



## How Does the Practice of Science Inform Business Leaders?

Some of the larger consulting firms market the fact that they hire a lot of Ph.D. scientists. The reason given is that their training imparts superior analytical skills. Although true, this is far from all of the important insight that the practice of science offers to business leaders. The practice of science has been honed over centuries around a well-defined, commonly practiced method, whereas the practice of business is more diffuse. The training of scientists also stresses certain behavior traits that are essential to have for business leaders who strive to have an execution environment. Each business situation seems unique, and there is always ambiguity and a lack of information and insight. Business leaders, nonetheless, have to be decisive, but they are too often overwhelmed and overly cautious. The practice of science in the form of research is by its nature tackling the unknown, and the practice of science has devised commonly used methods of value to business to routinely handle ambiguity and a lack of information and insight.

Our paper *An Execution Environment* describes execution as critically depending on formulating and answering the right questions. So does science. What outcome do we want? What is known? What additional information can we develop? How do we think it will work? How can we test that? These questions are fundamental to the practice of science and to the leadership of business. Asking these questions has been codified into the *Scientific Method*, which is widely taught. In the *Scientific Method*, we first establish all that is known about our problem, by examining the problem itself and by gathering information. We combine that information with our experience and analysis to formulate a hypothesis, which is a statement of how we think things work. The information we gathered and our analysis is meant to reduce the ambiguity and lack of insight, but a lot of ambiguity and lack of insight will still exist. This process allows us to handle that rather than be overwhelmed and overly cautious. The key is the final step of the *Scientific Method*, in which we test the hypothesis to validate it, or to reveal its flaws and limitations so we can formulate a better hypothesis.

Let's consider business activities like strategic planning and decision making for a minute. How often does your planning include comprehensive searching for external relevant data? How often is your analysis formalized to the extent where predictive models are constructed and predictions made? How often do you test the predictions of your plans, or even the validity of the underlying information and



assumptions? Are your market predictions correct? Are your expected results consistent with realistic market predictions? These are the kinds of questions that are routinely asked in the various business processes of an organization with an execution environment. How many of your business functions are conducted in this way?

There are other aspects about the training of scientists that are of value to business leaders. Business leaders often avoid what they do not want to face. Scientists routinely question the validity of their results. Business leaders spend little time probing and questioning the critical assumptions of their key plans and reviewing their progress. Scientists assertively try to discredit their assumptions, and continuously review the progress of their investigations. Business leaders see this function as not part of leadership and as a misuse of their time. Scientists see practice of the scientific method, which requires continuous questioning of assumptions and results, as the benchmark of practicing their craft.

Isn't a presentation with a few perfunctory questions the norm for a presentation about the strategic plan, the recruiting and people development plan, and the operation and budgeting plan? Go to a scientific project review meeting and it will be foreign to you. It will be a free for all, highly aggressive, "take no prisoners" environment in which the titular position of the participants is not on display. This may seem disrespectful and non-productive to you, but it is the only way to ferret out the unvarnished reality, and you need to hear the unvarnished reality. Embracing the unvarnished reality is liberating, empowering you to discard what will never work and morph to what will at an early enough time that the option to do so still exists. As for respect, the fact that you are at the table, free to express your views should be recognized as the real expression of respect.

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