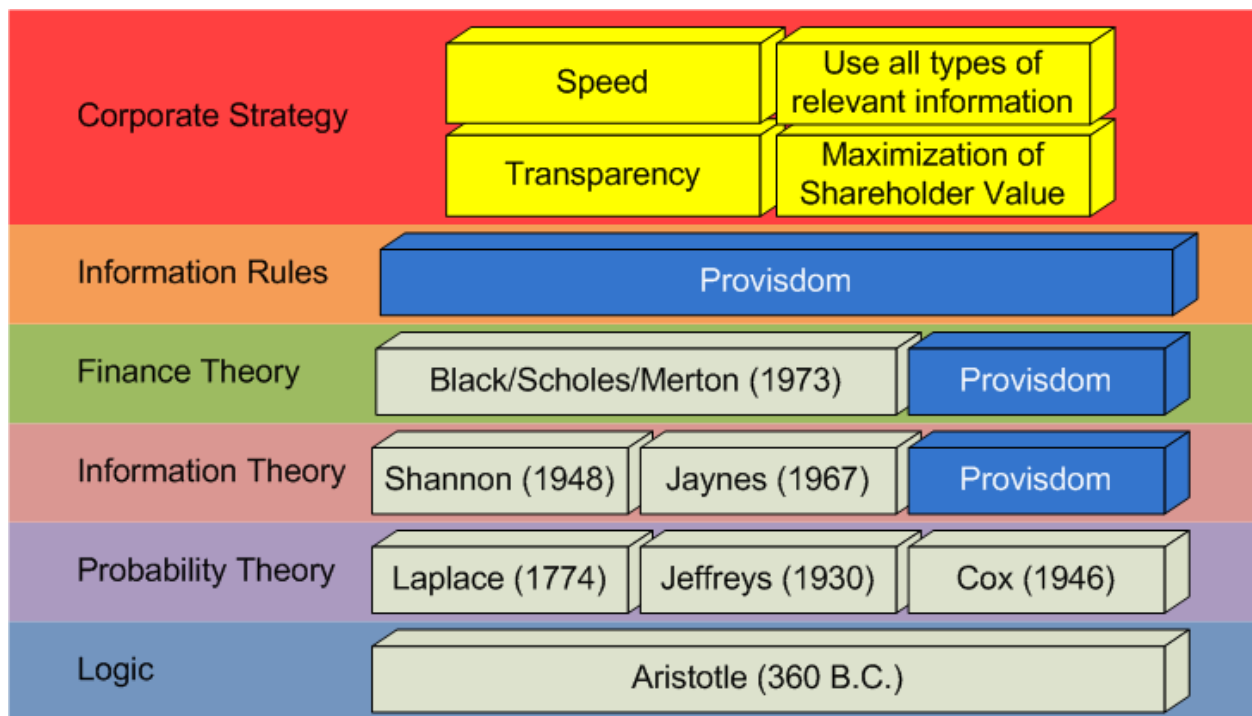


Provisdom holds core intellectual property to fuel the next wave of “killer” software and services for business value creation, allowing full utilization of information to make decisions maximizing shareholder value.

To maximize shareholder value, a corporate decision-making framework must be built on an intellectual foundation that is broad and deep.

There are no shortcuts. To achieve the required level of generality, we must begin at the most fundamental level, building up definitions of information, shareholder value, etc. Each level in this edifice brings us to a higher level of abstraction and usability. The top of this edifice must reach a level accessible to average corporate decision makers, allowing them to quickly and comfortably leverage the power of the underlying foundation. This intellectual structure is shown in the figure below:



Each colored level represents a different layer of ideas built upon those below. The gray boxes show the individuals who made key contributions to each level; the blue boxes indicate where Provisdom has contributed. Without all of the blocks in place, it is impossible to support the ideals at the top.

Logic is the basis of rational thought.

Aristotelian Logic is the logic behind perfect information and the common sense that we all take for granted.

Probability Theory provides a way to reason in the face of uncertainty.

Probability Theory builds upon Aristotelian Logic. Imperfect information is handled by assigning the likelihood of uncertain future outcomes with real numbers ranging from zero to one. A given set of information corresponds with a unique probability. Bayes' Theorem is the only method mathematically proven to be correct for updating probabilities upon new evidence (under extremely broad assumptions). Real decisions always involve imperfect information and uncertainty; avoiding or ignoring this fact leads to poor decisions and impairs agility in the face of changing conditions.

Information Theory quantifies uncertainty and ensures we incorporate all information without adding false information.

Information Theory has measures of information content like entropy and total correlation that can be used to extend Probability Theory by assigning probabilities when they are not otherwise available. Provisdom has made the necessary novel advances to Information Theory to make assignments to joint discrete and continuous distributions given the spectrum of ways a model-builder may choose the relevant variables in practice. Complete specification of all information relevant to a given strategy is often impractical or expensive. The Provisdom Decision Platform allows you to specify only what you know, and indicates where additional information may add value.

Finance Theory lets us calculate the shareholder value of information.

Finance Theory is concerned with shareholder behavior, the relationship between marketed assets, and the accurate pricing of derivatives of marketed assets by ensuring no arbitrage opportunities exist. Provisdom has taken this theory a step further by using proprietary breakthroughs that permit the calculation of the shareholder value of any corporate choice, even with incomplete information. These breakthroughs also permit a new standard of transparency. Market information and relationships can come in nearly any form and result in varying common sense discount rates throughout a single model.

Information Rules allow decision makers to specify their information to the system quickly and naturally.

Current decision-support tools generally require extensive mathematical background and possibly significant effort for software development (e.g. building models in Excel). Strategic analysis with these tools is thus cumbersome and only understandable to a handful of experts. Provisdom has devised the concept of *Information Rules* so that decision makers can directly specify what they know in a manner similar to how they think. Information Rules allow decision model logic to be defined in a loosely-coupled and declarative fashion, fostering transparency and agility.

For example, suppose you had the decision of whether or not to manufacture and sell widgets. You might think about the various implications as follows:

- If I decide to sell widgets, I need to get information about the future demand for widgets.
- If the demand for widgets exceeds my manufacturing capacity, I need to decide whether to expand and by how much.

Information Rules are a computer representation of the above statements.

There's only one right way to maximize shareholder value – and Provisdom owns it.

Provisdom's biggest advantage is the way all the pieces come together, each being provably correct and consistent. The Provisdom Decision Platform matches all of the included information, makes the same valuations that the Market would with the same information, and matches Wall Street valuations like Black-Scholes when the information is the same. Since the platform solves general business problems that do not have an analytical solution, Provisdom approximates the solution by discretizing both time and future uncertainty values. As an example of how close the Provisdom approximation gets to the Black-Scholes formula, consider a 1-year call option with a strike price of \$1 on a stock with a current price of \$1, a volatility of 40%, and a yield of 10%. The Black-Scholes analytical solution is \$.129. Using the platform, we will discretize the stock price into two possibilities for each time step (an asset can be accurately discretized into up to 11 possibilities per time step automatically). Using only two time steps, Provisdom's NPV approximation is \$.132, a meager 2% error. For a small number of time steps, the error is between 0% and 4%. As the number of time steps increases, the error goes to zero.