

## Oil Exploration and the Life Insurance Industry

Having recently marked the anniversary of the worst oil spill in US history with gas prices exceeding \$4.00/gallon in some states, it's hard to not think about the oil industry lately. Remarkably, when you look past the recent headlines, there are some surprising similarities between the oil exploration process and life insurance underwriting.

For example, now that the so called "elephant" oil deposits have all been discovered, companies have to rely on much more obscure and hard to reach sites. As a result, oil exploration has become very high tech and expensive. Highly skilled geophysicists and geologists have developed numerous creative techniques to help guide them towards probable deposits. In an article titled "Extreme Oil – Modern Exploration" on the PBS website, <http://www.pbs.org/wnet/extremeoil/science/exploration2.html> there is a brief discussion about a variety of techniques that include measuring changes in the earth's gravitational field, variations in the magnetic properties of rock formations, testing electrical conductivity, measuring the speed of seismic waves, and developing complex 3D seismic images.

One would think that with all of these high tech tools at their disposal, the determination of whether or not a particular site contained oil would be relatively academic, yet the industry is still plagued by a proliferation of "dry holes". On the website Allexperts.com, geologist Lee Petersen offers up a lucid explanation for the limitations of even the most highly technical analysis: "The problem with most of the subsurface data we have to work with in oil exploration is that they are all indirect evidence. From these measurements of indirect properties, we try to calculate the porosity of the reservoir and what kind of fluid may be in it, but we aren't measuring these things directly, we are only extrapolating an answer based on a bunch of related but indirect data." <http://en.allexperts.com/q/Energy-Industry-Oil-2441/Oil-Exploration-Techniques.htm>

It's hard to read that statement and not think about the similar challenges we face with simplified issue underwriting. Just as the oil exploration geologist pines for the ability to see firsthand if oil is present or not, so does the simplified issue underwriter lament the lack of lab reports, physical exams and medical records that provide conclusive confirmation of suspected infirmities. Instead, we rely on phone interviews and a host of electronic data reports that provide markers but rarely indisputable proof. One major difference though is that the oil industry has developed an array of much more sophisticated tools to help guide them.

Certainly, the expense involved in drilling a dry hole differs greatly from the cost of underwriting a small face life policy so the economics support a more high tech approach. However, I recently finished reading the book [The Quants: How a New Breed of Math Whizzes Conquered Wall Street and Almost Destroyed it](#) by Scott Patterson. This book focused on how hedge funds employed some of the brightest mathematicians to develop complex algorithms to help make sense out of the random fluctuations in the investment markets. It occurred to me that the insurance industry has our own share of gifted mathematical minds in every actuarial department. If Wall Street would dare to undertake the impossible task of using mathematics to decipher patterns in random events, it seems reasonable to assume that that same logic could help our industry better understand the assuredly not random elements that signify an individual's state of health. The medical field has recently started to embrace this same approach as evidenced by the existence of organizations such as the Laboratory for Quantitative Medicine at Mass General Hospital: <http://www.lifemath.net/quantmed/>

In the bestselling book Switch – How to Change Things When Change is Hard by Chip and Dan Heath they use a rather unfortunate case study involving BP to illustrate how the company was able to dramatically improve their success rate for new wells and create a new standard for the industry. In 1989 the average hit rate for a producing well in the oil industry was 8:1. BP's rate was an enviable 5:1, resulting in an exploratory expense of about \$5 per barrel. The company initiated a cost cutting initiative and was determined to reduce the cost of exploration down to an inconceivable \$1 per barrel. Although this was deemed to be an impossibility, Jim Farnsworth, a top leader in BP's exploration unit identified a vulnerability in their analysis process that contributed towards a higher than necessary cost of exploration. "Explorers think in terms of risk probabilities. People get so caught up in the numbers that they think, "well, if we drill ten of these 1 in 10 wells, we'll hit at least one of them and we'll all make a lot of money". But when you do the analysis, you realize that something that is 1 in 10 *never* works so it's a false sense of statistical clarity".

This blind faith in the inevitability of probabilities reminds me a lot of my own experience as an agent. For many years, the consistent rule of thumb in our industry has been that for every ten phone calls, an agent can expect three appointments and at least one sale. Although the ratios can vary slightly depending upon market, product, and level of training, most agents fall back on the inevitability and reliability of these statistics, even to the point of quantifying the dollar value of every phone call regardless of the outcome. The problem with these stats is that dialing for dollars isn't a random event – or at least, it shouldn't be. Probabilities line up nicely over repeated trials when you're flipping a coin, but there are a significant number of elements that can dramatically influence the outcome when calling a prospect. Just as with drilling dry holes, it's fairly easy to quantify which calls are most likely to pay off if you do your homework first. At last year's LIC Marketing Conferences, we had phone trainer Gail Goodman and "lead guru" Don Runge break down the phone calling and lead development aspects of selling to the nth degree of detail. Just as BP was able to dramatically reduce the number of dry holes by spending more time doing the upfront preparatory work, specialized training can dramatically improve an agent's success rate when contacting new prospects.

The next hurdle is accurately interpreting what all of that front-end analysis is telling you. In an effort to quantify whether it makes sense to invest the time and money drilling a well that may or may not yield results, the oil industry has developed comprehensive programs to estimate the expected return on a particular site. These highly sophisticated models are similar to what financial analysts use to evaluate the potential of a particular investment or portfolio and rely on a bevy of assumptions and statistical calculations to succinctly quantify the potential benefits of one hole over another. Chip and Dan Heath pinpoint the problem with these models with the observation that "when you feed subjective estimates into an expected value calculation, a precise number pops out, giving the illusion of scientific certainty. It didn't go unnoticed among explorers that if they really wanted to drill a well, they could simply tinker around with the math in a spreadsheet".

This subjectivity plagues insurance companies as well. We've all relied upon actuarial projections that compile a myriad of assumptions into complex models that weight a variety of probable outcomes over different periods of time. In an effort to "translate" these complicated calculations into something that those of us who don't speak math can understand, the models tend to boil things down to a few simple numbers that become the measuring point for success or failure – usually a measurement of ROI or some other agreed upon proxy for profitability.

Many a marketer has been stymied by a model that dictated the death of a product due to falling short of a single measurement. Just as with oil exploration, it's fairly easy to shift the outcome of a model

towards a desired result by tinkering with the vast number of assumptions that go into the front end. Rather than obsessing over the outcome, companies would be much better served to focus their efforts on managing the upfront elements of a product rather than merely reacting to whatever outcome the model indicated.

Ian Vann, then BP's Head of Exploration figured out a way to eliminate the "fudge factor" associated with spreadsheet analysis when it came to determining whether or not to drill a hole. He decreed that BP would have no dry holes at all. None. This was an impossible expectation, but one that attempted to push the company towards an absolute extreme limit. In response, geologists became more systematic about mapping and aggregating the information they had. Their analysis became much more thorough and much less subjective than it had been. They color coded maps and overlaid them on top of each other with each layer representing a different geological test. A well would only be drilled in regions that showed positive for every conceivable layer. The result was an incredible 2:1 success ratio for exploratory wells.

This has some interesting implications for the life insurance industry. Imagine what might be possible if a company declared that they would have no more rescissions. An impossibility? Perhaps. But what might change on the front end if everyone in the company were focused on making sure that every death claim in the first two years was legitimate? Or what if the goal were 100% first year persistency? Would the conversation your agents were having at the point of sale be different if the expectation was that every application was issued and stayed on the books? Would you design your policies differently if this were the goal? Would your procedures change in response to an insufficient funds notice? Or what if the expectation were that for every phone call an agent made, an appointment would result? And for every appointment, there would be at least one sale? Are your current training methods sufficient to support such lofty expectations?

Although these might be unreasonable expectations, the implications for how a company would organize itself in response to these goals are significant and profound – as are the potential benefits even in falling short of achieving these goals. I will admit that in the process of writing this article, I was inspired as well. What would the LIC do differently if our goal was to provide the resources for all of our members to transform their companies? How would our conferences be structured? What would I be focused on if the goal were to differentiate the LIC as truly unique from every other industry association? What unreasonable expectations am I overlooking?

We're fortunate in our industry that we don't have to spend millions of dollars underwriting every potential applicant using complex geological and geophysical tests. And the cost of issuing a policy on the wrong person, although expensive, isn't an unmanageable risk. Furthermore, we don't have to deal with inventory, environmental impact studies, transportation and distribution infrastructure, and dangerous working conditions. Yet in our simplicity, we seem to have become complacent in accepting status quo. For an industry that is devoted to managing risk, most of what we do is react to it, try to predict it, and then price for it. We lament the decline in our sales force. We adjust our models to reflect actual mortality and persistency. We lay-off and hire employees in response to changes in interest rates and earnings. And we continue to utilize the same tried and true methods that have served our industry so well over the years – while wondering why we continue to achieve the same results.

Yet status quo denies our industry the breakthroughs that are only possible through the pursuit of unreasonable goals and impossible expectations. Who knows, by demanding more of ourselves and our

companies, perhaps the new destination of choice for the best and brightest college graduates will shift away from Wall Street and towards the Mecca of the insurance industry in places like Des Moines, IA and Hartford, CT!