

## Benefits

### Maximization of shareholder value

#### **Bring maximization of shareholder value to every major strategic decision**

Proper discount rates are found using the relationships between the relevant uncertainties and the Market. Politics and personal goals have no role, while cash flows and long-term opportunities and effects do. Regardless of your role in the corporation (Chairman, CEO, VP, Product Manager, etc.), if you build a model with the same information, you will value decisions in the same way as the Market, maximizing the long-term market value for your shareholders.

### Simplicity and Ease-of-use

#### **Take advantage of complex decision models without an advanced degree in math**

Simply provide the following information to build your model:

- The choices you are facing (present and future)
- The information affecting those choices (e.g., about product demand)
- The resulting payoffs (costs, revenue, taxes, brand name value, etc.)

This information is entered as rules, such as “When the design phase is complete, we'll find out if the prototype phase will be easy or hard.” All rules are evaluated to see which should be executed next. The execution of a rule may result in the revelation of an uncertainty, the choice from a decision, or simply a change in variable. From a small set of rules, many possibilities are created and often-unexpected properties emerge. (This is the same emergence found frequently in nature, such as in ant colonies and bird flocks.)

Once the model is built, you can:

- Understand the strategy that maximizes shareholder value
- Ask any question of the model (e.g., in what cases should you switch strategy?)
- Perform “what-if” analyses, modifying and adding new information, choices, etc.

### Speed and Feedback

#### **Use rapid feedback to form complex strategies in days rather than months**

The Provisdom Decision Platform isn't a passive tool like typical programs; it's more like a conversation with a business collaborator. Since the first-cut of models can be done in as little as 45 minutes, there are many chances to improve the model. Each iteration hones in on the most relevant factors and information. The decision maker's judgment about what information will be most relevant will speed this process further.

## Transparency and Communication

### **Make decision rationale transparent, improving and accelerating communication**

The information entered into the model is readily viewed as model properties and simple rules. This means that while building a model to make better decisions, you are also creating a powerful communication method. Your information can be easily digested by others and others can easily provide any information they may feel is relevant to your model. Information can be harvested from a variety of sources throughout an organization and plugged into the Provisdom Decision Platform. It also helps accomplish transparency in decision making when employees have plugged in their own data as part of reaching a company or group-wide decision. With such transparency, the incentive to play politics or “fudge” the numbers will often be reduced. This new standard of transparency brings confidence to the decision maker and other stakeholders and speeds and increases consensus to a decision-making group.

## Uses All Types of Relevant Information

### **Include all types of relevant information and remove poor assumptions from decision making**

A nonlinear optimization problem is solved repeatedly to find the probabilities and discount rates throughout the model. Since information is included as constraints in this optimization problem, information in nearly any form may be included. For example, to include a relationship between the Market and a product’s sales, you may say “there is a 10% correlation” or “when the Market rises 50% more than normal over a year, the product’s sales will on average rise 5% more than normal”. You can almost always enter quantitative information as you know it, without having to alter it to fit the Provisdom Decision Platform.

When a model contains billions of outcomes, it is often not possible to enter every conditional probability. Using proprietary advances in information theory and maximum entropy techniques, you only need to include what you know. For example, if you have a scenario with three possible outcomes, but you have no information about the frequency of the three outcomes, the probabilities for each outcome will be set at one-third. When there are multiple sets of outcomes over the same time period and you only know a single conditional probability, the maximum entropy solution is not obvious, but can now be calculated automatically.