

# A DECISION-THEORETIC FRAMEWORK FOR STRATEGIC LEGAL DECISIONS

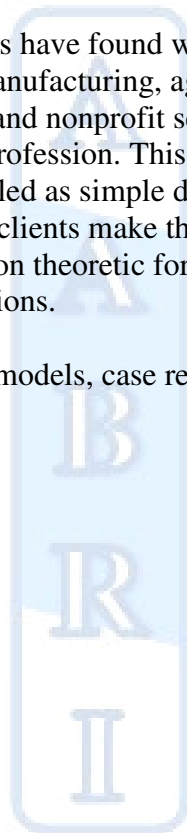
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## ABSTRACT

Although decision science models have found wide application to problems in such diverse fields as finance and banking, manufacturing, agriculture, medicine, and health delivery systems, and many phases of the public and nonprofit sector, little attention has been paid to their utilization by the members of the legal profession. This paper presents a sampling of legal decisions which can be effectively modeled as simple decision theory problems. The thrust of the argument is not that lawyers and the clients make these decisions improperly, but that formally stating the problems in a decision theoretic format leads to more systematically consistent, robust, and supportable decisions.

Keywords: Decision sciences, decision models, case resolutions, dispute resolution, business decision-making, legal negotiations



## Introduction

It is a fact of life in the legal profession that in many instances it is strategy that wins a case, rather than evidence (Jones, 2003). Many a bright novice attorney has learned grudging but heartfelt respect for a crafty senior attorney who contrived a legal triumph, not on the basis of the case facts, but by the dexterous orchestration of the rules of court procedure during the litigation of the case.

Lawyers and prosecutors are regularly faced with complex decisions which must be made from multiple (and often competing) alternatives in the face of uncertain payoffs. Furthermore, in the attorney-client relationship, the attorney is responsible for the legal tactics and clients are responsible for decisions affecting substantive client's rights (e.g., decision to plead guilty, not guilty, or *nolo contendere*; settlement; to go to trial; etc.). Among other determinants such as the facts of the case, discovery procedures, deep pockets, venue, and jury selection, uncertainty and risk aversion are pertinent and complementary elements of an attorney's tactical decisions. Taken together, lawyers, prosecutors, and attorneys often make legal decisions on an intuitive basis using subjective estimates of the likelihood of various outcomes. With experience, the astute practitioner learns to analyze these factors and proceed confidently with the conclusions reached by his analysis. Since these decisions have all the elements of classical statistical decision theory problems (Savage, 1972), it is instructive to suggest their formulation in a decision theoretic format, and to demonstrate their application in the context of several simple examples.

## Literature Review

An ample body of research speaks to the issue of risk and uncertainty in litigation, negotiation and settlement situations (Clemen, 1991; Dawes, et al., 2001; Jones et al., 2003). The degree of uncertainty in the case outcome *vis-à-vis* the degree of risk aversion of the attorney are two important factors that can exert a restrictive influence on the attorney's tactical decisions. Given the inevitability of uncertainty and inescapability of risk in their multi-lateral and multi-dimensional forms, one would expect abundant research employing models to reduce such risks and clarify uncertainties, particularly in a risk-intensive arena as the practice of law.

Decision theoretic modeling is viewed as a viable tool to begin assessing potential risks and make more informed, guided decisions (Clemen, 1991; Raiffa, 1982) in the face of uncertain case outcomes. The popular press has honed in on the potential benefits accruing from modeling such decisions (Boxer, 1999; MacFarquhar, 1999; Schrage, 1999; Uhlig, 1999). Additionally, the field of alternative dispute resolutions, which aims to mitigate adversarial litigation, has a rich literature extolling the practical utility of statistically guided decisions in the legal context (Clemen, 1991; Jones, 2003; Jones & Yarn, 2003; Raiffe, et al., 2002). Notwithstanding, scant attention is given to this approach in legal literature.

Research suggests that an essential aspect of developing any model is to consider the simplest case that most embodies the essence of the problem. If the problem solver cannot solve a basic problem, solving more complex, and albeit realistic, models would be unlikely. Further, the solution to the simplest situation is often helpful at arriving at a more general solution.

The following discussion provides illustrations for how a decision theoretic approach may be applied to practical legal problems in order to reduce risk and uncertainty and generate more probative and guided decision making.

**Examples**

The model for decision theory formulation is a choice (square/□) between one or more alternatives with uncertain payoffs as result of a chance outcome (circle/O).

**Example 1: A Divorce Settlement**

The first application we shall suggest is in determining a realistic value to seek in settling the property division aspect in a divorce case. If no settlement is reached which is agreeable to both parties, the court will divide the property. Assigning subjective probabilities to the possible court-ordered property division enables us to determine the equivalent settlement amount. As shown in Figure 1, the expected value of the payoff award by the court is \$33,000 (.1 x \$100,000 + .4 x \$50,000 + .3 x \$10,000 + .2 x \$0). Any agreed settlement above that value is a “win” if our client claimed a marital property interest in the asset. An agreement below that value is a “win” if we represent a client seeking to restrict any spousal claim to the asset.

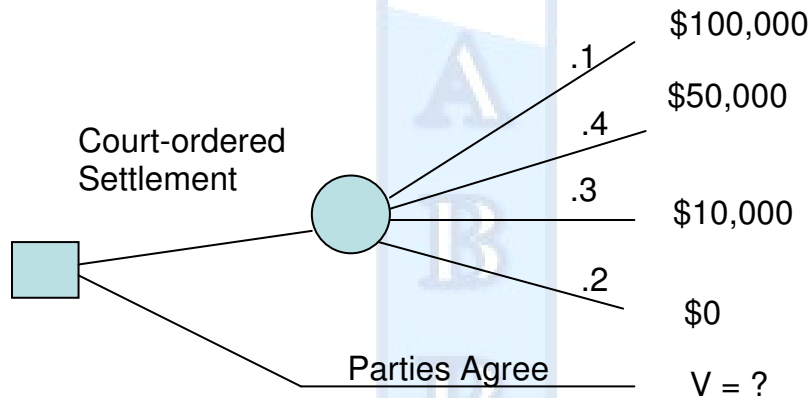


Figure 1. Divorce Settlement

**Example 2: A Business Damage Suit**

Sometimes the probabilities of the various outcomes are very difficult to assess. For example, assume that plaintiff has been offered an out-of-court settlement of \$80,000 in a \$250,000 damage suit. As indicated in Figure 2, the probability of winning the case ( $\rho$ ) would have to be at least 32 percent to cause plaintiff to refuse the \$80,000.

$$(\$250,000)(\rho) + (0)(1 - \rho) > \$80,000$$

$$\rho > \$80,000/\$250,000$$

$$\rho > .32$$

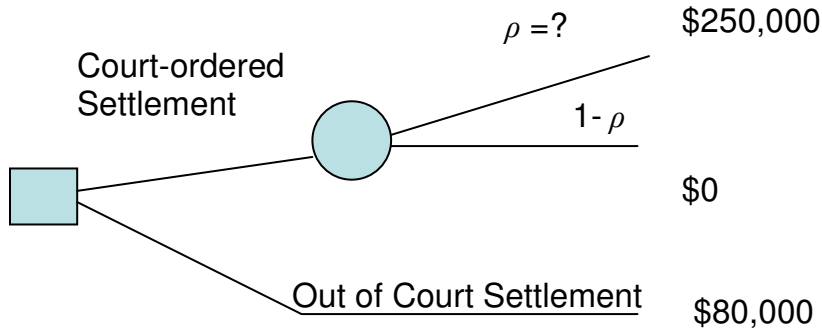


Figure 2. Damage Suit

**Example 3: Plea Bargaining**

A prosecuting attorney must decide whether to try a case on the merits or to offer to accept a plea of guilty on a reduced charge. If his objective is to remove the offender from society for the maximum length of time, his decision tree might look like Figure 3. He would try the case, since the expected jail term is 3 years ( $.6 \times 5 + .4 \times 0$ ).

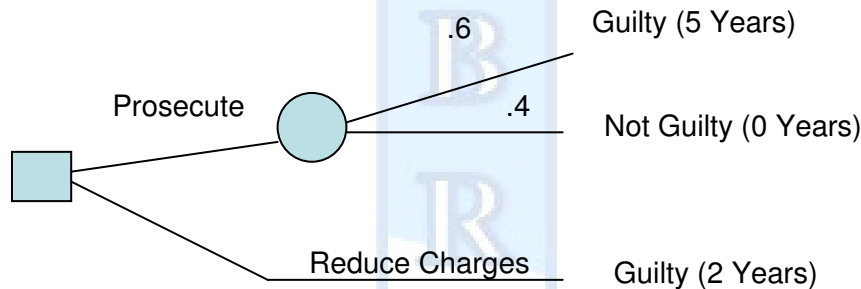


Figure 3. Plea Bargaining

**Example 4: Business Product Liability Lawsuit**

A somewhat more sophisticated analysis might be employed to decide when to stop researching a case. Assume a product liability case where the opposition has offered to settle for \$250,000, and the expected award by the court is normally distributed with  $\mu = \$200,000$  and  $\sigma = \$40,000$ . (See Figure 4.) The optimal choice is to take the settlement; the expected opportunity loss for this act, using the normal loss function (Lapin & Whisler, 2002), is \$2,023.60 ( $.05059 \times \$40,000 \times \$1$ ). This suggests that perfect knowledge about the result of the trial would only be worth about \$2,000, so it is indeed wise to accept the settlement.

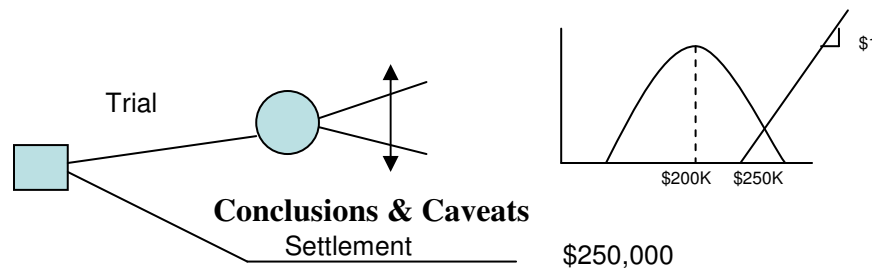


Figure 4. Product Liability Lawsuit

The foregoing examples we have discussed are fairly trivial ones and the probabilities and penalties they illuminate are relatively clear cut. We started with the simplest model as it contained the essence of the problem. In reality, however, such probabilities and penalties are seldom well-defined, and in-depth analysis of complex implications of fact, law, and policy would typically represent the sorts of scenarios faced by legal practitioners.

Nevertheless, the model works in practice, and offers significant value in its power to explain strategic behavior. Furthermore, the model-based problems suggest something of the types of decisions which can be effectively addressed within the decision theoretic framework. The structure is sufficiently flexible for lawyers to create their own models and use what they have learned in previous iterations in order to follow their ideas to a satisfying conclusion.

Although decision theory is a viable analytical tool for making decisions among alternatives in the face of uncertain payoffs, it is not the only approach which leads to effective decision making. Other formulations, such as game theory and satisficing approaches, can be used with excellent justifications.

As is the case when any analytical tool is applied to complex real world decision situations, care must be exercised to keep overall objectives clearly in mind. The decision theory analysis must be used carefully as a part of overall strategic considerations.

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