

Learning from ENRON

By now, nearly everyone in the academic world will have heard of ENRON and other similar scandals that are shaking the financial sector. Some clever bookkeeping manoeuvres put a needed gloss on the company's accounts that helped to boost their stocks to new heights. But when examined critically, a rather different financial situation emerged, which was followed by a sharp dive in ENRON's share price and the ultimate collapse of the company. ENRON was not alone, as the recent fall in the stock market shows—many other companies have cooked their books over the last couple of years in order to improve their performance on the stock market.

Indeed, a number of the current economic problems seem to stem from the fact that nobody knows when and where the next ENRON will come to light. It would also appear that even governments are willing to try financial sleight-of-hand tricks to put a gloss on their economic forecasts—either to help their re-election or to comply with externally imposed criteria. As scientists we may sit back and watch with some bemusement—or even pleasure—how the once brash and mighty are falling. But the events in the business world have consequences that reverberate far beyond the stock markets, and we should consider those as well as the lessons that we can learn from them.

An important element in the ENRON story is the fact that their books had been certified by seemingly independent accounting firms, which should have guaranteed the validity of the data and their presentation. But the accounting companies were obviously too eager to close their eyes to irregularities in order to save their profitable advisory contracts with the same companies they were supposed to oversee. It seems that this loss of control is not just confined to business. A colleague recently told me that he was surprised to learn that two papers had been accepted by a well-known and

respected high-impact journal without revision or referees' comments. Apparently, it now involves only an editorial decision to publish a paper in that journal, which implies a risk of irregularities in the data or their presentation being overlooked. However, many scientists clearly do not seem to have a problem with abandoning the established and proven checks and controls if it helps them to finish first in the publication race. This seems dangerous for science, and indeed unhelpful to the authors who are deprived of the beneficial comments of an expert review. The controls that everybody thought to be in place in ENRON are obviously slackening in academic circles too.

Such a development might further endanger the public credibility of academic research. One should remember that one reason for the failure of many companies in the dotcom era was a tolerance for a cosmetic improvement in their prospects. Many investors and analysts acted as if they really believed that it was a rainbow that led to a pot of gold. As more and more investors bought stocks, their value grew until the shares eventually replaced the pot of gold as the valued object. But then the rainbow disappeared and with it the promise of any gold, and those still holding on to their stocks realised that they had been duped. They will not be as naïve the next time.

In the research world, we have also become increasingly accustomed to selling pots of gold at the end of rainbows, and are similarly in danger of duping those who listen. While it is true that research will lead to both social and economic progress, it is also obvious that some of these extrapolations lack mathematical rigour. After ENRON, disbelief and pessimism have set in among analysts and investors in the stock market and it would be strange if this did not spread to the funders of research.

Ironically, effective measures to prevent this might mean adopting some business

practices. When a startup company prepares a business plan to attract investors, it is obliged to declare all possible risks and failures. This seemed to me a shocking requirement when I first encountered it—the concept of spelling out what could go wrong while you are trying to convince people to fund your company is certainly counter-intuitive. But, in general, it is a system that works well, because investors know that the possibility of something going wrong does not mean that it will go wrong. Furthermore, not exposing a potential risk is equivalent to deceiving investors with very practical financial and legal consequences.

The process of identifying things that could go wrong under certain circumstances is a helpful exercise, as it allows a company to draft and adopt strategies in order to avoid them. Suppose that we extend this concept to research proposals where—analogue to a business plan—we request money from funding agencies. In addition to indicating the potential of our work, we should perhaps point out that the transgenic mouse we create might not be viable, that the amount of RNA isolated from a given tissue might not be sufficient for DNA array experiments or that the data we obtain from yeast might not be directly applicable to human cells. We could also indicate the ensuing steps to move from the experimental data to the planned application.

The ENRON scandal is a call for greater scrutiny in the financial world and the US government is considering new laws and guidelines. It should have happened earlier, but the financial community was willing to allow optimism and greed to blind it to the facts and deafen it to any alarm bells. Scientists should learn from this and ensure that they do not fall into the same trap as ENRON did in the business world.

Frank Gannon

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