



Lone Star's Uniqueness: Tools, Transparency and Processes

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Lone Star's unique approach to helping clients solve complex problems is enhanced decision analysis: Using tools like TruNavigator™ that is designed to deliver understanding, not just numbers.

This is the third article in the series explaining Lone Star's unique approach to helping clients solve complex problems – enhanced decision analysis. It will explain how Lone Star's tools, like TruNavigator™ are designed to deliver understanding, not just numbers.

Tools

Over the past 10 years Lone Star has been developing and evolving a set of analysis tools based on customer driven requirements. These specialized tools like TruNavigator™ and TruNavigator Analysis Manager™ (TAM) are focused on helping customers address complex and uncertain enhanced decision analysis (EDA) related issues and have proven effective through actual engagements. Others such as StraTable™, an analysis of alternatives (AoA) tool, and Op/Cap, a strategic opportunity assessment tool, also have unique attributes but are not discussed in this article.

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TruNavigator™

TruNavigator is a modeling environment designed to visually represent a customer's analysis task and convert that representation into mathematics. Once the task is effectively represented both visually and mathematically, data is input into the model and the model is executed, effectively running a simulation of the particular analysis task. The TruNavigator tool was designed and evolved to specifically address scenarios where high degrees of complexity and uncertainty exist, such as evaluating the potential effects of current decisions on future enterprise and system outcomes. The specifics of the approach and method of how TruNavigator processes information will be discussed in a later article in this series.

TruNavigator Analysis Manager™ (TAM)

TruNavigator Analysis Manager (TAM) is a modeling tool which enables multiple TruNavigator models to be managed simultaneously from a single location. As models get larger and more complex, it becomes increasingly difficult to both construct and utilize them in a single model. The natural approach is to execute analysis tasking in individual modules and integrate them. The TAM acts as the integrator of this modular approach. The TAM allows for all of the existing functionality with TruNavigator to be executed on an individual model basis as well as across models. The TAM also enables incorporation and management of



multiple scenarios across models and the utilization of non-linear optimization across all integrated models.

Lone Star tools provide several different ways to visualize the results of a model built using tools such as TruNavigator. We believe understanding from visualization, sensitivity analysis and other features of our modeling environment are critical to delivering answers with confidence. Visualization is the difference between computing “a number” and understanding it. For our toolset it means a visual presentation of the model, making it easy to see the relationships and flow within the structure. It also means multiple and powerful ways to present simulation results.

Another important feature of our tool set is speed. Our tools allow near-real time “what if” analysis. This is critical to exploring sensitivity analysis, to building intuition, and to gaining confidence. Most models built with our tools run in less than a minute. Even the largest models run in a few minutes. Typical alternatives would take hours to run in most cases. The slow repetition rate is deadly to building understanding and confidence. It’s why we are committed to blazing fast computational engines producing millions or billions of Monte Carlo trials.

The legacy of these toolset features pre-dates Lone Star. Anyone familiar with the work of Dr. Ron Howard, who launched modern Decision Analysis (DA), will quickly recognize his work. They will also notice the work of other early DA pioneers. But our tools have moved on. Most DA tools are second generation products. A few are third generation. Lone Star’s enhanced decision analysis (EDA) tools provide powerful visualization and high speed in addition to the best legacy features of DA; sophisticated mathematics and ease of use in modern laptop computers.

Transparency

Transparency means “easy to see through.” That means a model should be accessible and easily traceable to gain insight into the Enterprise or system being modeled. In addition, the model needs to have embedded documentation in order to be able to quickly validate data and formulas, as required. These perspectives are tests of transparency. If that sounds like common sense, sadly, it turns out to be rare. Most modeling and simulation toolsets are not transparent in any of these three tests. Spreadsheets are a great example; most spreadsheet models are anything but transparent.

Transparency is a result of both our tools and processes. It’s also a result of a business philosophy. We believe analysis is more actionable when understandable. We serve our clients better when they can act on information we provide. That’s more likely to be true when our tools (and we) provide transparent models. The manifestations of transparency in our models are features like:



- Visual representation of the model that is easy and natural to understand (not limited to those who can write code or have university mathematics training).
- Documentation built in to the models, and connected to the documented objects (answering questions like, ‘where did that number come from?’)
- Easy to trace calculations that can be manually checked by an examiner
- Built in audit and testing functions
- Built-in model navigation support, easy to use in modern computers.

Processes

Many of the analysis processes in use at Lone Star are similar to good practices in a project of any kind. We have disciplined documentation, peer reviews, internal audits, and other quality mechanisms. But we've learned that delivering results that matter requires more than internal discipline during the execution of a project. It requires disciplined pre-analysis work to define clearly the issues, questions and parameters of the analysis. It requires thoughtful post-analysis work to clearly communicate and document outcomes. Process discipline, training, documentation; these things lack glamour, but they are necessary. They build the confidence our clients have in us that we truly are delivering "The Right Answer."

A recent independent study found several causes for failed analysis efforts. These included:

- Distractions (Non-relevant focus areas make their way into a model)
- Complexity (A model is needlessly large and intricate)
- Implementation (Automation of a model fails or is flawed)
- Interpretation (Simulation results are understood in ways leading to improper conclusions)
- Acceptance (Decision maker rejects results)

Lone Star's Tools, Transparency, and Processes address all these challenges. Together they are the reason why customers tell us we delivered the right answer.

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