



“I love decision analysis. I just wish it didn’t involve people.”

Examples, Lessons, and Anecdotes about DA Communication

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Introduction

“I love decision analysis. I just wish it didn’t involve people.”

The essence of this talk will be communication with clients. We’ll see examples of communication that we see as reasonable as DA practitioners, but which often had to change to successfully get the buy-in those in need of a decision/solution. I’ll share stories and anecdotes from years of DA practice.

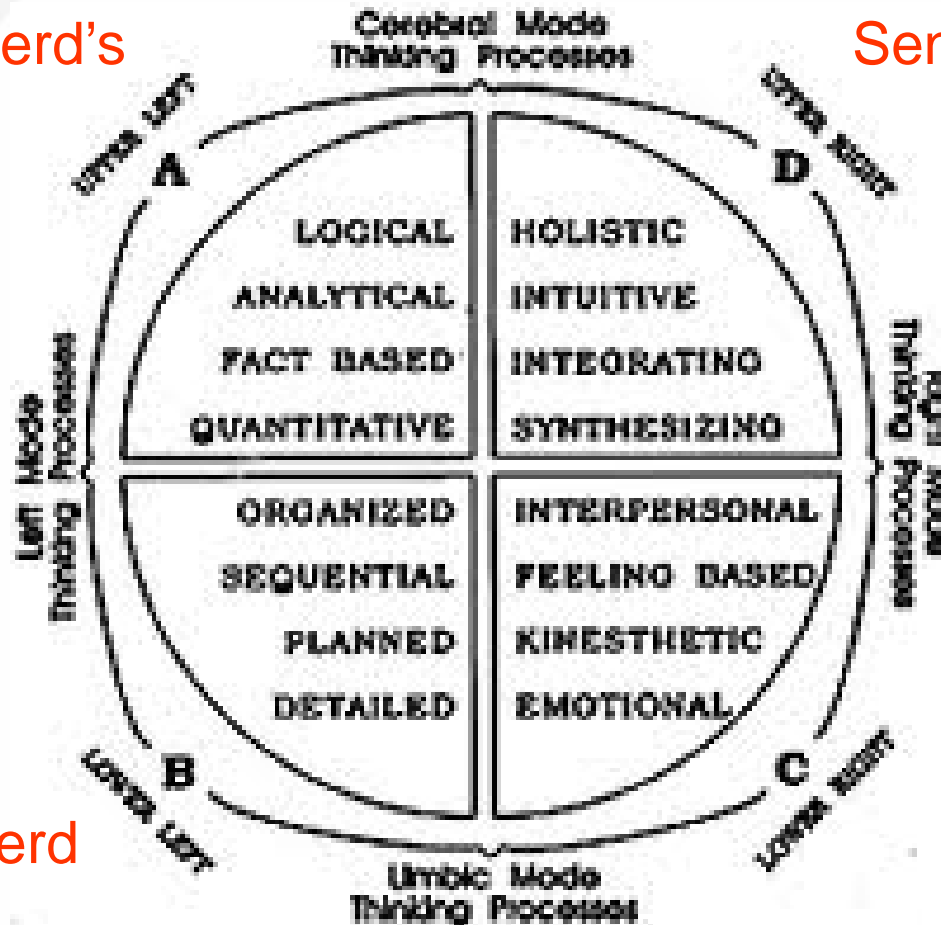
Agenda

- **Left Brain vs. Right Brain**
- **DA and a “first time” audience.**
- **When issues are not issues?**
- **Acceptable Influence Diagrams**
- **The Potential of Tornado Diagrams**
- **A Reference Lottery Lesson**
- **The Value of ERC**
- **Lesson**

Left Brain vs. Right Brain

The Techno-nerd's
Manager

Senior Management
& Scientists

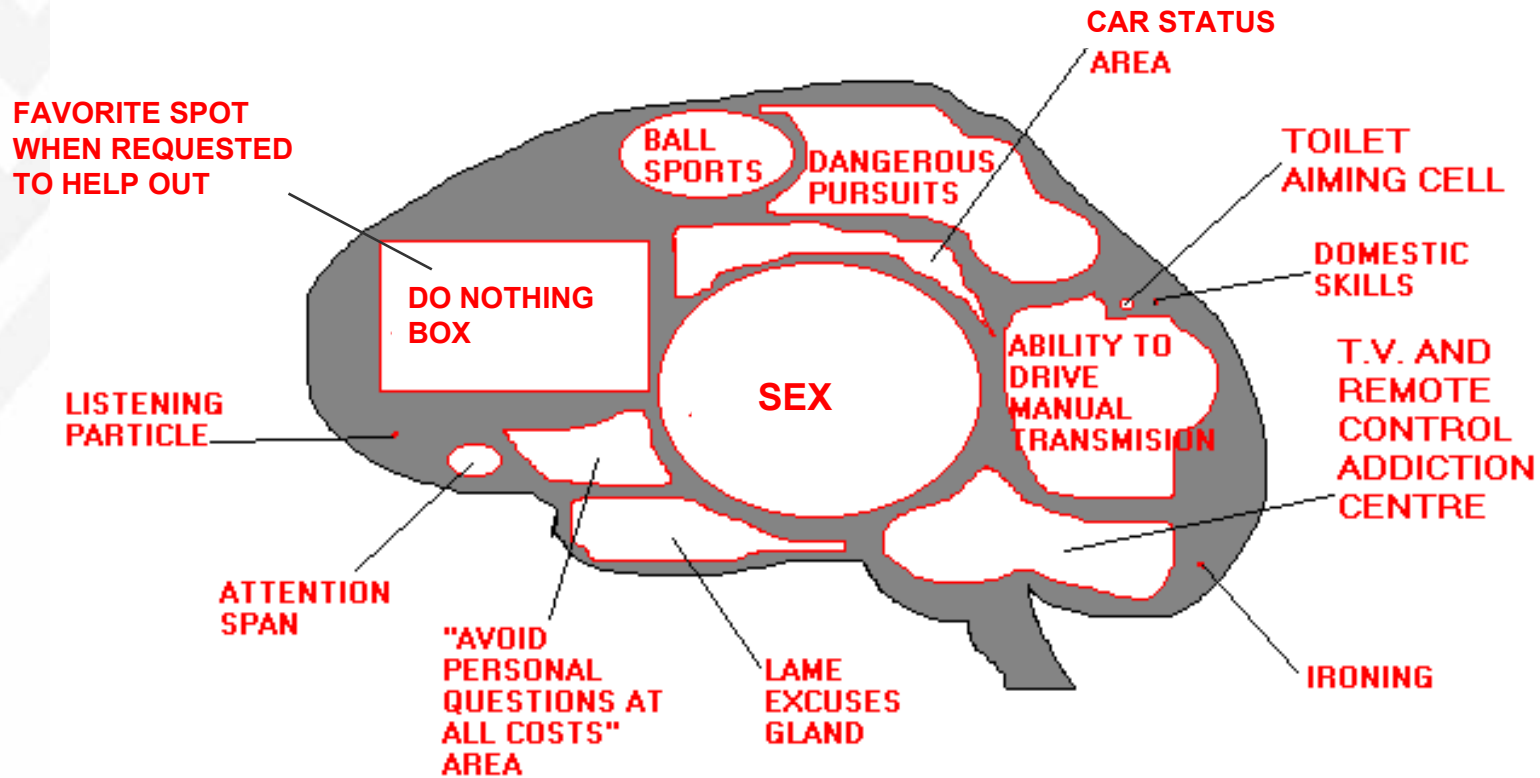


The Techno-nerd

Human
Resources

Not to be confused with...

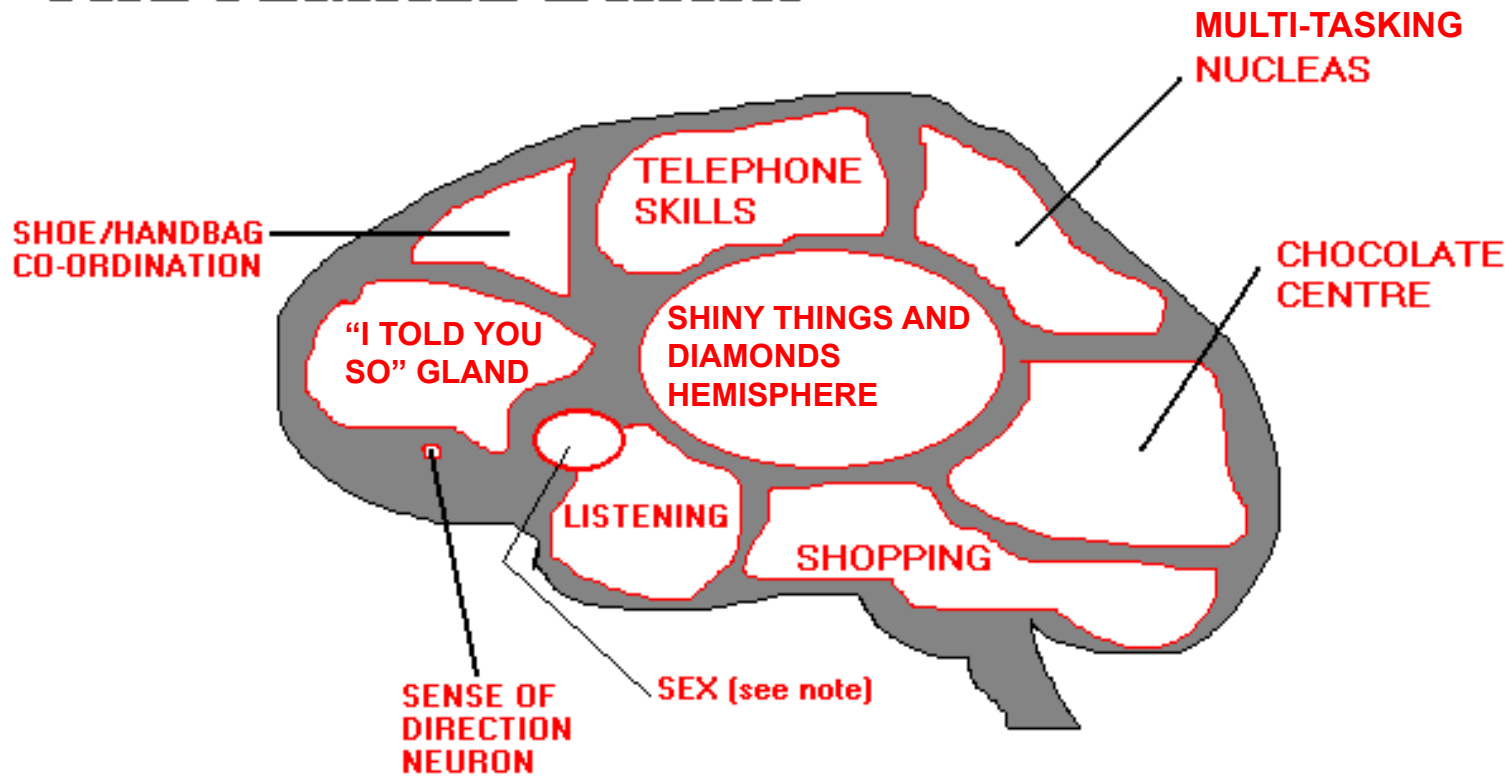
THE MALE BRAIN



FOOTNOTE: the "Listening to children cry in the middle of the night" gland is not shown due to its small and underdeveloped nature. Best viewed under a microscope.

Versus...

THE FEMALE BRAIN



FOOTNOTE: Note how closely connected the small sex cell is to the listening gland.

Introducing Decision Analysis

The power of a familiar setting!

- **Linear Additive vs. Multiplicative**
(MULTI-ATTRIBUTE) (PROBABILISTIC)
- **Convincing executives to use a Decision Analytic Portfolio System.**

Introducing Decision Analysis

Moral

Use something OLD to communicate something NEW (i.e., relevance counts).

When are issues not issues?

Issue Type	Issue
Decision	Trials will begin in Europe next month.
Decision	Launch in the US will be Jan of next year and launch in Europe will be 12 months later.
Decision	US will stay at the low dose regardless of EU results.
Decision	Should dosing in European trials be high or low?
Decision	What patient populations should be included in the EU trials?
Decision	Should a potential competitor be a comparator in the EU trials?
Decision	Should we change to a different European approval method?
Fact	The edema market is \$5 billion per year world wide
Fact	Low dose profile in the US will generate a 50% market share
Fact	High dose profile in Europe could generate a 80% market share, while a low dose profile will generate 50% market share.
Fact	Compound is a vasoconstrictor that increases blood pressure.
Fact	The high dose is very attractive to marketing because efficacy would be clearly superior to the competition.
Fact	At a low dose, there is no chance of death during European trials
Fact	A death during trials would delay EU sales 1 yr.
Fact	If EU clinical trial are dosed low and successful, market share would be about 50%?
Uncertainty	A death during trials could delay US launch from 6 months to a year.
Uncertainty	There's a 10% chance of a death during EU clinical trials at a high dose.
Uncertainty	If EU clinical trial are dosed high and successful, market share would be 70%, 80%, or even 90%?
Uncertainty	Besides a delay, there is a 50/50 chance of market share in Europe dropping to 40% with a death during trials.
Value/Objective	Management wants to see three years of peak sales following U.S. scheduled launch.
Value/Objective	Ultimate objective is to maximize the value of the compound worldwide.

When it's a list!

Issues and their Ramifications

Issue: Should dosing be high or low in European Clinical Trials?

This issue is a Decision.

Ramification: With a low dose trial in Europe, the US launch will go as planned in two months. With a high dose trial, we may lose both the US and EU markets if something goes wrong. However, if Adverse Events are minor, we're looking at a high European market share.

Issue: Minor Adverse Events (AEs) are acceptable, but what are the chances of a death?

This issue is an Uncertainty.

Ramification: Since the drug is a vasoconstrictor, someone with a preexisting conditions would be at risk of a heart attack. If there is even one death during European trials, the US launch would be delayed for no less than 6 months and European trials would likely be delayed indefinitely.

Issues - Decision Hierarchy

Values / Objectives

Management wants to see as the decision metric the first three years of peak sales following U.S. scheduled launch.

Policies / Givens / Key Assumptions

Trials will begin in Europe next month.

Launch in the US will be Jan of next year and launch in Europe will be 12 months later.

US will stay at the low dose regardless of EU results.

Strategic Decisions

Should dosing in European trials be high or low?

What patient populations should be included in the EU trials?

Should a potential competitor be a comparator in the EU trials?

Tactical Decisions

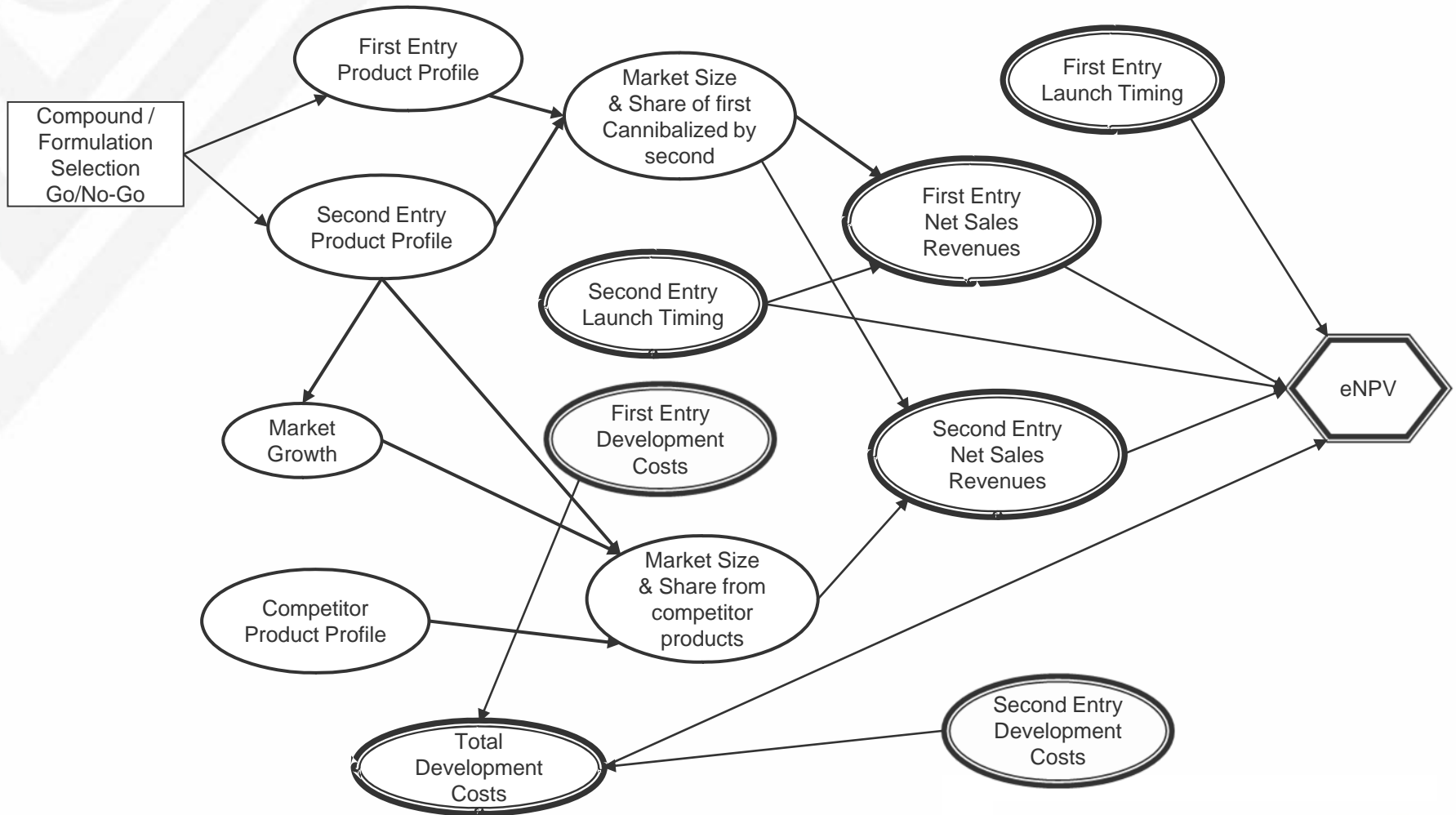
Should we change to a different European approval method?

Issues

Moral

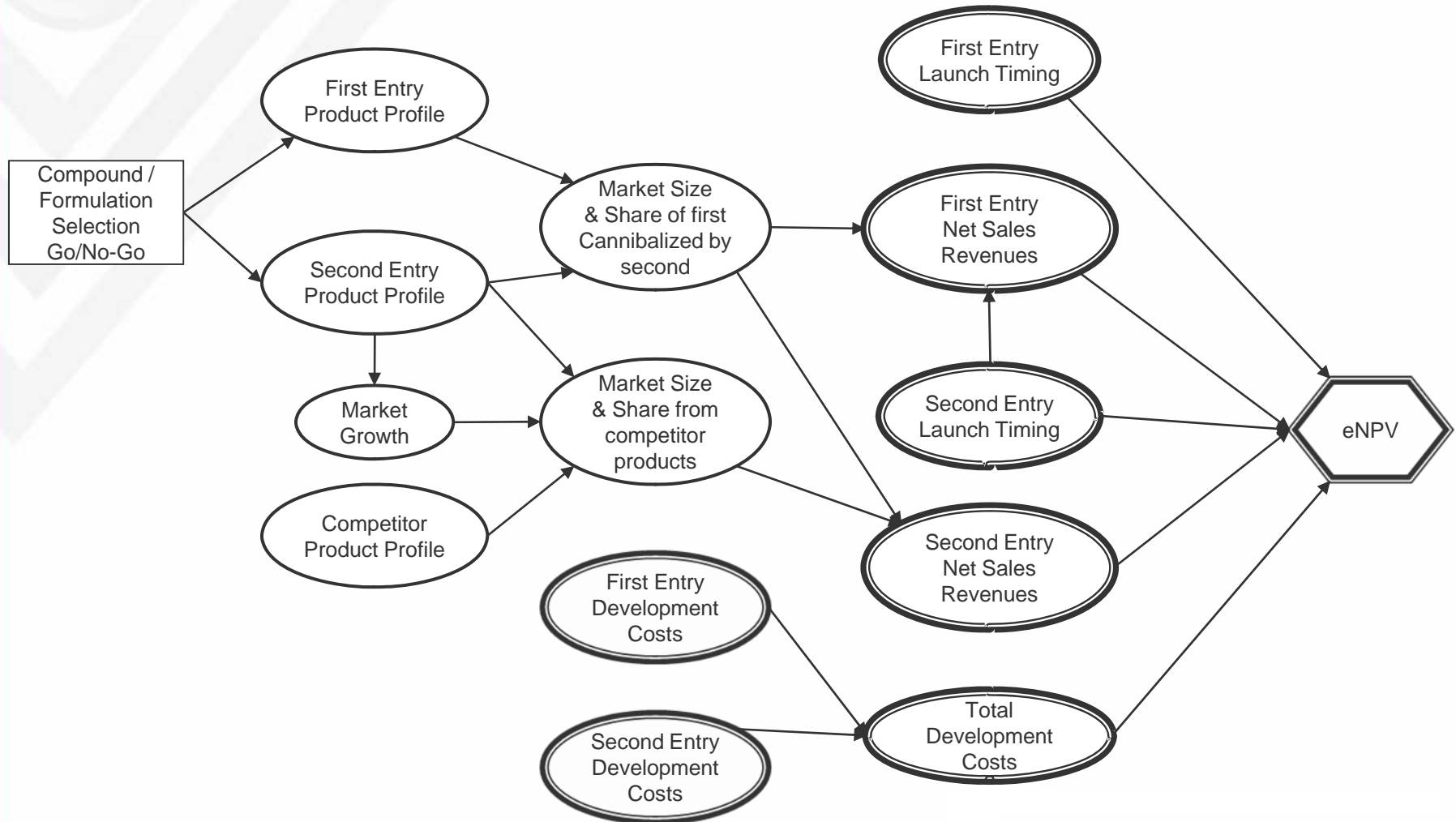
Use your “client’s” eyes to present the information you’re communicating. See from where they’re coming.

Influence Diagram



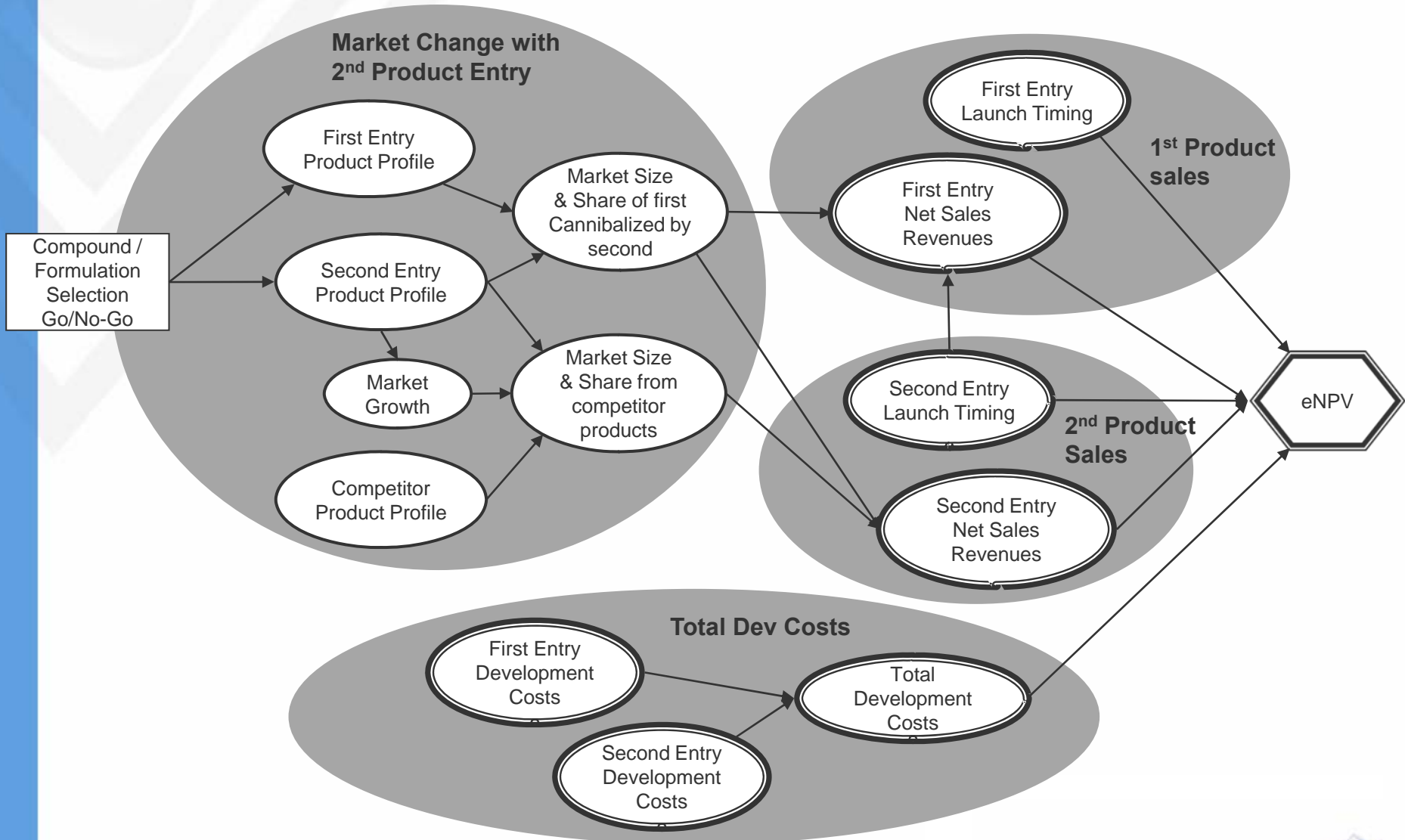
Influence Diagram

- ✓ Get the Chronology Right
- ✓ “Uncross” the Lines



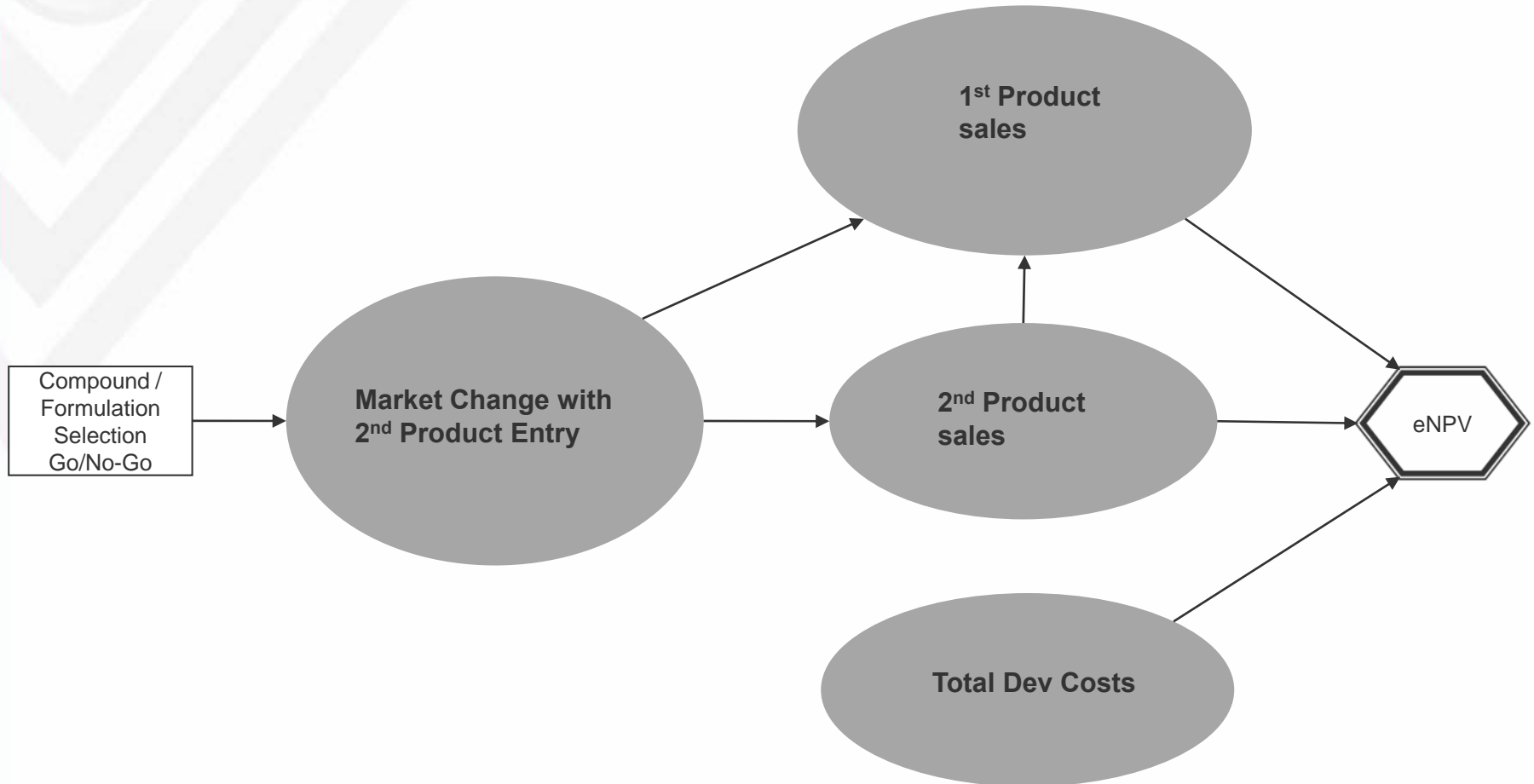
Influence Diagram

✓ Group the uncertainties



Influence Diagram

✓ No Detail



Influence Diagram

Moral

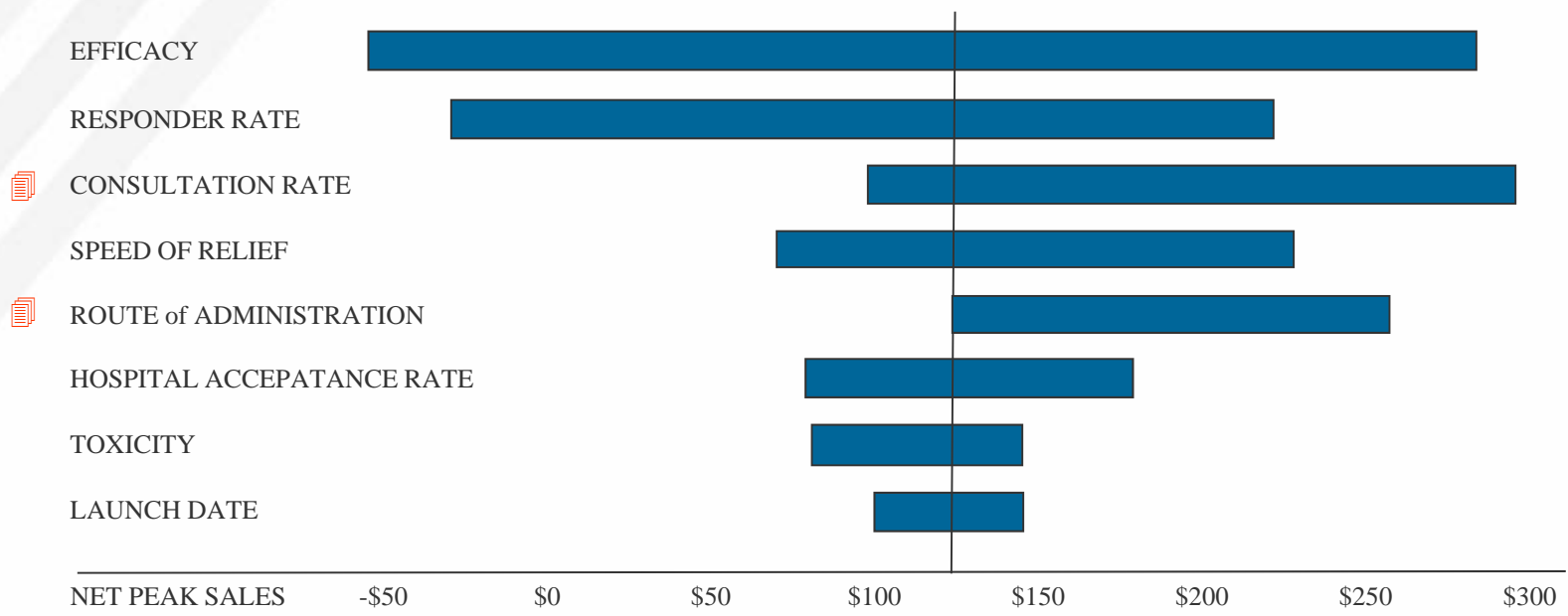
Remember the architecture quote by Mies van der Rohe, “Less is more.”

Secondary Moral

If you’ve got good news to deliver from your DA, try to be the messenger. ...especially for Senior Mgt.

Tornado diagram

- ✓ Controllable
- ✓ Large Impact
- ✓ Strategize



Tornado Diagram

Moral

A Tornado Diagram is more than a sensitivity analysis. It has the potential to help SOLVE PROBLEMS and CREATE VALUE.

Secondary Moral

Your clients will love it. ...and you!

A Reference Lottery Story

Two scientists were asked for probabilities. Using a color wheel and a reference lottery, the first scientist does fine.

Then the second scientist is asked, “What are the chances that CMV will be resurfacing in the next 7 years?”

Relevance

Moral

What's important or obvious to one person is often neither important nor obvious to another.

The Value of ERC

Communicating the three Critical Success Factors for the success of any business, in any industry. ...in any universe.

ERC

The Value of ERC

- **Make money = Earnings**
- **Do it efficiently = ROI**
- **Do it over time = Cash Flow**

Value

Moral

Assume that everyone understands (when in fact no one does), then announce that you're providing an explanation for those who don't understand.

Secondary Moral

All value propositions are derived from ERC. Failing in any one of the three results in failure.

decision

FRAMEWORKS

REAL PEOPLE • REAL INSIGHTS • REAL DECISIONS



Lessons

Lessons Learned

- 1. Good communication is everything! Without it, a solution for world peace and “rearranging deck chairs on the Titanic” are indistinguishable.**
- 2. Decision scientists are typically analytical and detail oriented. Our clients aren't!**
- 3. If you present a list of issues to a client, in the mind of your client, you've not created value.**

(continued)

Lessons Learned

- 4. Exploit Tornado Diagrams. They satisfy both the left and right sides of our brain.**
- 5. Relevance is critical! Your audience needs examples, explanations, and reference lotteries that have personal meaning!**
- 6. ERC – For a business to succeed (in any universe), it must make money, do it efficiently, and do it over time.**

(continued)

Lessons Learned

7. Often you have to agree with someone in order to get them to listen to what is really right! ...or what you *think* is really right!
8. Suggestion: Read Predictably Irrational by Dan Ariely for an enjoyable experience and great insight into how people may truly make decisions.