



Strategic Decisions Group

CHEVRON OVERCOMES THE BIGGEST BIAS OF ALL

By Carl S. Spetzler, Strategic Decisions Group

An SDG White Paper

ABSTRACT

Many in the behavioral decision science community describe how our human nature falls short of making the best decisions. But none of the potential solutions address what we've come to identify as the Biggest Bias of All – the perception that we are good at making decisions. In truth, human nature favors decisions that satisfice, not those that optimize. By adopting a systematic framework for finding the greatest value, we can often double the value from any decision. Chevron Corp. has blazed the trail, by adopting and implementing Decision Quality over the past decade and outperforming its peers in the industry.

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Behavioral decision scientists and neuroscientists have provided incontrovertible proof. The human mind is “predictably irrational.”¹ Let’s accept that.

Our brains are not wired to arrive at the most value-creating decisions. Our human nature is to satisfice – that is, we are satisfied with reaching “good’nuff” decisions. Then we rationalize² with hindsight bias and pat ourselves on the back for how we decide. As a result, we fall prey to what I like to call the *Biggest Bias of All*. We believe that we are making good decisions while we leave a lot of the value on the table.

Background

We have two interconnected brains: a primitive, extremely fast, massively parallel, emotionally hot brain and a more recently evolved, deliberative, more sequential, relatively slow, and cool brain.

The primitive brain (let’s call it the intuitive brain) is so much more powerful in pattern recognition and speed that we naturally prefer it. And, most of the time that is a good thing. If someone has to use the slow brain to make driving decisions – as they do when first learning to drive – they just can’t be a good driver. Driving decisions have to be fast and automatic. Automatic, intuitive decisions work very well unless the decision situation changes significantly – something akin to driving on ice after having learned to drive in California. Now our ingrained automatic decisions are wrong and will cause deadly accidents.

Use of the deliberative brain is so much slower that the intuitive brain has already made some judgments (first impressions) before we even start conscious deliberation. Even during careful deliberations, we take short cuts and reason by association rather than by correct inductive or deductive reasoning. We have many distortions in both brains that make us “predictably irrational.” Just becoming deliberative is no guarantee of making a quality choice. So for the most part, we make good’nuff decisions.

But why isn’t good’nuff good enough? Because we leave a lot of value on the table by making only good’nuff decisions!

¹ Over the last couple of years the behavioral decision sciences community has published many popular books describing human judgment and biases in decision making. Several are listed in the End Notes.

² We have hindsight bias, selective attention, selective memory, confirming evidence bias, and are attached to our beliefs.

How much value? A tremendous amount! Of course it depends on the decision situation and the nature of the decision.

- If there is a lot at stake and the decision is complex – analytically and/or organizationally – our good’ nuff approach frequently gets us to only half the value we could have created with Decision Quality (DQ) – a systematic framework for finding the greatest value in a decision situation.³
- Since the effort that goes into making important decisions is usually relatively small when compared to the effort and expense of executing the decisions, we regularly show a thousand fold return on the dollars invested in DQ.⁴
- As Frank Koch⁵ puts it: “In terms of benefit to cost ratios, they are immense simply because the added cost of doing DA is negligible. We would still be paying the analysts and decision makers without DA, they would simply be talking about different things. The incremental cost of having a better, more relevant conversation is zero, so regardless of the benefit, the ratio is infinite! Even if I throw in the cost of training and learning some software, that’s measured in thousands and the benefits are clearly measured in millions.”

If DQ can create such immense value potential on specific decisions, could we adopt DQ as a way of making all important and difficult decisions across a whole organization? The answer is yes! We call that ODQ – Organizational Decision Quality.

ODQ at Chevron

In the 20 years since we developed DQ and ODQ, a number of organizations have made significant progress toward ODQ. In 2011, the clear leader in ODQ is Chevron.

There are other organizations, especially in oil and gas and in pharmaceuticals, which have islands of ODQ. However to my knowledge, only Chevron has deeply embedded ODQ in its entire upstream business and is actively building ODQ in its downstream businesses. Based on the results, I expect that Chevron will be just the first of many companies that will eventually gain tremendous benefit from implementing ODQ.

What has Chevron done?

- In the early ’90s, Chevron embraced DA and DQ (at Chevron the labels are used interchangeably), both the analytics and the organizational dialogue decision process.
- Applications grew and adoption was voluntary for the first 10 years.

³ Keelin, T., and Spetzler, C. (1992) “Decision Quality: Opportunity in Total Quality Management.” SDG white paper (out of print).

⁴ To reach this conclusion, we have collected data from many decision projects. We value the “momentum” course of action and compare it to the value of the final chosen course using the DQ framework. The difference is the gain in potential value due to applying DQ. After dividing by the extra cost of reaching DQ, we find that (on average) the investment in DQ has created a thousand times its cost in additional value potential.

⁵ Frank Koch was one the decision professionals that led the DQ transformation at Chevron. He retired in 2011.

- Chevron built deep internal competence – it introduced thousands of decision makers to DQ and developed hundreds of internal decision support professionals who applied DQ to many major decisions.
- When David O’Reilly became Chairman and CEO in 2000, he flipped the switch and DQ became mandatory on all capital expenditures over \$50 million. With a capital budget that exceeds \$20 billion today, there are a lot of projects.
- Decision executives were required to become certified. Decision professionals were embedded in organizations around the world, and DQ became part of the Chevron capital stewardship process. O’Reilly retired at the end of 2009. During his leadership with a broad-based collective effort among decision makers and decision professionals, Chevron became the clear leader in ODQ.
- In the fall of 2010, a Chevron team (Frank Koch, Larry Neal, and Brian Putt) received the INFORMS Decision Analysis Society Practice Award with their presentation “Twenty Years of DA at Chevron.”⁶ A repeat performance of this presentation is available as a webinar from the website of the Society of Decision Professionals.⁷ The presentation included a four-minute testimonial by George Kirkland,⁸ the vice chairman responsible for tens of billions of capital spending every year, who said DA is part of Chevron’s DNA and that Chevron uses DA to make the best decision every time.

The upstream business of oil companies is decision intensive. We determine whether an industry is decision intensive by asking: In your industry, if you could be in the 90th percentile in making great decisions and only average in execution, or you could be average in decisions but 90th percentile in execution, which would be more profitable? In oil and gas the answer is clear: be better at decisions. Make the best bets and you will be way ahead. Out-executing your competition is hard – everyone uses the same contractors and prides themselves in excellent execution skills. Excellent execution skills are a necessity – without them you can’t even be in the business. However, they are not the basis of outperforming other major oil companies.

The big bet decisions in oil and gas create value potential that is recognized by shareholders only after a significant delay – typically 3 to 7 years. So let’s say, on the average, it takes five years for the value to be recognized by the financial analysts. If Chevron fully adopted DQ in 2000, then we should see the benefit reflected in the stock price performance of the last five years. If not, then we can surmise that the idea of ODQ is just that – an idea without an economic return.

Therefore, I compared Chevron’s shareholder value performance with that of its primary competitors. And I was quite surprised by what I found.

⁶ Koch, F., Neal, L., and Putt, B. The Implementation of Decision Analysis at Chevron: 20 Years of Building a DA Culture. Presented at INFORMS Decision Analysis Society, November 7, 2011, Austin TX. When reviewing a draft of this article, the presenters wanted to make it clear that the credit belongs to all the decision professionals and decision executives at Chevron.

⁷ <http://www.decisionprofessionals.com>

⁸ <http://www.youtube.com/chevron#p/u/12/JRCxZA6ay3M>

Chevron's Market Cap⁹ (the value of all its shares at the current stock price) was \$216 billion on April 25, 2011. As shown in the stock price chart below, over the prior five years, Chevron significantly outperformed Exxon, ConocoPhillips, Shell, and BP. If Chevron had performed like ConocoPhillips and Shell, it would be worth 38% or \$78 billion less. The obvious question is: How much of this performance difference can be attributed to making better decisions?



Shortly after having made this observation, I happened to have been invited as a guest speaker to Chevron's annual internal one-week Global DA Forum, where about a hundred Chevron decision professionals share best practices. I took the opportunity to poll this group, showing them the attached chart and asking them to allocate 100% of the "above industry" performance to the following three possibilities:

- How much is due to making better bets?
- How much is due to better execution?
- How much is due to luck?

I got some pushback. The Chevron decision professionals wanted to add a fourth possibility – the Chevron Way. So we added another question:

- How much is due to the Chevron Way¹⁰ (culture and values)?

Now the group was ready to answer. The consensus of the group was that ODQ and the Chevron Way were related in a virtuous cycle. ODQ is inherently a collaborative and systematic search for the highest value rather than a politicized or autocratic process. It is conducive to being the partner of choice in major opportunities and therefore increases the flow of opportunities. In fact, many participants thought the adoption of ODQ was therefore more natural to Chevron than it will be to its competitors. Most

⁹ Yahoo Finance – April 25, 2011

¹⁰ See: <http://www.chevron.com/about/chevronway/>

"The Chevron Way explains who we are, what we do, what we believe and what we plan to accomplish. It establishes a common understanding not only for those of us who work here, but for all who interact with us."

respondents thought the Chevron Way and ODQ contributed about equally and luck and execution may have made a small difference over the time frame.

It is worth noting that oil companies are generally led by engineers who have a culture of “engineering” their big bet decisions. Reaching agreement based on intuition rather than careful analysis is less acceptable in such companies. So we shouldn’t be surprised that an oil company was the first to deeply adopt ODQ.

The Flip Side -- BP

When presenting this share value performance data to another group of decision professionals (some with deep experience in the oil and gas industry), I was asked about BP: “How much of the difference in performance by BP is due to bad decisions?” I referred the question back to the group and after some discussion that group concluded “most of it!”

- The stock chart therefore exemplifies not only the gain from ODQ but also the value destruction from lack of DQ.
- On April 25, 2011, BP’s market cap was \$146 billion. If it had performed like Shell and ConocoPhillips it would be worth \$130 billion more. The cost of the Macondo well disaster has been variously estimated at around \$40 billion. The value of the stock, however, is off by more than three times that. Much of this difference is due to perceptions about BP’s decision culture.¹¹

What can we take from the Chevron and BP examples?

- ODQ is not just being virtuous; it creates tremendous value – especially in decision-intensive organizations.
- Lack of DQ can destroy a lot of value.
- It is possible to build ODQ into a large organization and Chevron has shown the way. It’s like someone has broken the sound barrier. Now that we have seen a deep adoption, we can expect others to follow suit.

Why Is Taking So Long to Get ODQ Adoption?

If ODQ is so valuable, why hasn’t adoption occurred more rapidly? I gave an answer to this question five years ago:¹²

- First, we did not see the entire picture [of ODQ] until some 15 years ago.
- Second, the professional community that does comprehend the whole picture is relatively small and includes very few academics that have published on the topic.
- Third, developing ODQ requires doing a lot of things right and then having them all work well together. It is a major transformational challenge, and there are many ways to fail.

¹¹ For one analysis, see Hersh Shefrin and Enrico Maria Cervellati “BP’s Failure to Debias,”

¹² Spetzler, C. “Building Decision Competency in Organizations,” in *Advances in Decision Analysis*, Edwards, W., Miles, R., and Winterfeldt, D.; Cambridge University Press, 2007.

- Fourth, the notion remains popular that decision-making is a matter of having the feel and making the call, that some people have an innate ability to do this well and all we need do is find them.
- Finally, many proponents [of ODQ] place too much importance on the role of decisions and thereby denigrate the importance of execution, alienating many line executives. A good decision is only the first step in value creation: It creates value potential that cannot become real value until executed effectively. Competent decision-making must assume its appropriate place in the overall value creation chain.

Today, I would add that the biggest barrier to rapid adoption is the Biggest Bias of All. We humans are wired to make good'nuff decisions and to rationalize them afterwards.¹³

Corporate leaders are particularly susceptible to the biggest bias of all. Many buy into the myth that they were selected because they have the natural gift of making good decisions. Then their many stakeholders amplify the halo effect because they feel safer with leaders of supernatural capabilities. The hard truth is we all leave a lot of value on the table – value that we could seize with better decision making. The advances in the behavioral decision sciences together with the Chevron example make the point. When we become aware of this bias and then work to get the most value instead of good'nuff, it generates tremendous rewards.

The Third Wave in the Quality Movement

Most of the behavioral decision science community describes how our human nature falls short of making the best choices. In some recent articles¹⁴ behavioral decision scientists begin to provide prescriptions for improving the quality of decisions by reducing biases. However, they seem to miss the Biggest Bias of All. Overcoming that bias with DQ creates immense value.

I predict that the forces of competition will drive the adoption of ODQ – now that Chevron has shown the way. This will be the third wave in the quality movement. The first wave was TQM (Six Sigma, etc.), which focused on quality in repetitive incremental decisions and execution. The second wave was building big change effectiveness (transformation, reengineering, etc.), which focused on improved abilities to get effectively around a big turn. The third wave is Decision Quality, which brings quality to the important and bigger decisions that are the front-end to organizational transformation and major investments. These decisions shape the direction of an organization. This wave in the quality movement is more challenging for the leaders of organizations. Most C-level executives were cheerleaders or customers in the first two waves of the quality movement. In this third wave, the quality requirements are being applied to strategic decisions that are central to their own job functions and leadership role. Some will embrace this eagerly and others will find the necessary behavior changes threatening.

¹³ For a delightful exposition of our human nature, see *Mistakes Were Made (But Not By Me)* by Carol Tavris and Elliot Aronson, 2007.

¹⁴ See Kahneman, D., Lovallo D., and Sibony O. “Before You Make That Big Decision ...” *Harvard Business Review*, June 2011

Early in my career, I was stumped by the following challenge from a CEO: “Are you telling me that I am not making good decisions now?” If I answered yes, he’d throw me out of his office. If I answered no, he wouldn’t need the help of a decision professional. Today my answer is: “Yes, I am saying that you (like all of us) are leaving a lot of value on the table – value that can be yours if you embrace Decision Quality. And Chevron has shown the way.”

*Carl S. Spetzler
is chairman and
CEO of Strategic
Decisions Group.*



ENDNOTES

The behavioral decision sciences community has published many popular books describing human judgment and biases in decision making, including.

Ariely, D., *Predictably Irrational*, HarperCollins Publishers, 2008.

Bazerman, M., and D. Moore, *Judgment in Managerial Decision Making*. John Wiley and Sons, 2009.

Burton, R., *On Being Certain*, St. Martin Press, 2008

Lehrer, J., *How We Decide*, Houghton Mifflin Harcourt, 2009.

Mauboussin. M., *Think Twice*, Harvard Business Press, 2009.

Rosenzweig, P., *The Halo Effect*, Free Press, 2009.

Schulz, K., *Being Wrong – Adventures in the Margin of Error*, HarperCollins, 2010

Stanovich, K., *What Intelligence Tests Miss – The Psychology of Rational Thought*, Yale University Press, 2009

Tavris, C. and Aronson, E. *Mistakes Were Made (But Not By Me) – Why We Justify Foolish Beliefs, Bad Decisions, and Hurtful Acts*, Harcourt, 2007

Thaler, R. and C. Sunstein, *Nudge: Improving Decisions about Health, Wealth, and Happiness*, Penguin Books, 2007.