



Welcome to Today's Learning Exchange:

**The Value of DA/DQ:
Building a Compelling Case for Decision Makers**

Feb 2, 2011

Meet Today's Speakers

Featured Speaker



Michael M. Menke, PhD

President,
Value Creation Associates

Also featuring



Carl Spetzler

SDG Chairman & CEO;
Program Director, Stanford
Strategic Decision and Risk
Management Certificate
Program



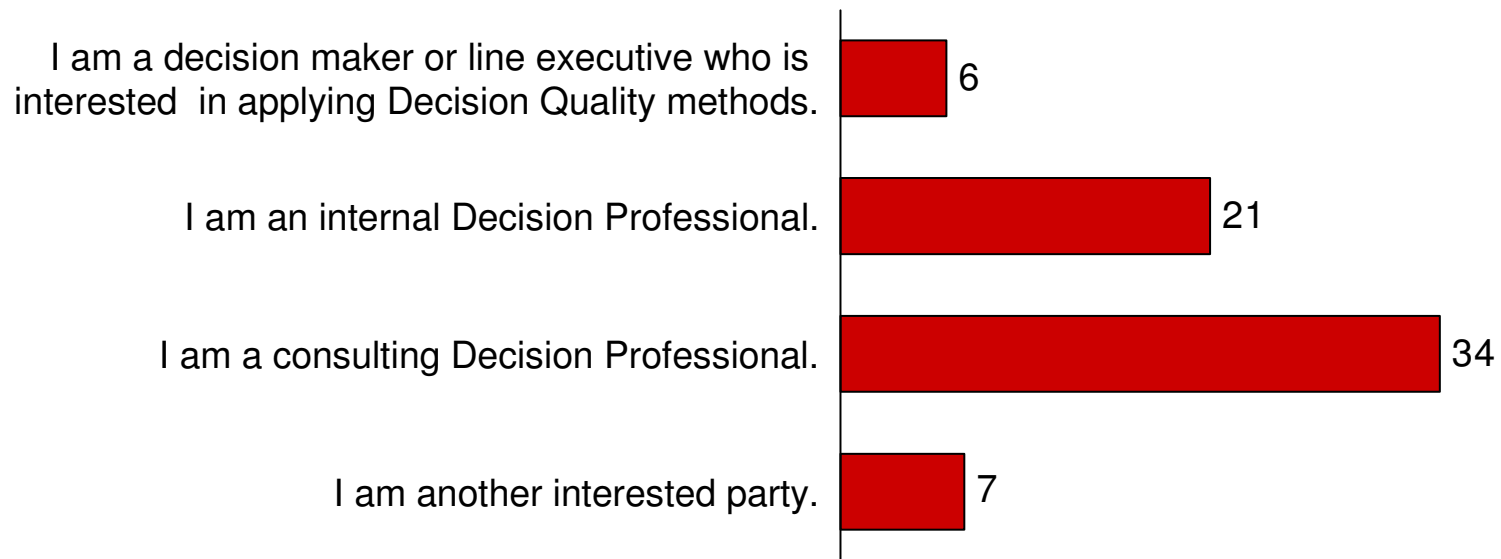
Tom Keelin

Managing Partner,
Keelin Reeds Partners
Managing Partner, Turning
Point Asset Management



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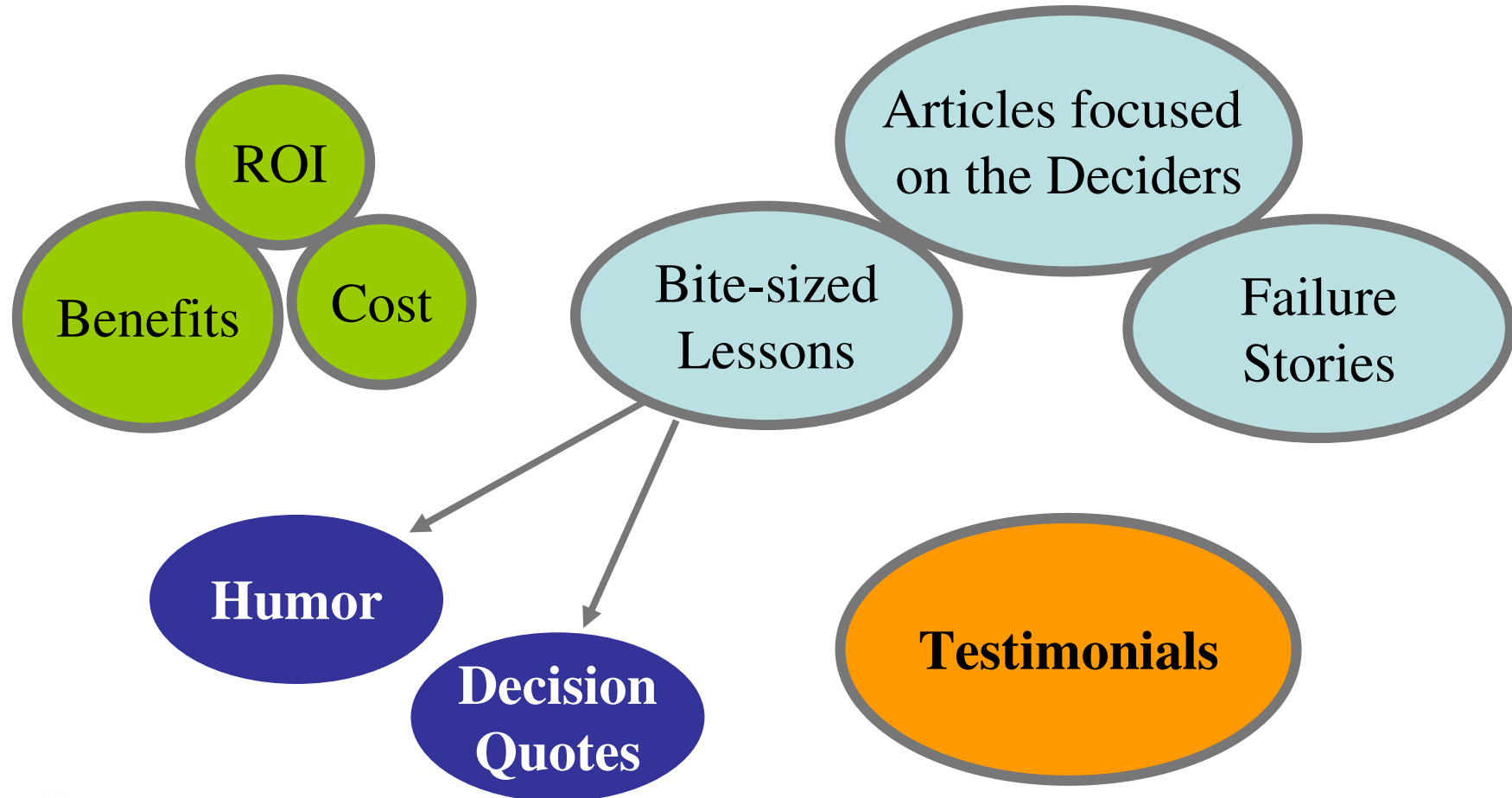
Before we get started, please take a moment to tell us about your background as it relates to today's topic.



Agenda

1. What does it take to convince decision makers of the value of DQ?
2. What are the sources of the value?
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4. What is the ROI? Do we have evidence?
5. “What do you mean? Are you saying that I am not making good decisions already? ...”
6. Next steps for the SDP

What would we like on the “landing page” for decision makers?





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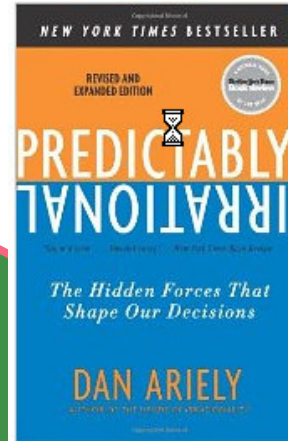
ROI of DQ? 600%
Why are the ROIs
astronomical?



Decision
humor
with a moral.
The New Yorker
is a great source.



"We must never take for granted the precious gift of hindsight."



Yes, it has been proven that we are all predictably irrational. Apply decision skills that overcome common failure modes.

Chevron uses DA “because it works.”



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

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What distorts the decision making of excellent people? It's just not easy!

- Many decisions are complicated.
- We often “plunge in” to a decision situation and don’t consider the complete set of viable options.
- We often disagree about the appropriate decision criteria.
- Much of the benefit in major decisions occurs beyond the planning horizon, which often gets undervalued or ignored.
- Many unconscious biases distort our thinking and how we process information (see *Predictably Irrational*, *Decision Traps*, etc.).
- The impact of uncertainty is difficult to process intuitively.
- The best information is often scattered around the organization or resides outside of the organization.
- And all too often we don’t even get the problem right!

As a result, “good enough” ends up being far from optimum.

DQ leads to “better” decisions.

- Appropriate frame – effort is focused on the “right” problems
- Clear values – measuring value enhances value
- Compelling, high-value, creative alternatives
- Reliable information – measuring uncertainty improves information
- Attention focused on the critical drivers of value and risk
- Enhanced value through optionality – value of control
- Commitment to action leads to stronger coupling of decisions to execution and better results faster
- Fewer serious errors – avoiding decision traps, et. al.

DQ also leads to faster, cheaper decisions.

- Pilot/prototype/production modeling philosophy
- Only model what matters – decision sensitivity
- Only gather information that matters – sensitivity analysis
- Avoid information procrastination/waste – value of information
- Less rework – Do it right the first time (Go slow to go fast)

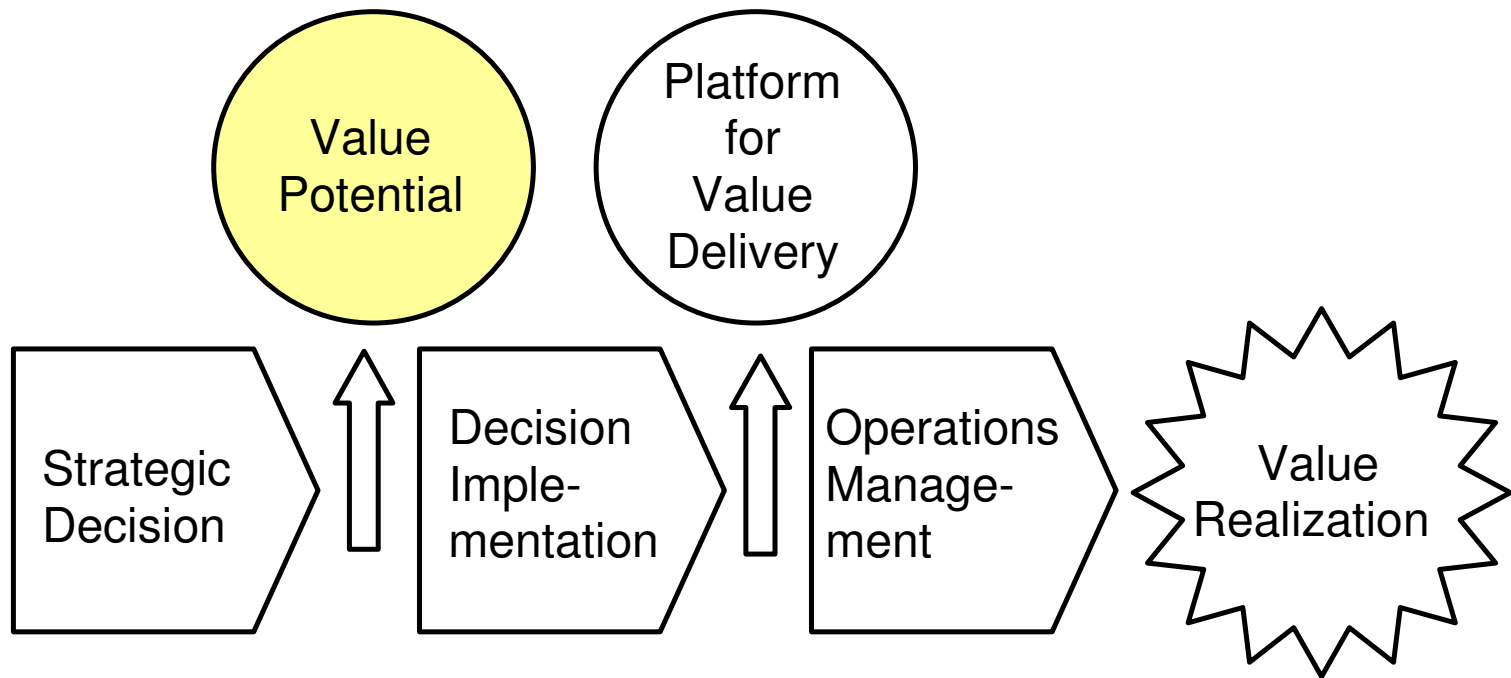
And, DQ results in better execution.

- Actionable Decisions
- Real ownership of the decision with a commitment to action
- Capture additional “options” value during execution – value of control
- Minimizes execution failures due to poor decision process.

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DQ in strategic decisions creates *value potential*.

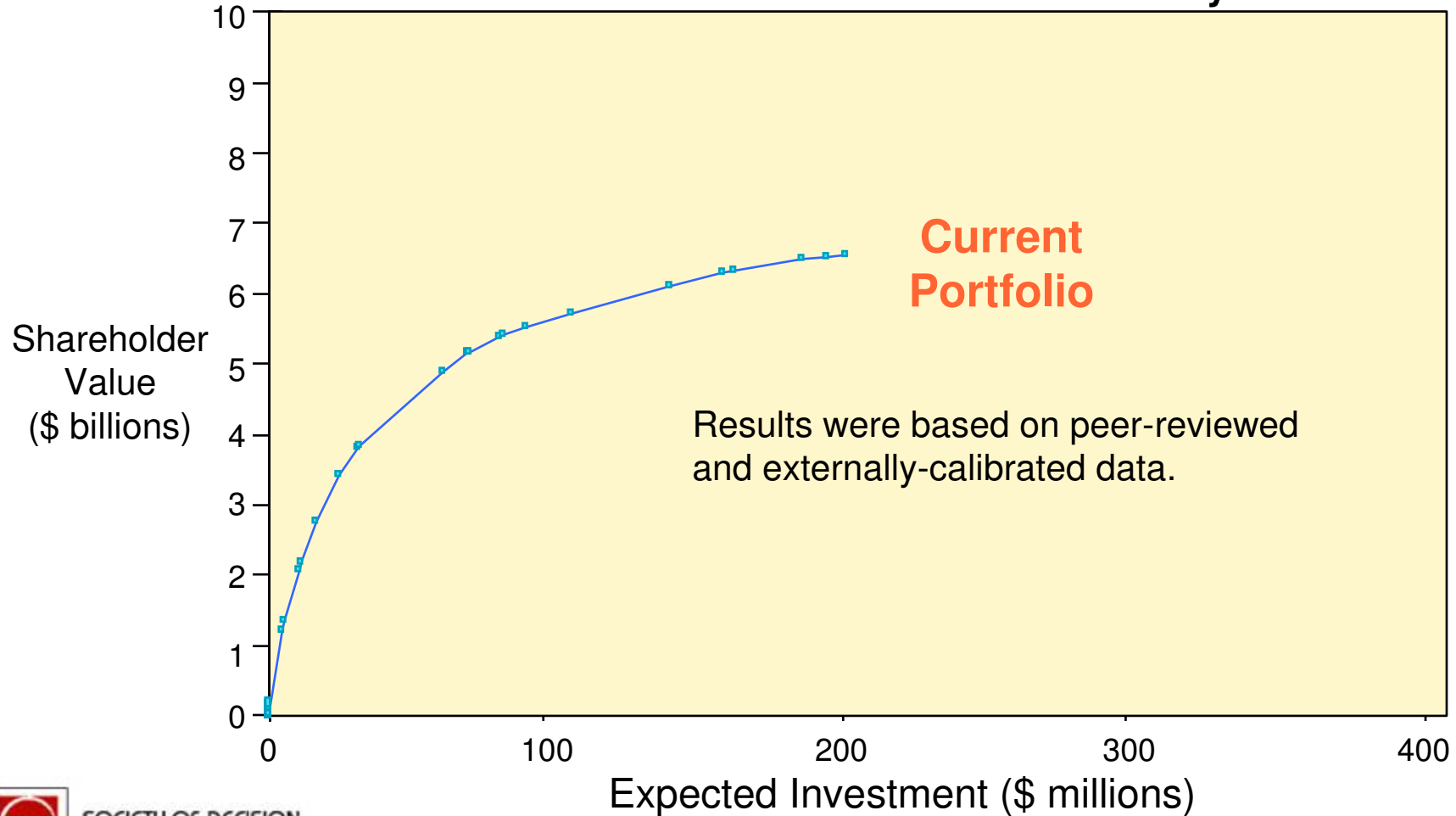


Claiming full value creation leads to competition with the execution roles.

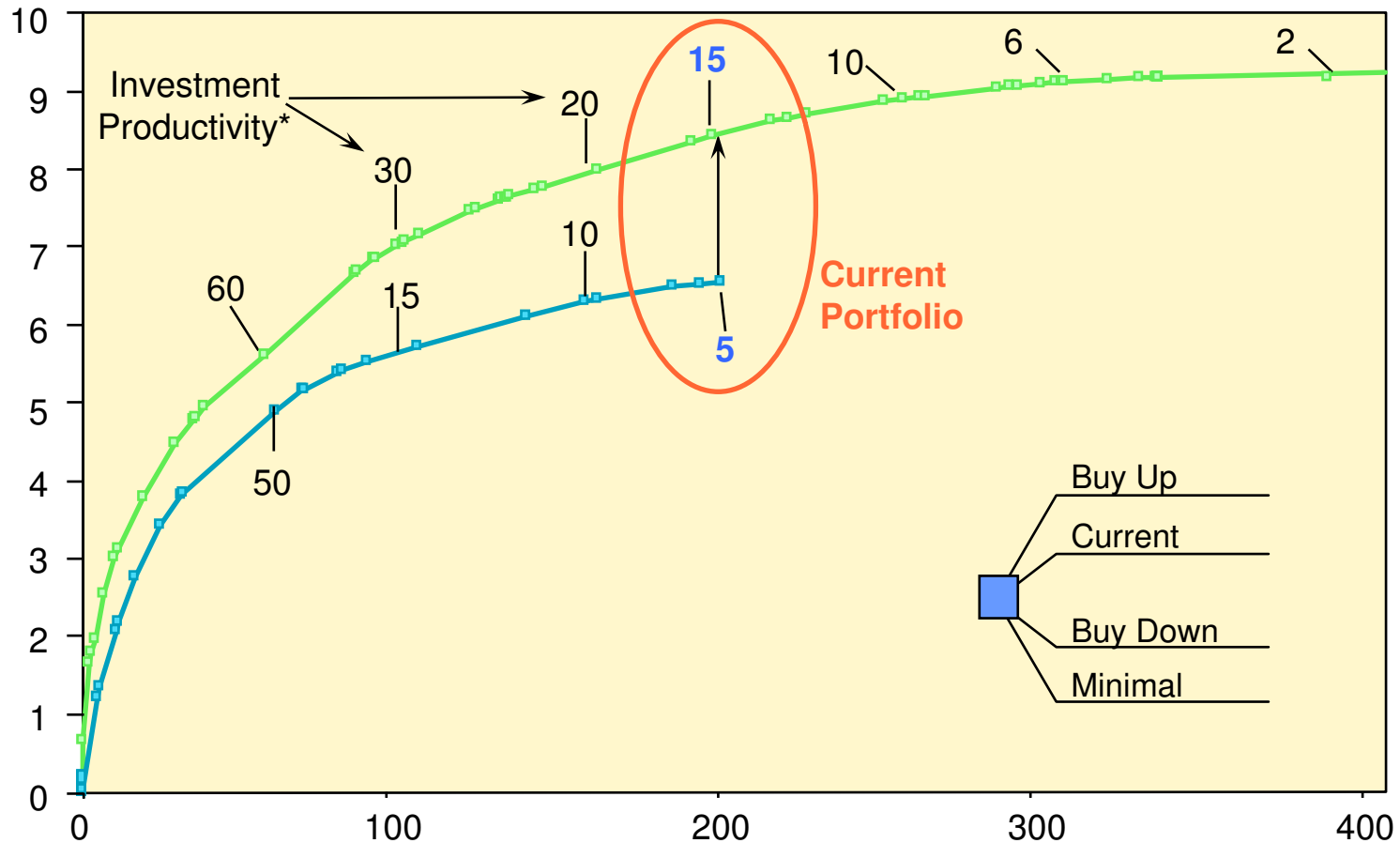


SDG applied this approach with SmithKline Beecham, later published in HBR.

SmithKline Beecham R&D Productivity



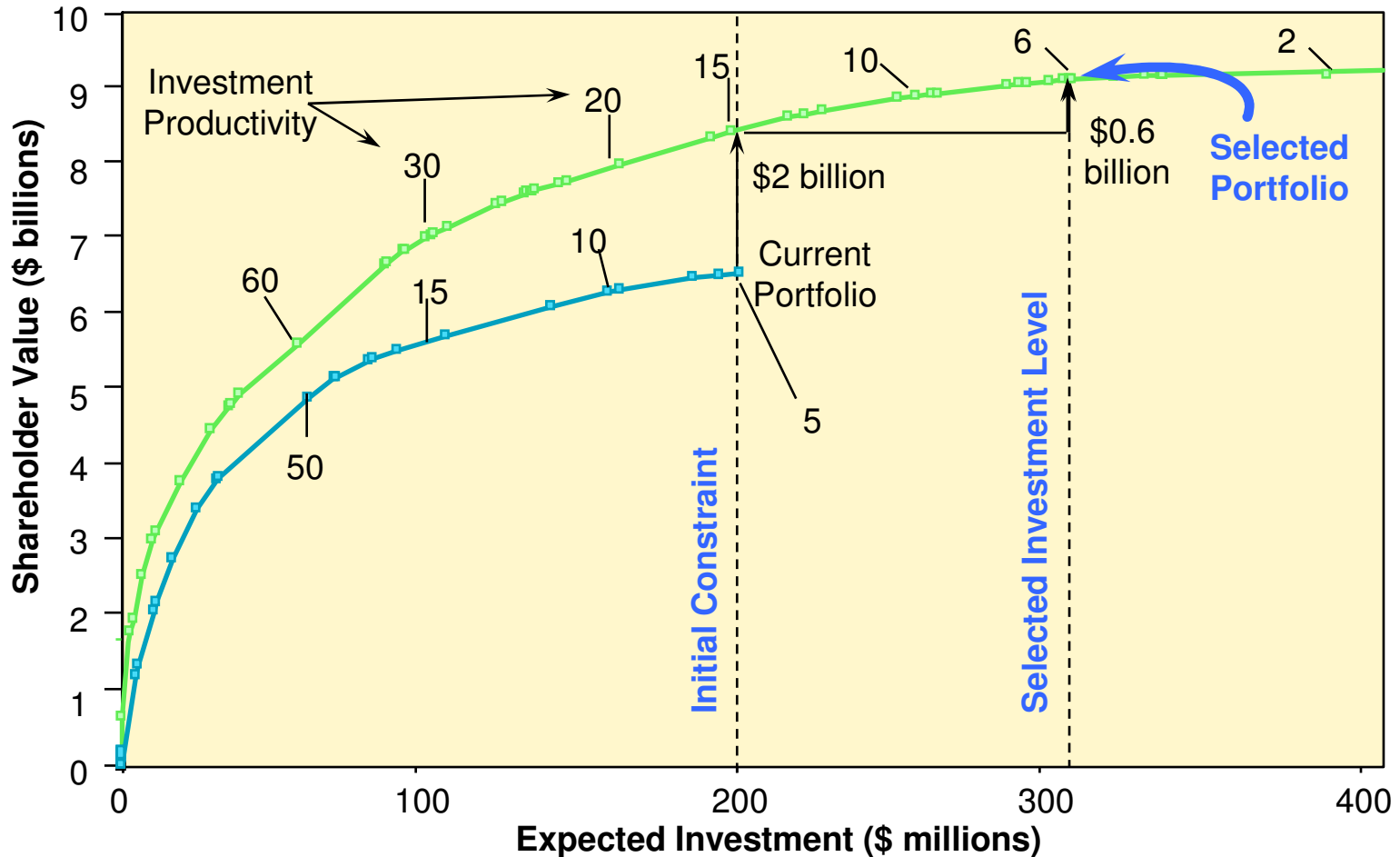
The best portfolio tripled investment productivity.



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* Investment productivity = Incremental shareholder value ÷ Incremental expected development investment. This is “bang for the buck” or “value for money.”

SB chose to increase development investment by 50%, with an added SHV of \$2.6 billion.



In the client's words ...

“In the end we learned that our portfolio was worth \$2.6 billion more than it was when we started. This was powerful confirmation that our efforts were worthwhile.”

– Paul Sharpe
Vice President and Director
SmithKline Beecham
(now GlaxoSmithkline)



I estimate the extra cost to SB for this effort was \$2 million. So the payoff was 1300 to 1.

– Tom Keelin

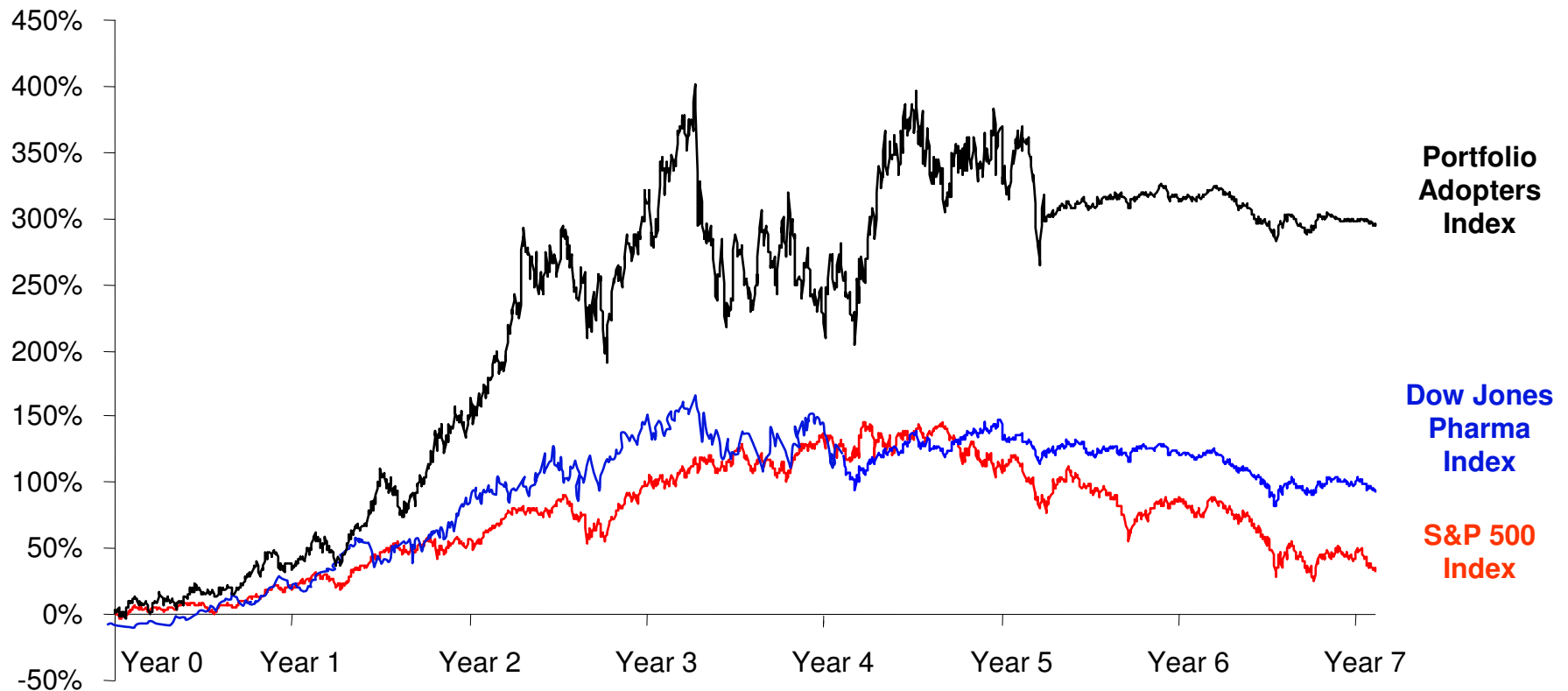


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See “How SmithKline Beecham Makes Better Resource-Allocation Decisions”,
Paul Sharpe and Tom Keelin, *Harvard Business Review*, Reprint 98210

And the process worked across the industry during the seven years of portfolio DA adoption.

Pharma Client* Stock Price Performance Relative to S&P 500 and Dow pharma indices



Since Chevron has DA is in its DNA, it's obvious to ask: What was the shareholder return?

We heard earlier that Chevron uses decision analysis.



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

We asked:



Larry Neal



Frank Koch

The individuals who, with colleague Brian Putt, are most responsible for the adoption of DA at Chevron.



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In Larry Neal's words ...

- As far as your question on the dollars, I just wouldn't know where to start. It would certainly be in excess of \$100 billion over the 20 years, but I don't think the money is the key point.
- Carl asked us in the webinar what management would miss most if DA was taken away. I answered that framing would be missed the most, and Brian Putt nodded in agreement. DA has brought framing to our daily thinking process here in CVX. In my opinion, the awareness of framing has short circuited more poor decision-making in all areas of our organization over the 20 years than anything else.
- The large formal DA studies get the spotlight, but it's the day-to-day influence on employees' thinking that generates the real value.
- I remember a corporatewide memo (what we used to call a "blue top") on our new DA process back in 1992, and our steering team stated a goal that we wanted people to "think in that way." I think we've done pretty good at that.

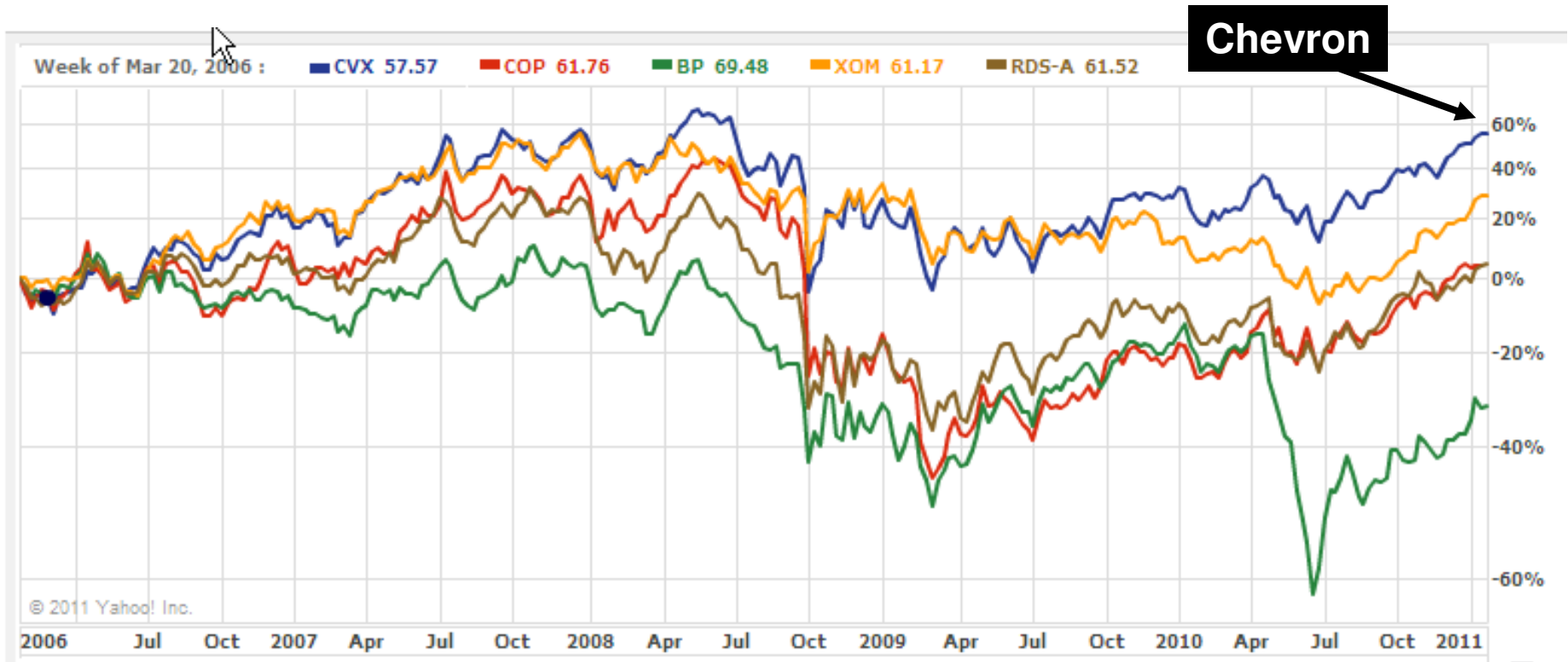


In Frank Koch's words ...

- Quantifying DA benefits has always been a challenge to me, in part because you need to make assumptions of what you would have done without DA and in part because it is hard to separate the value from DA from other parts of the process. There are anecdotal examples of benefits, especially when a momentum strategy is stopped avoiding a very bad decision. The best examples may be a number of megaprojects that were on the fast track in Texaco that Chevron re-examined with DA/CPDEP and found substantial improvements.
- I agree that there is huge benefit in framing and “getting the problem right” to start with. The other benefit to the process is the added confidence it gives decision-makers which has enabled us to pursue projects and accept risks.
- 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.



... for the last five years, Chevron has clearly outpaced its peers ...

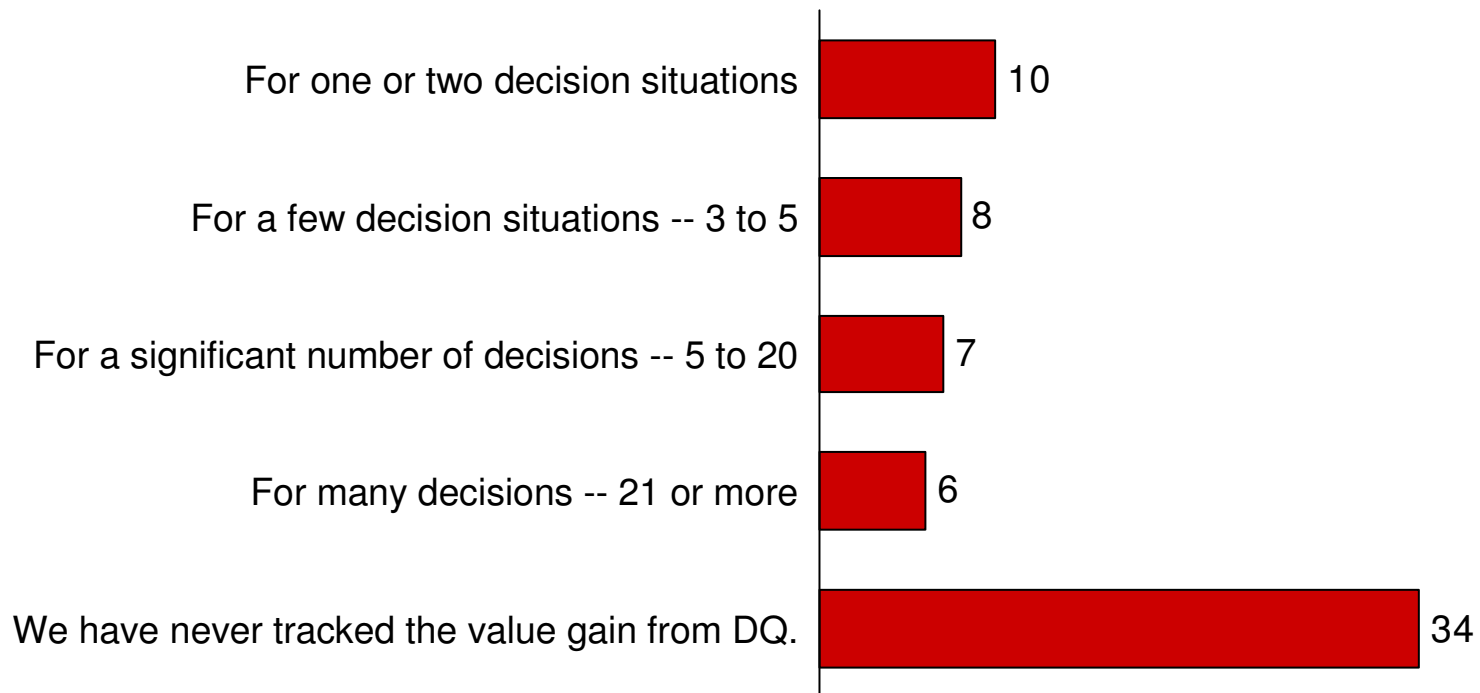


Chevron

Source: Yahoo 1-24-2011

... at least some of that must be due to better decision making.

We have tracked the value gain from Decision Quality ...



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Decision Quality can produce huge added value.

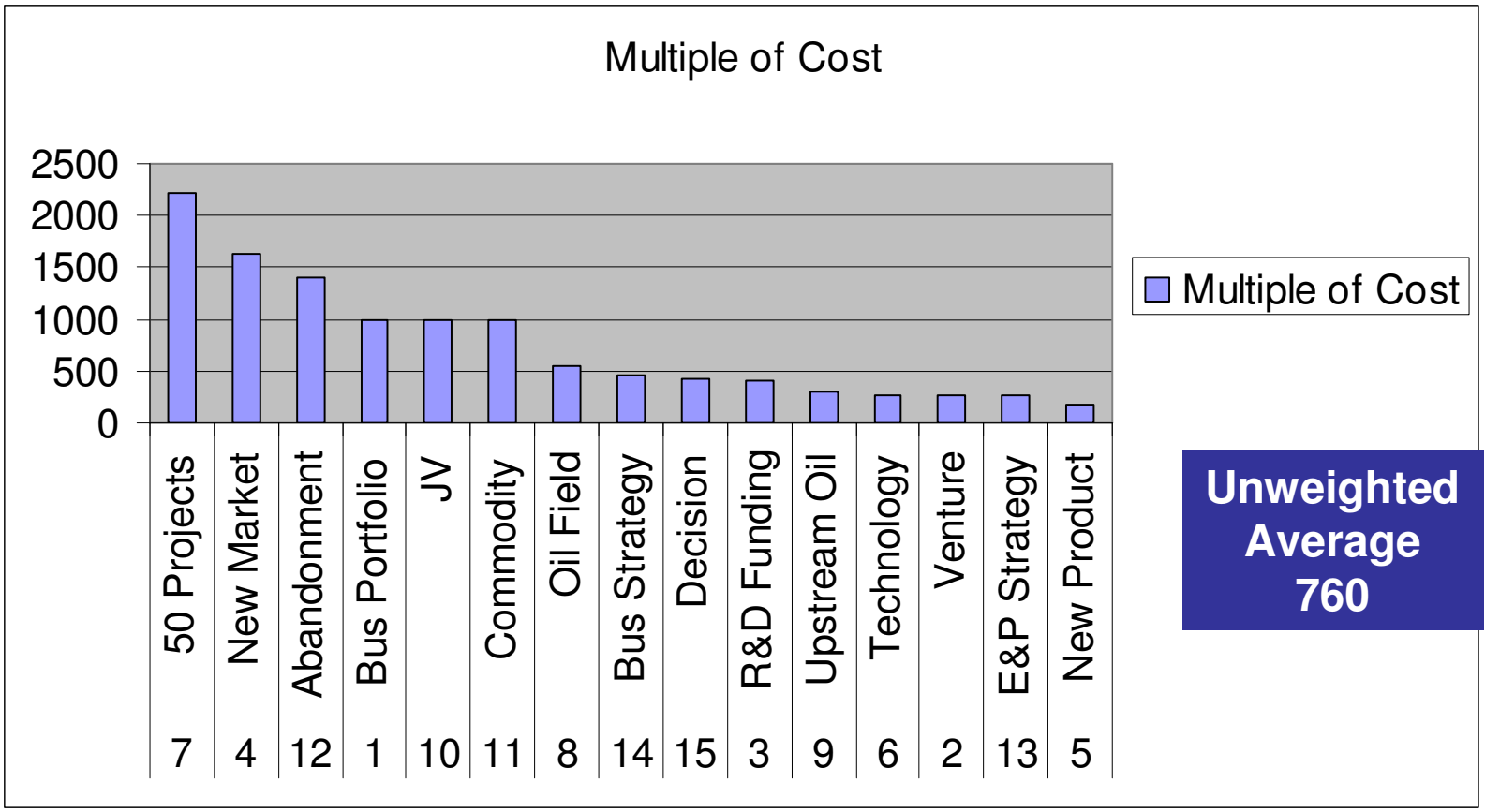
Decision consulting (DC) often adds value of 100 to 1000 to 1.

- The SB portfolio project added \$2.6 billion of potential value through better resource allocation from ~\$2 million of DC work. (HBR 98210)
- A review by DSI of 22 DC projects in the chemical industry found that \$2.4 billion of incremental value (eNPV of best alternative over status quo) was created by investing \$2.6 million in decision consulting
- A review of 178 DC projects over 10 years (1990-99) at Eastman Kodak concluded that about \$1 billion of incremental value was created by the efforts of <1 FTE decision consultant over that decade
 - From a subset of 38 that had quantified eNPVs, the value to cost ratio was around 300 to 1. Analyzing multiple alternatives was key.

Decision Quality can produce huge added value.

- A similar portfolio optimization project in oil & gas added about a billion dollars of NPV for well under a million of effort (SPE 116419)
- An SPE benchmarking effort found that companies introducing DA greatly improved their industry ranking in a few years (SPE 65144)
- Amex installed its IO (Investment Optimization) portfolio process across all its businesses and geographies for discretionary investments. As a result, they reallocate tens of millions annually. The application has been widely recognized and published.
- For a couple of years, SDG tracked value potential that was generated. The average value potential that was created was 760 times the cost of the DQ effort. These results were usually verified with the client.

In terms of creating value potential, investment returns in DQ are astronomical.

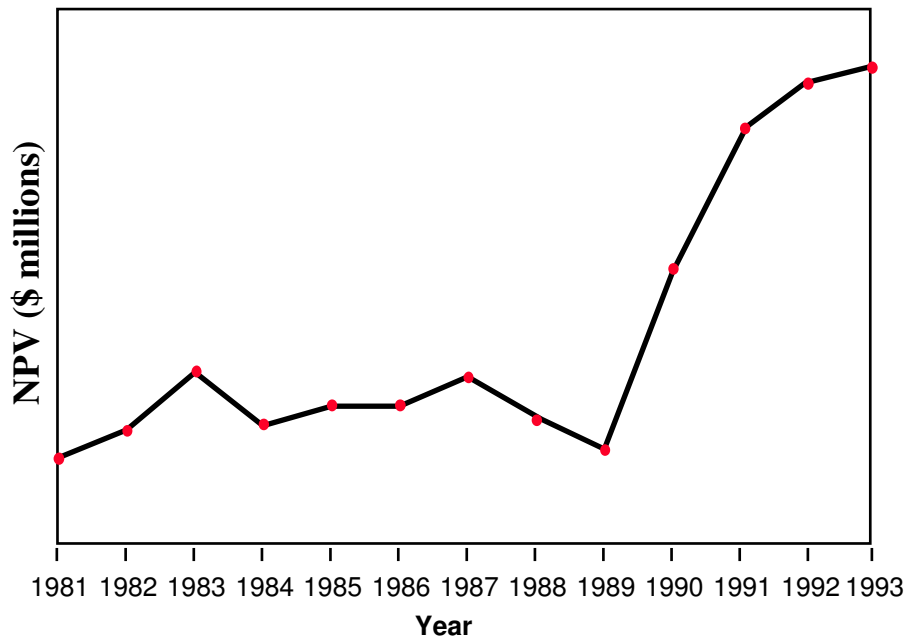


Source: SDG data based on tracking major client assignments over a two year period

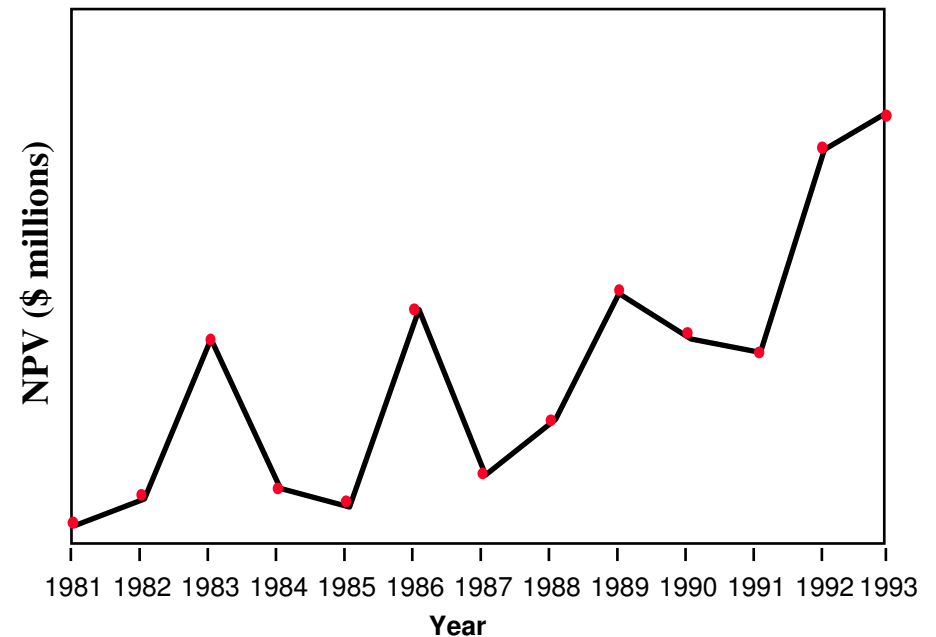
Simply Focusing on value creates value.

Eastman Chemical's expected research value more than doubled after making value the main metric of their R&D quality effort!

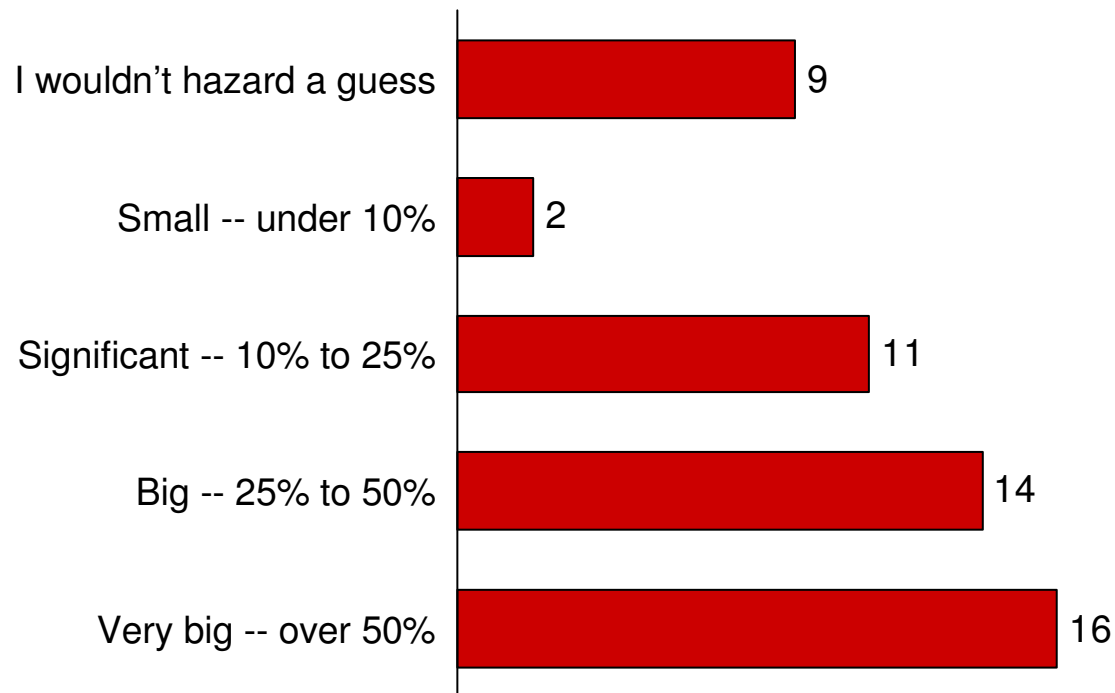
Estimated Value of New/Improved Product and Process Concepts with Major Inputs from Eastman Research



Estimated Value of Commercialized Products and Processes with Major Inputs from Eastman Research



In our experience, the value gain from Decision Quality is ...



Major corporate adoption is continuing.

- Decision Quality has become an industry standard approach in pharma R&D and upstream oil & gas.
- IBM deployed its DQ “Deep Dive” decision process widely since 1999.
- Unilever has deployed DQ “DMUU” process widely since the late 1990s.
- DQ has been in use at Boeing for almost 20 years and now is in very high demand by Boeing executives.
- Baxter, Chevron and Unilever have won INFORMS awards for their DQ programs, and IBM’s Deep Dive decision process and Amex’s IO have been recognized as best practices by the Corporate Executive Board.
- Most of these appreciate most the qualitative benefits, e.g. Framing.



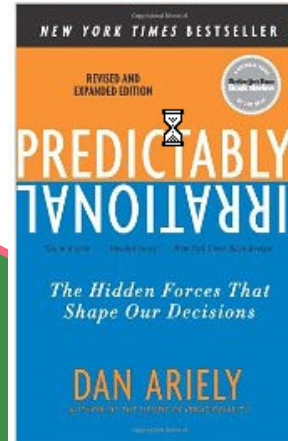
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ROI of DQ? 600%
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"We must never take for granted the precious gift of hindsight."

Decision humor with a moral. *The New Yorker* is a great source.



Yes, it has been proven that we are all predictably irrational. Apply decision skills that overcome common failure modes.

Unilever's DMUU



<http://bit.ly/gBwbY7>

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The overall market penetration of DQ is miniscule despite some outstanding successes. WHY?

- Senior executives believe they already make good decisions.
- Admitting you can benefit from help seems like admitting weakness.
- Senior executives' primary metric is based on short-term results, whereas many critical decisions should focus on long-term value.
- The costs of decision consulting are clear in the present; the benefits are in the future, sometimes the distant future, and need to be realized.
- When the benefits finally do accrue, the operating organizations get the credit – the same organizations that often opposed the decision initially.
- Many decision consultants are poor salespeople – enamored with the analytics and lacking the soft skills

Pharmaceutical R&D and oil & gas E&P are an exception due to their high risk, high cost, and long time frames.

The biggest bias of all: The DQ Value Gap

“What do you mean? Are you saying that I am not making good decisions already? ...”

- We all believe that we make good decisions.
- We rationalize with hindsight – so do not learn.
- We have selective memory and selective attention that is self-serving.
- Opportunity loss stays unnoticed and unmeasured.

A number of recent best-sellers confirm that serious errors abound in important business and government decisions

- *Why Decisions Fail*, Paul C McNutt, Berrett-Koehler, 2002
- *Why CEOs Fail*, David L. Dotlich, Jossey-Bass, 2003
- *Why Smart Executives Fail and What You can Learn From Their Mistakes*, Sydney Finkelstein et al., Penguin 2003
- *Biases in Managerial Judgment*, Max Bazerman, Wiley, 2006
- *Think Again – Why Good Leaders Make Bad Decisions and How to Keep it From Happening to You*, Sydney Finkelstein et al., Harvard Business School Press, 2008

The root causes are prevalent, predictable, and largely avoidable

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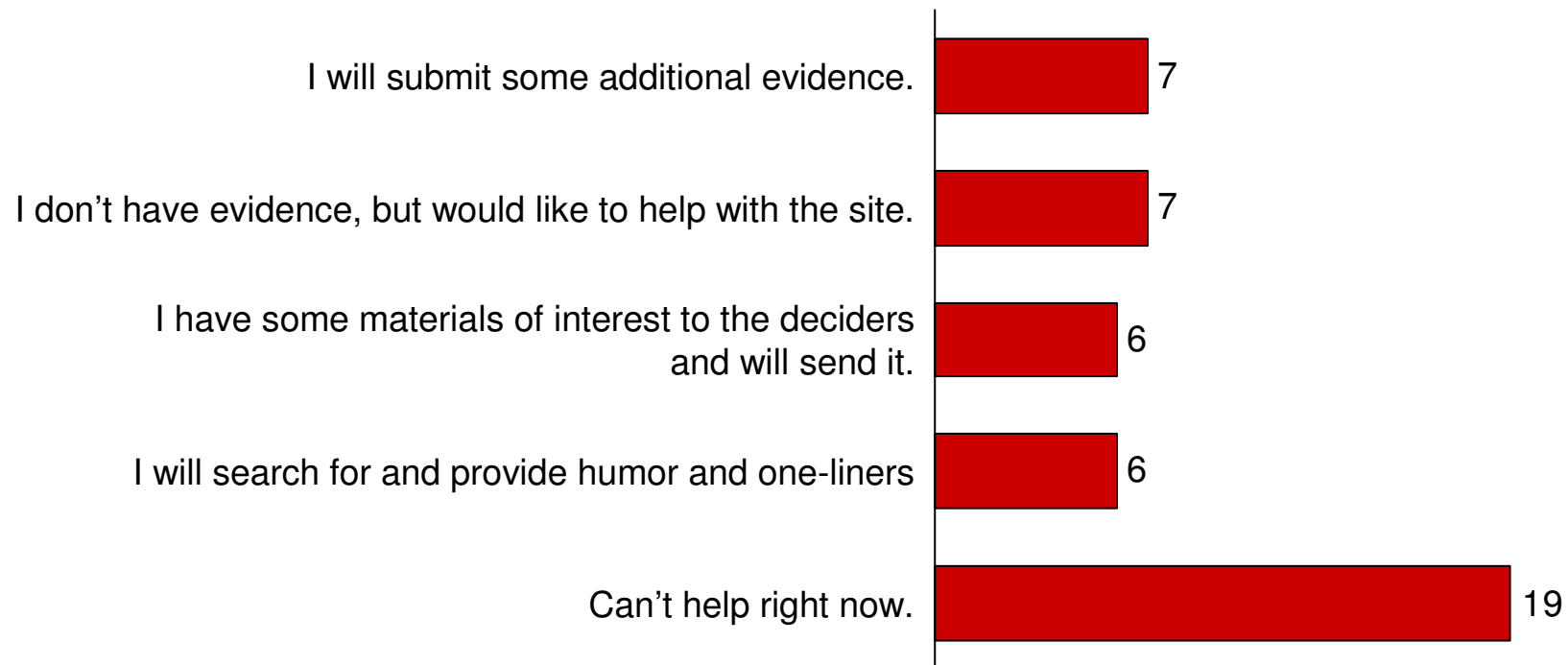
SDP can collaborate to assemble credible evidence and engaging materials for deciders.

- Create a database of evidence
- Produce testimonials – short videos
- Collect humor – cartoons, jokes, videos
- Share engaging presentations and video clips
- Share convincing “one-liners that work for me”

And SDP can get the word out with ...

- An active landing page for deciders that is so good that we like to refer deciders and reporters to it.
- A speakers forum. Speeches at the local HS, Lions, etc.
- Writing and publishing general interest articles (like Ralph Keeney: Cheat Death – as quoted in Wired) http://www.wired.com/techbiz/people/magazine/17-10/ff_smartlist_keeney
- Create awards – for great decisions & bad decisions

I would like to contribute to the development of the "Deciders" web page.



I would like to help spread the word.

