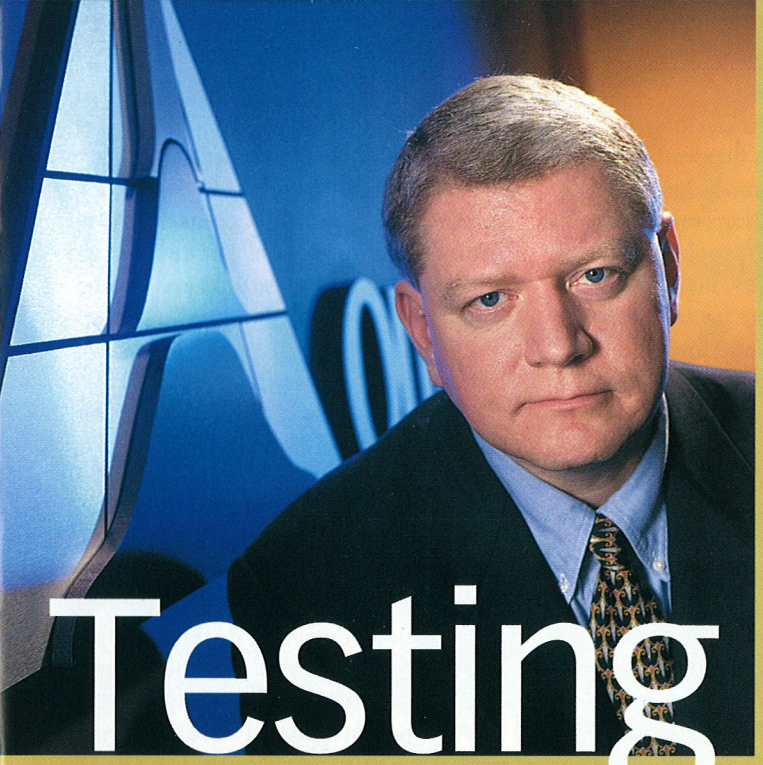
Using the MVT method (which was originally developed in the 1930s to find the most effective techniques for shooting down German aircraft) Hammer and QualPro have assisted in streamlining DuPont's chemical plants; doubled the results of Lowe's advertising efforts; shown PacBell how to quadruple sales of features like call waiting and return call; and even sifted through more than 500 options to help revamp the *National Enquirer's* cover design.

> "With multivariable testing you not only solicit ideas from your staff, but you also have evidence showing which ones are effective and deserve to be implemented."

So how does MVT work with a sales organization? One multibillion dollar



Art Hammer says MVT testing taps into managers' judgment and salespeople's creativity to increase production across the board.



Testing

ONE, TWO, THREE...

Looking to take the guesswork out of management? A do-it-yourself multivariable test may be the answer. Got a few ideas floating around for improving your sales department's effectiveness that you're just itching to try out? Here's how one Midwestern sales manager turned schoolteacher used multivariable testing to find out which ideas to implement and which to send back to the remedial school drawing board.

In fact, this manager had dozens of thoughts for invigorating his moribund construction supply sales team. Even more ideas flooded in from his salespeople, existing customers and service reps. Narrowing the list of ideas to seven which were easy to test, practical to implement and cost effective, the manager initiated a four-week, multivariable test. After randomly selecting 16 members of his sales force, he divided them into eight pairs. To each pair he assigned a unique recipe of four of the seven variables (see chart). So, for example, while one pair focused on a specific product line, spent four hours per week doing phone blitzes, provided daily reports to the manager and teamed up with customer service reps (recipe two), another pair sold that month using more concise sales proposals, participated in weekly goal-setting sessions with the manager, also spent four hours a week on telephone blitzes and teamed up with customer service reps (recipe six). As a control, the eighth pair made no changes to their selling routine.

RECIPES	1	2	3	4	5	6	7	8	Effect on sales*
More concise sales proposal	+	–	–	+	–	+	+	–	8,758
Salesperson focused on one product line	+	+	–	–	+	–	+	–	4,655
Four hours per week "telephone blitz"	+	+	+	–	–	+	–	–	18,056
Daily report of sales activity to manager	–	+	+	+	–	–	+	–	-903
More extensive sample kit	+	-	+	+	+	–	–	–	854
Team up a customer service rep with each sales rep	–	+	–	+	+	+	–	–	2,301
Weekly goal setting session with manager	–	–	+	–	+	+	+	–	-1,602
Average sales increase over previous year in $1000's	**34**	**26**	**18**	**13**	**8**	**29**	**13**	**2**	

Source: QualPro

**Sales in + trials minus sales in - trials divided by number of + trials*

At the tests' conclusion, for each variable the manager added the total sales of the reps who sold using that "ingredient" and subtracted the sales of the reps who sold without it. Dividing that sum by the number of reps selling with the ingredient he determined the precise difference in sales accounted for by that variable (far right column).

The manager then compared the results from each pair of salespeople with that pair's sales figures from the same time period a year before (bottom row). While all the reps showed an improvement over the previous year (including the control group), some of the differences were dramatic. Three ideas – more concise sales proposals, single product line selling and telephone blitzes – significantly improved sales; two – more extensive sample kits and service reps on sales calls – had a negligible effect; and two others – daily reports and weekly goal-setting sessions – actually reduced sales.

In an additional follow-up test involving just the three variables that showed improvement, the manager found that having sales reps sell just a single product line actually reduced returns when combined with the other two positive factors. Assessing these results just two months after launching the first set of tests, the manager implemented the two new initiatives, confident that they would produce bottom-line results. So what happened? The next month sales rose 32 percent and have been sustained at an even higher level for over a year. That's called taking the competition to school.

telecommunications company's sales manager, when faced with a corporate directive to increase sales in his underperforming office by 40 percent, asked QualPro to help him turn things around. QualPro conferred with the manager and select members of his staff to generate more than 90 ideas for possible improvement. Of these, the following 14 were determined to be feasible, practical and cost efficient for the six business-to-business telecommunications systems product areas they chose to test:

Increasing call rates by 5–7 calls per day, lengthening sales proposals, offering gifts to customers, holding meetings in the sales office instead of at the customer's site, preparing a written contact plan ahead of time, bringing a technical expert on applicable calls, making a full product demonstration every time, preparing a customer profile ahead of time, using laptops, reviewing potential credit plans with customers, instituting a call-out program to target customers with specific product needs, sending a letter prior to a visit, always mentioning a discount, and preparing a geographical, rather than product-based, sales plan.

Using the MVT method QualPro conducted a four-month-long series of 15 trials, each time testing a different combination of three of the 14 variables. By looking at the outcome of each combination, QualPro assessed which individual factor – as well as which blend of factors – produced the best results.

The results took the manager and his sales reps by surprise. As Hammer says is typical, most of the variables had virtually no effect on sales. Increasing call rates – the manager's pet idea – produced only minimal gains in some of the product areas, as did the technical expert's assistance. The longer proposal actually proved counterproductive, driving down sales. But to everyone's shock, the greatest increase in sales across product lines resulted from inviting prospects into the sales office.

Implementing the results of the test, the manager's team immediately realized a dramatic boost in productivity, tripling sales from 4,577 to 14,725 units a month. At first other company sales offices scoffed at the results, noting that a poorly producing office has nowhere to go but up. But when the results were also implemented in the company's best district office and sales there jumped over 50 percent, the entire sales organization recognized this tool's power to direct positive organizational change.

These results are typical, Hammer says, in that most of the sales organization's ideas

proved either ineffective or actually detrimental to bottom-line sales.

"From 16 years' experience," he says, "I would say that of the ideas people unanimously agree are going to help, 25 percent will improve results, 50 percent will have no effect and 25 percent actually hurt.

"This case is also typical in that the tests drove changes that resulted in higher production levels across the board compared to what the top sales rep was doing previously. So if one salesperson is selling 100 units a month, another sells 200 and the best sells 500, by the time we're through we'll probably have them all selling well over 1,000 units. This is because we not only disseminate to everyone in the organization the best practices that the top seller exhibits, we also add some of the good things that other reps are doing, and as a result you get a compound effect."

At first glance, many executives fear that the MVT process is supposed to replace managers with an ostensibly "scientific" method for making decisions. This is far from the case, says Hammer.

"We're not replacing judgment," he says. "It was the managers' judgment and expertise that came up with the 50 ideas we ran the tests on. Then we relied on customers, through their dollars, to separate the wheat from the chaff into ideas that work, that have no effect and that are harmful. So those five ideas that worked were a direct result of their knowledge.

"Then the other thing you're doing is tapping into your salespeople's creativity. It's a stereotype, I know, but in many organizations there's one person at the top who makes the decisions, and the rest of the people think, 'He gets to be the creative one while we just do what we're told.' With multivariable testing you not only solicit ideas from your staff, but you also have evidence showing which ones are effective and deserve to be implemented."

Hammer also likes to emphasize that the tests' turnaround time is short, and the clients are not required to do any of the monitoring.

"Running experiments and tests is not the forte of people in sales," he explains. "We take care of all that. And the actual trials are relatively brief. So from our first conversation until the completion of tests is usually about six months. But the actual execution of the tests in the marketplace is often less than a month. So from the time we agree on the variables to be tested to the point where we have actual hard data is often not even four weeks."

In addition to revealing the individual ideas that drive marketplace results, Hammer says another great aspect of multivariable testing is that it reveals effective combinations of factors. To illustrate the point, he returns to the necktie example.

"Oftentimes when you do A," he explains, "nothing exciting happens. You do B, nothing exciting happens. But then you do A and B together, and that produces exciting results. This is one of the powerful parts of MVT – you change the necktie color from blue to red and everyone yawned. Polka dots made them yawn. But then red polka dots drive them wild. We have the ability to find synergies when two things done together do not yield the results you would have expected from doing them both separately. We have done tests where people tell us that we didn't generate a single new idea but that they had never thought to do things in that combination before. And it was the combination that turned on the marketplace."

Perhaps best of all, you don't have to understand the mathematics involved to take advantage of their application. Hammer claims that he can explain the principles, if not the actual calculations, to anyone with the equivalent of a fourth grade aptitude in math.

"Clients are glad to leave the geometry and statistics to me," Hammer says. "That's what I do best. What they do best is market and sell their products, and MVT gives them the tools to do that even better.

"And that's true no matter what color your tie is," he adds. •

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