

## **Advanced Analytic Techniques Using Rigorous Approaches to Analysis to Advance the Enterprise**

Whether in government or business, undertaking relevant and high quality analysis is a central element of organizational success. An understanding of analytic methods and techniques, from the most basic to the most advanced, facilitates these efforts. For government, safety and security depend on understanding developments that strategists characterized as being from an “age of chaos” or an “age of uncertainty”. For business, understanding internal operations and leverage points and a dynamically changing world form the necessary foundation for market growth.

The pervasive availability of data creates a unique challenge: today, anyone can find all kinds of data that, loosely coupled together, can prove any point that they would like to make. This places a premium on critical thinking, critical review, and rigorous analysis.

Analysis is hard. Emerging problems, massive amounts of data, and complexity dominate the analytic landscape. Many organizations fail to understand the value associated with doing analysis, while others struggle with not knowing how to find or evaluate relevant sources, many lack the talent to undertake such an endeavor. Those who focus on administrative functions – like allowing access to information, sharing information, or even information management—are often mistaken when it comes to the intellectual and analytic processes of asking the right questions, selecting the right data, using the right methods, and effectively conveying results. Further, while technology can greatly assist with analysis, it is useless without a mental model of what one is trying to accomplish. Analytic tools are NOT analysis.

Innovative Analytics and Training (IAT) is dedicated to helping individuals and organizations improve their use of analysis in order to advance their own enterprise, whether by helping them improve their own approaches to analysis, doing it with them, or doing it for them, or often, we provide an independent perspective on an issue or question. IAT’s experience, in both qualitative and quantitative analysis, provides clients with a truly multidimensional approach. We drive clarity out of complexity for our clients.

### **Critical Thinking: The Key to High Quality Analysis**

Critical Thinking has been described as “...(an) active, systematic process of understanding and evaluating arguments...critical thinkers acknowledge that there is no single correct way to understand and evaluate arguments and that all attempts are not necessarily successful.” (Mayer and Goodwin: 1990). Within IAT, we often refer to critical thinking as “thinking about thinking.”

Critical Thinkers are skilled in . . .

- Identifying the vital questions and challenges of complex problems
- Gathering information and using abstract tools to effectively interpret its meaning
- Arriving at well-reasoned conclusions and solutions
- Open-mindedly employing alternative systems of thought, recognizing and assessing their assumptions, implications, and practical consequences
- Communicating their analyses effectively with decision-makers

IAT assists government and commercial enterprises with applying critical thinking techniques to overcome these challenges. A tried-and-true methodology for understanding new paradigms and

making sense of an information deluge, critical thinking asks people to continuously assess information, as well as their analytical processes.

### **Other Analytic Methods and Techniques**

With critical thinking as the starting point, there are literally dozens of other analytic methods and techniques that can help leaders understand their existing enterprise and think about the future. IAT has extensive experience helping people understand when and how to apply these methods and techniques, as well as using them on behalf of our clients. While some of these methods and techniques are very traditional, a number of others are highly innovative and take advantage of the power of the Web for their rapid use and assessment.

Among the numerous methods and techniques we have used in training or working with our government and commercial clients are as follows:

- Crowdsourcing
- Analytic Gaming
- Brainstorming
- Game Theory
- Scenario Planning
- Assumption-based planning
- Prediction markets
- Alternate Competing Hypothesis
- Collaboration in an Analytic Environment
- Structured Analytic Techniques
- Future Analytics™ Assessment

We help clients understand the comparative value of any one method at any point in the analytic process, facilitate their use, and call attention to their inappropriate use or application within any major analytic endeavor. We can also help evaluate the use of analytic tools (web or software-based). We do not own or endorse any one analytic application.

### **Case Studies and Lessons Learned**

IAT uses this specialized form of research and analysis to help clients recognize their historic and current patterns of behavior and decision making and the consequences of these patterns. We strive to equip organizations a rigorous and organized approach to understanding the past so they can make conscious decisions about what they will repeat and how they will change. IAT has used the lessons learned approach to help government agencies work on improving organizational collaboration, especially in the areas of security, acquisition, and financial management.

#### **About Innovative Analytics and Training**

Innovative Analytics & Training LLC (IAT), a privately-held company in Washington, D.C., focuses on improving analysis and decision-making for government and commercial clients. IAT is “the sources and methods company,” and draws upon analytic methods and techniques that range from critical thinking to rapid global expert network development and advanced analytics applications. We help organizations understand the complexity and data dependencies of their decisions, by offering new approaches in how existing information is used and how to gather new information that will narrow the uncertainty within any given decision space. For more information on Innovative Analytics & Training, visit [www.innovative-analytics.com](http://www.innovative-analytics.com)

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