Problem Solving Agenda

DAY ONE - Morning

8:30   Introduction
- What is a Problem?
- Our natural shortcomings as problems solvers
- Problem Solving as a process
- Characteristics of exceptional problem solvers

9:15   Define the Problem
- Problem identification – the Problem Solver's dilemma
- Five elements of a problem definition
- Tasks in defining the problem: organize, investigate, assess
- Common issues and questions to ask
- A painful real world example of a poorly defined problem

10:15 *Exercise: Define the problem*
Participants are given a case scenario, an initial set of data, and an initial stakeholder's perspective of a problem. They are asked to define the problem using the five elements discussed in this section. In so doing, they will find a number of issues which contribute to a poorly defined problem: confusion of "ends" and "means," personal emotions biasing the view of the problem, untested assumptions taken as facts, data incompletely analyzed, and issues over-weighted due to first hand observation. Participants are challenged to develop a more practical, objective, goal-oriented view of the problem that challenges all assumptions.

11:30 Structure the Problem
- Problem structuring overview – Why is it so important?
- Frameworks – What are they? What purpose do they serve?
- Examples of frameworks: Logic trees, work flows, etc.
- Existing frameworks versus original work – Dare to be original
- Creating original frameworks

Course Agenda

DAY ONE - Afternoon

1:00   Structure the Problem (continued)
- Hypotheses – What are they? What purpose do they serve?
- All hypotheses aren't born equal
- The process of developing useful hypotheses
- Analytical plans – What are they? What purpose do they serve?
- A few dos and don'ts around defining analysis and data needs
- Different data collection methods and our choices
- Creativity and the role of the brain
- Creativity – can it be taught?

1:45   *Exercise: Structure the Problem*
Given the new perspective on the case generated from exercise one, participants will develop a framework for assessing the problem and use it to generate at least three hypotheses for further exploration. A solution set with an example framework and list of hypotheses is provided at the end of the exercise to ensure a common perspective for day two exercises.

3:00   Capture the Data
- A few simple dos and don'ts of different methods
- A framework for thinking about collecting and analyzing data
- Challenges of getting the "right" data
    – Evaluating the credibility of our data sources
    – Watching for changing methods of measurement
    – Understanding the impact of the wording of the question
    – Testing for sufficient detail in the data
    – Considering the significance of data points we DON'T have
    – Normalizing data to remove the effect of unwanted influences

4:00   Day one review and wrap up

Course Agenda

DAY TWO - Morning

8:30   Analyze the Data
- Framework for data collection and analysis revisited
- Challenges of drawing the "right" conclusions
    – Putting numbers in context
    – Ensuring we're answering the right question
    – Identifying subgroups within the data
    – Respecting large numbers (but also the long tail)
    – Viewing data from multiple perspectives
- The importance of critical thinking

9:15   *Exercise: Critical Thinking*
A set of five mental tests we almost always get wrong and the
implications for how we collect and analyze data

10:20 Analyze the data (continued)
- The "quadrant of truth" – not being wrong doesn't mean you're right
- Five comparisons to embrace
    – Component breakdowns
    – Rank analysis
    – Time series
    – Distributions
    – Correlations and regression analysis
- Problem solving as an iterative process – a real world example

11:00 *Exercise: Analyze the data*
Participants are given a second set of data and must use it to analyze the
hypotheses generated from Exercise 2 (and perhaps a few more they
may develop). This will typically involve analysis of distributions, the
use of regression analysis, and an evaluation of critical thresholds
within the data (e.g., at what customer satisfaction level are customers
likely to take their business to a new supplier? At what level is their
satisfaction "saturated?")

Course Agenda

DAY TWO - Afternoon

1:00   *Exercise: Analyze the data (continued)*

2:00   Recommend solution
- Drawing logical conclusions from our findings
- Exercising our logic – a couple of in-class examples
- Evaluating not just one solution, but several
- Increasing awareness of common decision making mistakes
- Using criteria to maintain objectivity
- Applying criteria-driven decision making
- Putting it all together – telling our story
- Building a business case – key components and best practices

3:00   *Exercise: Recommend solution*
Participants complete their final analysis and interpret findings to develop a recommended solution to the case. As part of their recommendation they must identify unresolved issues and describe how they would address them.

4:00   Review and wrap up