

MARKETING SCIENCE

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This new column will be a regular feature of Series B. Correspondence from readers is welcomed and will become a regular part of the material of the column.

Galileo Galilei's Ghost

When I was asked to write a marketing column for Series B, the usual human tendency to do things in the wrong order took over immediately. It became important to decide what to call the column and to design a masthead. At the time, it didn't seem to matter that I had little notion what would be put in the space below the masthead. Now the title and masthead are done, and I am faced with filling that space. It brings to mind the comment of a novelist that there is nothing more frightening in the world than a blank sheet of paper.

For over fifty years, the idea of joining the word "science" to the word "marketing" has met with considerable skepticism. The two words have often appeared with a question mark and often with much more disparaging epithets. The skepticism has not stopped all progress. The American Marketing Association, for instance, claims its purpose is to foster the advancement of science in marketing. And, with a certain amount of clucking, the marketing community permitted, and even encouraged, the founding of an organization called the Marketing Science Institute. Just this past Spring, in Boston, TIMS officially started its College on Marketing which should certainly be concerned with the question of Marketing Science.

Marketing Engineering and Accuracy

At that opening meeting of the College on Marketing, John Little tried to identify some good examples of how Management Science has already contributed to marketing and to point out some trends he saw in process. The presentation, while accurate, was not encouraging. I think we can pin the reasons for this on two simple facts. First, we are busily concerning ourselves with marketing engineering and calling it science. Second, we face an audience that assumes that being scientific means being accurate.

Science requires one to develop theory and demonstrate the appropriateness of the theory. Engineering, on the other hand, has the task of using whatever applicable theory it can find, coupling it with some hard trial and error, and

developing a method for solving a problem. If we read our own Journal, listen to John Little's review, or attend the meetings of such societies as the American Marketing Association and the Advertising Research Foundation, we are struck with the fact that all we hear about are methods—the output of the engineering process. It is a very rare day when theoretical propositions are discussed.

Far too often, we find that the customers for marketing science will dismiss a theoretical proposition simply because it requires data which cannot be measured accurately. And we even find the so-called scientists encouraging such behavior. Yet my experience with marketing models is that the ones with the most far-reaching impact are, in fact, those which depend on inaccurate data.

Marketing measurement problems remind me of the problems related to measuring the rate of fall of free falling bodies. In Galileo's time, each measurement of the rate of fall seemed to contradict prior measurements. If feathers were dropped, the rate was slow. Cannonballs fell rapidly. Big objects seemed generally to fall faster than small ones. Heavy ones appeared to drop more quickly than light ones. The Church was convinced of the last proposition, just as most First Graders are today, but a clear, predictable relationship of weight to speed of descent could not be found.

Galileo built himself a theory about falling bodies which unified the problem. It was an absurd theory on the face of it. It was so absurd that the Church was left unconvinced when he demonstrated it by dropping balls off the Campanile in Pisa. And, of course, it was easy for anyone to stage a counter-demonstration by choosing objects with very different air resistance.

In marketing, a similar situation is evident today. The marketing community is rather generally convinced that the power of advertising and promotion is related to weight. The more weight, the greater the effect. But attempts to measure the relationship show it to be at least as elusive as the counterpart for the gravitational field. Perhaps we can learn a lesson from the physicist. Perhaps weight is a minor factor and something more fundamental will solve our problem.

But where's the Galileo in marketing? Our concentration on methods is not likely to lead us to a unifying theory, nor to produce a Galileo in marketing.

Longman's Law

At this point it is appropriate to introduce Longman's Law. I don't know whether anyone else has ever taken credit for it (I've never seen it in print), so I am taking the liberty of naming it my law. (Prior claims to this will be given serious consideration by the editor, who may thereby relinquish his rights to the law and assign them elsewhere.) Longman's Law merely states that the more relevant an item of information, the more difficult it is to measure. It is probably not a universal law, but it is a pretty good generalization. Galileo's experiment is a nice example. He couldn't really measure it with the technology he had available. An adequate demonstration had to wait until we knew how to produce a near vacuum. Einstein's Theory of Relativity still suffers from inadequate

technology. We are now using satellites to try to remove the refraction of the Earth's atmosphere as we measure the gravitational characteristics of light during solar eclipses.

Longman's Law seems to apply in marketing too. When we have a coupon drop, it is easy to measure the redemption rate. It doesn't take much thinking to see that that measure misses the point. With a little more effort, we can find out how many redeemers are "apparent new triers," which is more to the point, but it is still inadequately defined. More relevant, and much harder to measure, is the degree to which the "apparent new triers" stay with the brand. Our measured numbers jump around in an unpredictable fashion just like the falling body measure without a vacuum, and we don't know why. We lack a theoretical structure which can explain why these relevant measures behave so peculiarly—somewhere there must be an even more relevant principle.

In advertising, we have a similar problem. It is very easy to measure dollar weight, a little more difficult to measure exposure, still more difficult to measure noting, and so on and so on. Each step is a little more relevant than the last and a little more difficult to measure. Again the technology is inadequate and the numbers jump around in strange ways suggesting the need for more relevant measures derived from viable theory.

Longman's Law suggests that models built around available, accurate data will usually seem to smack of irrelevance. But most of our models are of this type. The implication of Longman's Law is that the best models will require a great deal of subjective, judgmental input. These judgments will be made valuable only to the extent the models are clear articulators and transmitters of viable theoretical propositions which clearly define relevance. If such models are effective in producing better decisions, their own effectiveness will be their validation. As the models are used, we will learn how to measure more relevantly. We will invent our own equivalents of the vacuum.

If we turn our attention to theoretical models trying to define unifying principles, we will lose our concern with using only accurate data and become scientists. If not, we will remain engineers, which is all right as long as we admit it.

I hope the readers will write to me about such questions as:

1. Are there any good examples of models built out of theory about the area to which they are applied?
2. What is the role of generalized methods (e.g. Markov chains and linear programming) in building models?
3. Is Longman's Law true? Or at least as true as Parkinson's?
4. Is Longman's Law Longman's or someone else's?
5. Any other question about Marketing Science that concerns them.

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