

Division of Research
Graduate School of Business Administration
The University of Michigan

May 1986

THE INTERSECTION BETWEEN BUSINESS AND
LEGAL APPROACHES TO DISPUTE RESOLUTION

Working Paper No. 464

George J. Siedel, III
The University of Michigan

FOR DISCUSSION PURPOSES ONLY
None of this material is to be quoted or
reproduced without the expressed permissions
of the Division of Research.

THE INTERSECTION BETWEEN BUSINESS AND LEGAL APPROACHES TO DISPUTE RESOLUTION

I. INTRODUCTION

In recent years law schools and business schools across the United States have witnessed a growing interest in teaching and research related to the resolution of disputes. A large number of law schools currently offer courses in alternative dispute resolution, arbitration, negotiation, interviewing and counseling.¹ There appears to be "a new profession being born - the lawyer mediator.... More [young lawyers] are seeking an alternative to the adversary system and are open to alternatives such as mediation."²

Interest in dispute resolution among business school professors is evidenced by an increase in the number of research papers and courses on dispute resolution.³ The number of papers presented at the annual meeting of the Academy of Management on power, negotiation and dispute resolution grew fourfold over six years, from six papers in 1980 to twenty-four in 1985.⁴ Only a few courses on these topics were in existence in 1980, while today approximately fifty courses are offered.⁵ At some schools these courses are among the most popular offerings with students.⁶

In some respects the law school and business school approaches to dispute resolution are similar. The principles of negotiation, for instance, are taught in both types of school.⁷ And the prospect of future cooperation between law schools and business schools is promising, as a result of the efforts of the Center for Public Resources, the American Arbitration Association and the National Institute for Dispute Resolution. The Center for Public Resources has

established an Education Project designed to promote curricular development, research, and interdisciplinary work.⁸ In 1983 the American Arbitration Association invited representatives of leading law and business schools to meetings to discuss dispute resolution teaching and research.⁹ These meetings led to the formation of a Task Force on Law and Business Schools which is examining, among other matters, the issue of business school and law school cooperation.¹⁰ The National Institute for Dispute Resolution (NIDR) has established programs to support dispute resolution teaching and research in business schools and law schools.¹¹ And in 1985 the Task Force and NIDR sponsored a conference on teaching negotiation and mediation that was attended by 120 law and business school professors.¹²

Despite certain similarities and future prospects, however, fundamental differences exist between law school and business school approaches to dispute resolution. In law school, dispute resolution is often referred to as ADR - alternative dispute resolution. The focus is on disputes in which litigation is on the horizon,¹³ and negotiating processes take place within the shadow of the law.¹⁴ The law school approach views the attorney as a key player in the dispute resolution process; in other words: "Lawyers serve as the gatekeepers for disputes."¹⁵

Business school professors tend to adopt a broader perspective than their law school counterparts by emphasizing conflict, which is viewed as an ubiquitous phenomenon that exists at all levels of the organization.¹⁶ Dispute resolution is not necessarily seen as an alternative to litigation because legal resolution of the conflicts with

which business school professors are concerned may not be feasible.¹⁷ As a result, the role of the attorney is diminished in the business school approach¹⁸ and replaced to some extent by an interest in power theory¹⁹ and conflict intervention.²⁰

The relationship between law school and business school approaches to dispute resolution has not, to date, been clearly articulated and discussed. This is unfortunate because increased awareness of the differences in perspective would enrich dispute resolution theory and practice. The purpose of this paper is twofold. First, a dispute resolution taxonomy will be used to provide an overview of the linkage between law school-type ADR concepts and the business school interest in power theory and conflict intervention. Second, to illustrate the benefits that can arise from interaction between legal and business research, a specific technique - the use of decision tree analysis in resolving disputes - will be explored in depth.

II. DISPUTE RESOLUTION: AN OVERVIEW

This section will provide an overview of the relationship between alternative dispute resolution as taught in law schools and the business school concepts of power theory and conflict intervention. The framework for comparison will be a three-part dispute resolution taxonomy: dispute prevention, alternative dispute resolution, and dispute management.²¹

The sequence in which these categories are discussed represents to some extent the strategies used in dealing with disputes, presented in chronological order. Initially, the focus should be on preventing disputes. In cases where prevention fails, the emphasis moves to the

methods of dispute resolution that serve as alternatives to litigation. If the alternatives fail, management of the dispute becomes the main concern.

A. Dispute Prevention

1. The Law School Approach: Preventive Law. In law schools dispute prevention comes in the guise of preventive law. The fundamental premise of preventive law is that it is often more important to predict how people will behave than what a court will do.²² In other words, winning a lawsuit can result in financial disaster, while preventing a lawsuit can be less expensive.²³ Dispute prevention includes five approaches which might be combined or used separately: consensus building, dispute analysis, legal audits, legal education of management, and the use of an ombudsman.

Consensus building is useful in reducing the sense of injury felt by an aggrieved party and, in turn, the potential for resulting litigation. It is felt that those who participate in reaching a consensus are less likely to feel injured.²⁴ The consensus-building model has been especially successful in the environmental area - for example, in the National Coal Policy Project,²⁵ and in negotiated development of land use projects.²⁶

Dispute analysis involves the tracking of disputes in order to determine where and how they arise and the costs incurred in their resolution.²⁷ The law department of Bank of America, for instance, uses a preventive law log to track attorneys' suggestions to management.²⁸ Bank of America also established a Task Force which recommended a dispute resolution program that, in conjunction with the tracking of disputes, included a number of preventive measures such as

consumer education, employee training and a streamlined complaint process.²⁹

A legal audit - an audit of a company's legal affairs - might include the development of a statistical base to determine the areas in which the company is most susceptible to litigation.³⁰ However, audits are also used to prevent disputes that are less obvious³¹ and to establish procedures which better enable a company to defend a lawsuit. A litigation audit, for instance, might provide a process and a checklist for educating management with regard to discovery procedures, privileged communication, security matters, procedures for handling documents, and steps to follow once litigation arises.³²

Legal education of management might be accomplished by means of a legal audit but should be viewed as a broader company responsibility that exists whether or not an audit procedure is in place. For example, the most advanced compliance effort a company might make in response to the threat of federal antitrust action is to integrate compliance with normal management functions. This benefits individual managers as well as the company: "Managers understand that they will enhance profitability and that their professional advancement requires an understanding of the law, the enforcement environment, and the complexity of promoting compliance among subordinates. Senior managers spend more time than they have spent in the past on legal matters. Several companies claim to keep a 'Friends of Legal' list, which, in addition to being a resource for the legal department, helps discriminate among candidates for promotion."³³

An ombudsman is essentially a neutral fact-finder who has been authorized to investigate complaints and make recommendations.³⁴ With

the demise of the employment-at-will doctrine,³⁵ the use of an ombudsman has become especially valuable in preventing litigation resulting from employee complaints. At McDonald's Corporation, for instance, the ombudsman handles between 150 to 180 employee complaints a year.³⁶

These five preventive law elements are given short shrift in law school textbooks on dispute resolution. The use of an ombudsman receives the most coverage;³⁷ other preventive law methods such as the legal audit receive very little attention.³⁸

2. The Business School Approach: Power Theory. Dispute prevention in business schools falls within coverage of power theory. Power theory receives little coverage in law school textbooks,³⁹ while in business schools the role of power appears to be covered more extensively.⁴⁰

Power is broadly defined as the ability of people to bring about certain outcomes.⁴¹ The concept of power involves "...the notion of getting someone to do something that he or she would not do in the absence of influence."⁴² Underlying most models of power are five power bases originally articulated by French and Raven:⁴³

- a. Legitimate power arises in situations in which one person feels that it is proper to obey the directions of another person.⁴⁴ For example, a subordinate obeys a manager because of the manager's superior power arising from their role relationship.⁴⁵
- b. Referent power arises when a person is attracted to or admires a powerholder⁴⁶ or a reference group.⁴⁷ A partner, for instance, might persuade a newly-hired subordinate to

work evenings by noting that all partners worked evenings when they first became associated with the firm.

- c. Expert power exists when the powerholder has developed expertise in a particular area,⁴⁸ although the power might extend beyond the area of expertise.⁴⁹ A person who has developed an expertise in finance or marketing, for instance, might be able to exert power within an organization beyond these functional areas.
- d. Punishment power involves punishment of a person (e.g., dismissal or a pay cut) who does not comply with a request.⁵⁰ One problem with punishment power is that it requires surveillance by the powerholder to determine whether punishment is justified.⁵¹
- e. Reward power is the reverse of punishment power in that rewards are given when a person complies with the requests of the powerholder.⁵² One problem with the use of reward power, in addition to the surveillance problem that exists when punishment power is used, is that rewards must increase over time in order to satisfy the person being influenced. As a result, reward power can be costly.⁵³

The relationship between law, or at least litigation, and the five bases of power is subject to speculation. It appears that law is more closely related to legitimate power, expert power and punishment power than to the other power bases. Law represents legitimate power to the extent it is accepted and obeyed by those it affects. Attorneys within and outside a company can exert expert power so long as their expertise is respected. (As the legal education of managers increases, however,

law becomes demystified and the power balance shifts from attorneys to management.) Punishment power relates to the ability of a company to exercise legal rights in punishing employees, such as the right to fire an employee "at will."

Although the development of a more precise model of the relationship between law and power is a fertile area for future research, it is clear for the time being that the bases of power are complex and go beyond the law. A company (or an individual) that, in its failure to recognize this complexity, tends to equate law with power will encounter inevitable problems, including the heavy transactions costs associated with litigation and the possibility that a change in the law might shift the corporate power structure.

Changes in the employment-at-will rule, for example, have been expensive for companies relying on the traditional approach,⁵⁴ which typically has involved the use of punishment power to fire an employee. If, instead of relying on law-backed punishment power, a manager is sensitive to other bases of power, litigation might be avoided. An employee under review often possesses certain types of power, such as expert power (knowledge of lower-level operations) and reward power (ability to make the manager look good), that should be recognized by the superior.⁵⁵ If a manager is insensitive to the subordinate's power and relies too heavily on legitimate or punishment power, the subordinate might become hostile, leading to escalation of the dispute. Escalation, in turn, might result in dismissal of the employee and litigation.⁵⁶

If, on the other hand, the dynamics of power are recognized in the

early stages of negotiation between the manager and subordinate, it is likely that the parties will be in a better position to address the substantive problems that are at issue. In other words, an understanding of power theory aids dispute prevention by providing the opportunity to focus more on the conception of a dispute than on the later point in time when the dispute escalates and hostilities surface.

B. Alternative Dispute Resolution

1. The Law School Approach: Alternatives to Litigation. Law school teaching and research on dispute resolution places great emphasis on alternatives to litigation.⁵⁷ Although there is some disagreement regarding the classification of the alternatives,⁵⁸ they usually fall within two widely-known models of dispute resolution:⁵⁹ arbitration and mediation. Most alternatives, however, do not precisely match these two prototypes⁶⁰ and some methods, labeled "hybrid processes" in the discussion that follows, are especially difficult to categorize.

Mediation and arbitration will be defined below in terms of control, which is considered "the most significant factor in characterizing a procedural system."⁶¹ The two key control variables are control over the decision ("the degree to which any one of the participants may unilaterally determine the outcome of the dispute"⁶²) and control over the process ("the development and selection of information that will constitute the basis for resolving the dispute"⁶³).

a. The arbitration model, which is similar to adjudication,⁶⁴ calls for the parties to control the process, in that they present proofs and arguments, but not the decision, which is rendered by a third party.⁶⁵

Parties may agree in advance of a dispute to arbitration in forty-three states⁶⁶ or may consent after a dispute has arisen.⁶⁷ And, as discussed later, the state may require certain cases to be submitted to arbitration.⁶⁸ Among the advantages that arbitration offers⁶⁹ are speed, privacy, the use of an expert as arbitrator, flexibility in procedure and remedies, and cost savings.⁷⁰

Arbitration affords the opportunity for parties to utilize creative procedures such as a "high-low" contract.⁷¹ Under the "high-low" arrangement, which may also be used in litigation, the parties agree in advance on the parameters of the plaintiff's recovery. The agreement in a product liability action for \$400,000 might provide, for example, that if the jury decides that the defendant is not liable, the defendant will still pay \$50,000, while if the defendant is liable, the defendant will pay \$100,000. Through the agreement, the defendant has avoided the risk of substantial damages (\$400,000) while the plaintiff is protected from the possibility of no recovery.⁷²

Arbitration also may be used in conjunction with the court system. For instance, the use of private judges as referees is permitted by all states except Illinois and Louisiana.⁷³ Labeled "rent-a-judge" by the press,⁷⁴ this procedure offers several advantages of standard arbitration - notably speed, privacy, the ability to select an expert decisionmaker, and lower costs. The two major differences are that rules of evidence apply to the proceeding⁷⁵ and the referee's decision may be appealed on the basis of errors of law.⁷⁶ The use of private justices has been subject to criticism for providing "rich man's justice" because the referee is paid for by the litigants.⁷⁷

b. The mediation model calls for the involvement of a third party

mediator who attempts to assist parties in resolving a dispute but who has no power to render a decision.⁷⁸ Thus, as in negotiation without a third party, the parties who participate in mediation have control over both the process and the decision.⁷⁹ Among the advantages cited for mediation are the opportunity to deal with issues underlying a dispute, the avoidance of bitterness following a dispute by allowing the disputants to build understanding and trust, and cost savings.⁸⁰

The minitrial represents an especially promising form of mediation. Despite its name, the minitrial is not a trial but, instead, an information exchange which allows business executives to hear attorneys for both sides present their best case. Following the presentation, the executives meet in an attempt to resolve the dispute in a business-like manner.⁸¹ Although model agreements have been developed,⁸² there is no one set procedure. For example, a minitrial may utilize a neutral advisor, although one is not required,⁸³ and may take place with or without court supervision.⁸⁴

The original minitrial was held in 1977, in an attempt to resolve a patent dispute between Telecredit, Inc. and TRW, Inc. In 1974, Telecredit sued TRW for patent infringement, seeking an injunction and \$6 million in damages. By 1977, 100,000 documents had exchanged hands, but a pretrial conference date had not yet been set. The parties then began to develop a procedure they called an "information exchange."⁸⁵ This procedure initially called for expedited discovery, which would last six weeks. Following discovery a two-day meeting was scheduled. At the meeting, the attorneys for each side were given four hours to present their best case, followed by short periods for reply and rebuttal. The proceedings were moderated by a neutral advisor (a patent

law expert), who was to provide a nonbinding opinion if the parties failed to settle the case.⁸⁶ The executives in attendance (the president of Telecredit and vice-president of TRW), both of whom had authority to settle, met for thirty minutes following the presentations and reached a settlement agreement, thus saving an estimated \$1 million in lawyer's fees.⁸⁷ In the years following the TRW-Telecredit precedent, minitrials have been used in more than one-hundred cases.⁸⁸

One of the major advantages of the minitrial is that executives, having heard the best case presentation of the opposing attorney, come to the realization that there are two sides to the issues in dispute.⁸⁹ The information gained during the proceeding will enable them to evaluate the litigation as they would other investments and negotiate a settlement that preserves business relationships.⁹⁰ The minitrial also offers savings in time and money.⁹¹ It is estimated that the cost of a minitrial is ten percent of the cost of traditional litigation.⁹²

The minitrial offers the executives the opportunity to use creative problem solving in shaping a "win-win" resolution of the dispute, as opposed to the "all or nothing" solutions often rendered in litigation.⁹³ However, there are legal limits to creativity. For example, the executives handling the negotiation, if they are not already familiar with antitrust law, should be briefed on per se offenses such as price fixing,⁹⁴ tying arrangements⁹⁵ and reciprocal dealings.⁹⁶

c. Hybrid processes fall somewhere between mediation and arbitration with regard to the disputants' control over the process and decision.⁹⁷ Three prominent examples are the summary jury trial, court-annexed arbitration, and med-arb.

The summary jury trial is a procedure that utilizes an advisory jury in order to encourage parties to reach a settlement. Attorneys first present short (e.g., one hour) summaries of the case to the jury. The jury deliberates for a short period of time and then answers specific questions about liability and damages. Through this procedure, attorneys are presumably better able to evaluate and settle the case.⁹⁸

The use of court-annexed (or court-ordered) arbitration has been authorized by sixteen states and ten federal district courts.⁹⁹ Under this procedure, courts order arbitration in all cases in which the claim for damages falls below a certain amount, in many states between \$10,000 and \$15,000.¹⁰⁰ A party who does not accept the arbitrator's award is entitled to a trial de novo.¹⁰¹ Although evidence from the arbitration is usually not admissible during the trial,¹⁰² sanctions may be imposed if the party requesting the trial does no better than in the arbitration. The sanctions, which might include payment of the costs of both the arbitration and the trial, have been upheld when attacked on constitutional grounds.¹⁰³

Med-arb is a process in which a third party first acts as a mediator and then, if mediation fails, as an arbitrator. An advantage of this process is that the parties will be induced to settle the dispute when a mediator-arbitrator provides hints regarding the likely outcome of an arbitration.¹⁰⁴ One variation of med-arb calls for the third party to act as an advisory arbitrator if mediation fails.¹⁰⁵ Another variation gives the mediator the power to recommend a decision to an arbitrator.¹⁰⁶

2. The Business School Approach: The Manager as a Dispute

Resolver. The business school approach to alternative dispute resolution differs from the law school perspective in that there is interest in both the inquisitorial process (in addition to mediation and arbitration) and the manager as a third-party dispute resolver.

The inquisitorial process receives little coverage in legal publications on dispute resolution.¹⁰⁷ In business school research, however, relying heavily upon the procedural taxonomy developed by Thibaut and Walker,¹⁰⁸ the inquisitorial (or autocratic) system found in Europe receives more attention. In the inquisitorial process, court investigators gather evidence on behalf of the judge, who calls and questions witnesses before reaching a decision.¹⁰⁹ The third party (judge) thus controls both the process and the decision.

The study of managers as third-party dispute resolvers is considered appropriate because conflict intervention is a major part of their jobs.¹¹⁰ A study by Sheppard of the procedures used by managers in conflict intervention, as compared with arbitration, mediation and inquisitorial processes, yielded surprising results. The most common intervention procedure involved management control of both the process and the decision - that is, inquisitorial intervention.¹¹¹

The second most common procedure, which Sheppard labelled "providing impetus,"¹¹² does not match precisely any of the three processes. The example given by Sheppard is a dispute between the head of the data processing department in a retail store chain, who wanted to hire summer interns immediately, and the person who headed personnel, who argued that normal hiring practices should be followed. In intervening in this dispute the company vice president told the managers that they had "damn well better go back and work it out."

The third intervention procedure, called "adversary intervention" by Sheppard, is similar to the arbitration model in which a manager controls the decision but allows the disputants to control the process (the presentation of evidence and arguments).¹¹³ Notably absent from the procedures used by managers is the mediation process. In other words, "...managers most frequently appear to utilize one of three procedures which are quite different from those generally recommended [conciliatory or mediation procedures] in the Organizational Behavior literature."¹¹⁴

As Sheppard's study illustrates, alternative dispute resolution offers great potential for collaborative business and legal research. Business research would be enriched by comparative law research on the two legal systems - inquisitorial and adversarial - that strongly parallel two of the three management intervention procedures.¹¹⁵ Existing legal research on the relative strengths and weaknesses of the two systems, for instance, "suggests at least five hypotheses that can begin to form the basis of a contingency model of managerial conflict intervention."¹¹⁶ Furthermore, legal research regarding modification of the two legal systems to minimize their weaknesses would be useful in analyzing managerial intervention strategies.¹¹⁷

Legal research would benefit from closer scrutiny of the processes, such as managerial conflict intervention, that take place before the conflict is recognized as a legal dispute. A study of the frequency of litigation¹¹⁸ revealed that for every 1000 grievances, 718 claims were made to the offending party. Of these claims, 449 resulted in disputes and in 103 of these disputes lawyers were hired, with the lawyers filing complaints in 50 cases. A conclusion that might be drawn from the

survey is that the lawyer's role as the "gatekeeper for disputes"¹¹⁹ is greatly overblown in that only 10.3 percent of the grievances reached an attorney.

This conclusion means that the role of non-professional dispute resolvers, such as managers, is more important than may have been assumed by legal researchers. Indeed, dispute resolution by managers and other non-professionals might be described as primary dispute resolution rather than alternative dispute resolution because most individuals with grievances (89.7 percent) apparently do not consider the legal system as an option to which processes such as managerial intervention might be seen as alternatives. Legal researchers who are conversant with business research will be challenged to develop new processes aimed at fair resolution of the great majority of disputes that never reach the legal system.

C. Dispute Management

Models of dispute management are based on two assumptions. First, it is assumed that litigation can be managed using the tools of cost accounting and business judgment. Second, the work of the law department, like other corporate departments, is viewed as the center for the management of investments.¹²⁰ To accomplish successful dispute management, managers must be educated about litigation,¹²¹ and corporate attorneys must be knowledgeable about budgetary systems.

In 1976, for example, Xerox Corporation decided that a system of budgetary planning was necessary to control legal expenses. Xerox realized that the timing of litigation expenses is an important factor, for a company must be aware of projected cash flows.¹²² Staff lawyers

at Xerox initially argued that it was not possible to use a budgetary system for litigation because of uncertainties relating to actions by adversaries and judges. However, Xerox proceeded to develop its budgetary system on the realization that "...recognizing the existence of unknown factors, and estimating their impact, is hardly unheard of in financial planning."¹²³ The results at Xerox are noteworthy. Between 1976 and 1982, Xerox reduced outside legal expenses from \$12 million to \$3 million and its law department staff from 152 to 70 lawyers.¹²⁴

It is ironic that dispute management, which perhaps holds the most promise of any dispute resolution strategy for joint business and legal research, has been ignored for the most part by researchers in law and business schools. The small amount of research on dispute management tends to be conducted by practitioners for practicing attorneys or managers.¹²⁵ This is an area of research which obviously has great future potential.

III. DECISION TREE ANALYSIS

In the preceding section a three-part dispute resolution taxonomy was used to provide an overview of the relationship, in theory, between law school alternative dispute resolution concepts and the business school interest in power theory and conflict management. Several topics which hold special promise for collaborative research were also noted. In this section a specific technique that illustrates the benefits that might arise from joint legal and business research - decision tree analysis - is examined in greater detail.

One major theme underlying business and legal research in dispute resolution is the importance of management involvement in preventing

disputes, in resolving them (by using alternative dispute resolution approaches such as the minitrial or more direct conflict intervention procedures), and in managing litigation. However, increased management involvement is problematic in that executives frequently have difficulty incorporating legal analysis, with its inherent complexity and uncertainty, into management decision making. Decision tree analysis offers a solution to this problem and, by so doing, allows executives to become more effective participants in dispute resolution processes.

Decision tree analysis has been used for many years in making business decisions under conditions of uncertainty.¹²⁶ The use of decision trees cuts across the business spectrum,¹²⁷ as applications have been developed in accounting,¹²⁸ economics,¹²⁹ finance,¹³⁰ marketing,¹³¹ organizational behavior,¹³² and corporate strategy.¹³³ Decision tree analysis has also been used in medical decision making.¹³⁴ Corporate counsel began to recognize the benefits of decision tree analysis in the early 1980s and today references to this method of analysis for making legal decisions appear in law school textbooks¹³⁵ and other books.¹³⁶ However, apart from a few, short articles in journals oriented toward practitioners,¹³⁷ decision tree analysis has been virtually ignored to date in academic journals.

In this section the use of decision tree analysis in building a model of a litigation decision will be described using a hypothetical case for illustrative purposes. The model will then be used in making several management decisions relating to litigation. The section will close with a review of the extent to which decision trees are currently used by corporate attorneys.

A. Building a Model of a Litigation Decision

Decision analysis, a term coined in 1963,¹³⁸ is defined as "a discipline comprising the philosophy, theory, methodology, and professional practice necessary to formalize the analysis of important decisions."¹³⁹ The decision tree is a decision analysis technique for dealing with the uncertainty that is inherent in most difficult decisions.¹⁴⁰ "Decision tree analysis" refers to the use of the decision tree technique in analyzing a problem.

The use of a decision tree to build a model of a litigation decision is a three-step process. First, a "picture" of the decision is drawn in the form of a tree on its side. Next, probabilities are assigned to each of the uncertain events on the decision tree. Finally values are specified at the end of the tree's branches.

1. The Decision Tree. An intellectual property case will be used to illustrate the development and use of a decision tree model. The plaintiff in the case, Alpha, Inc., produces software that runs on IBM computers. Alpha is now adapting the software for use on non-IBM equipment, and will be in a position to market the new product in about a year. The defendant, Beta, Inc., purchased Alpha's software two years ago and signed a licensing agreement prohibiting the sale of the software to others. Alpha alleges that Beta is now working on a translation of Alpha's software for use on non-IBM equipment and asks the court for an injunction that would prevent Beta from marketing the translation.

Beta has made a final settlement offer to Alpha in which Beta would pay \$1.5 million in cash and, in return, would receive Alpha's permission to continue with its development and marketing of the

translation. Alpha estimates that if the injunction is issued the present value¹⁴¹ of its returns from the adapted software will be \$5.3 million greater than without the injunction. Expenses and fees paid to outside counsel total \$75,000 to date and, if Alpha proceeds with discovery and a trial, it expects to expend another \$100,000 - the present value of future legal fees and costs.

The president of Alpha wants to take an active role in reaching a settlement decision and in managing the litigation (for example, by making budgeting decisions) should the case proceed to trial. The president asks counsel for an analysis of the legal issues in the case and Alpha's chances for success. Counsel responds with a memorandum which observes that Alpha's action is based upon Beta's copyright infringement and misappropriation of Alpha's trade secrets. The memorandum then describes the key legal issues as follows (as quoted from the memorandum):

- a. Similarity. In order to win on either the copyright infringement or the trade secrets theory, we must prove that the Beta software is substantially similar to our software. This is a difficult issue to resolve; we must hire several experts and take a number of depositions before we know better whether or not similarity exists. However, the chances are better than even that we will be able to prove substantial similarity in court.
- b. Access. In order to win on either theory we must also prove that Beta had access to our software before developing its own software. Beta claims that its software was in the development stage before it purchased our software.

Although there is evidence to support Beta's claim, we have concluded that access to our software was essential in completing the Beta software and that it is likely we will be able to prove this in court.

- c. Validity of Copyright. Beta claims that our copyright is invalid on the grounds that our program cannot be separated from the idea (the algorithm) it implements and ideas cannot be copyrighted. Because this claim has little or no merit, there is a high probability that the court will hold that our copyright is valid (which means that we win the case and an injunction will be issued).
- d. Preemption. Even if the court decides that our copyright is invalid, we might still prevail on a trade secrets theory. There are really two trade secrets issues which the court must decide. First, the court must determine whether or not federal copyright law preempts state trade secrets law. We have determined that the probability of the court deciding that copyright law does not preempt state trade secrets law (and therefore that we may proceed with our trade secrets argument) is very high.
- e. Trade Secrets Violation. The second trade secrets issue is whether Beta has misappropriated our trade secrets. It is likely that we will prevail on this issue.

Making decisions based on this legal analysis is difficult for the president because the case is complicated and there are several uncertainties. The president, therefore, decides to create a decision tree representation of the problem. Two key elements in a decision tree

are the decision fork, represented by a box, and the chance fork, represented by a circle. Decision forks represent alternatives over which the president has control, while chance forks represent uncertain events beyond the decision maker's control. The specific alternatives and uncertain events are represented by branches emanating from the forks.

To date, decision tree models of litigation decisions have appeared in two forms. In one form, all issues in the case are combined in one chance fork with two branches: "win case" and "lose case," as in Figure 1:¹⁴²

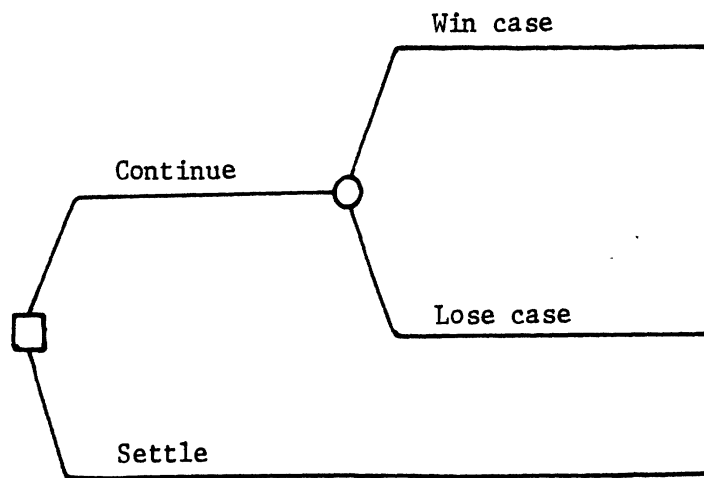


Figure 1.

In the other, more sophisticated form, each legal issue is specified within the tree.¹⁴³ Because the decision tree loses its utility as a powerful analytical tool when the simple form is used, we will assume that the president selects the sophisticated form.

In preparing the decision tree, the president realizes that there is one decision to be made at this time: Should Alpha accept the settlement offer or continue with the litigation? This decision fork is represented by the box on the left side of the decision tree in Figure 2. There are five uncontrollable events, the five issues discussed in the memorandum from counsel, and these are represented on the tree as chance forks. The issues central to both the copyright validity and trade secrets issues - similarity and access - are represented as the first two uncertainties on the tree.

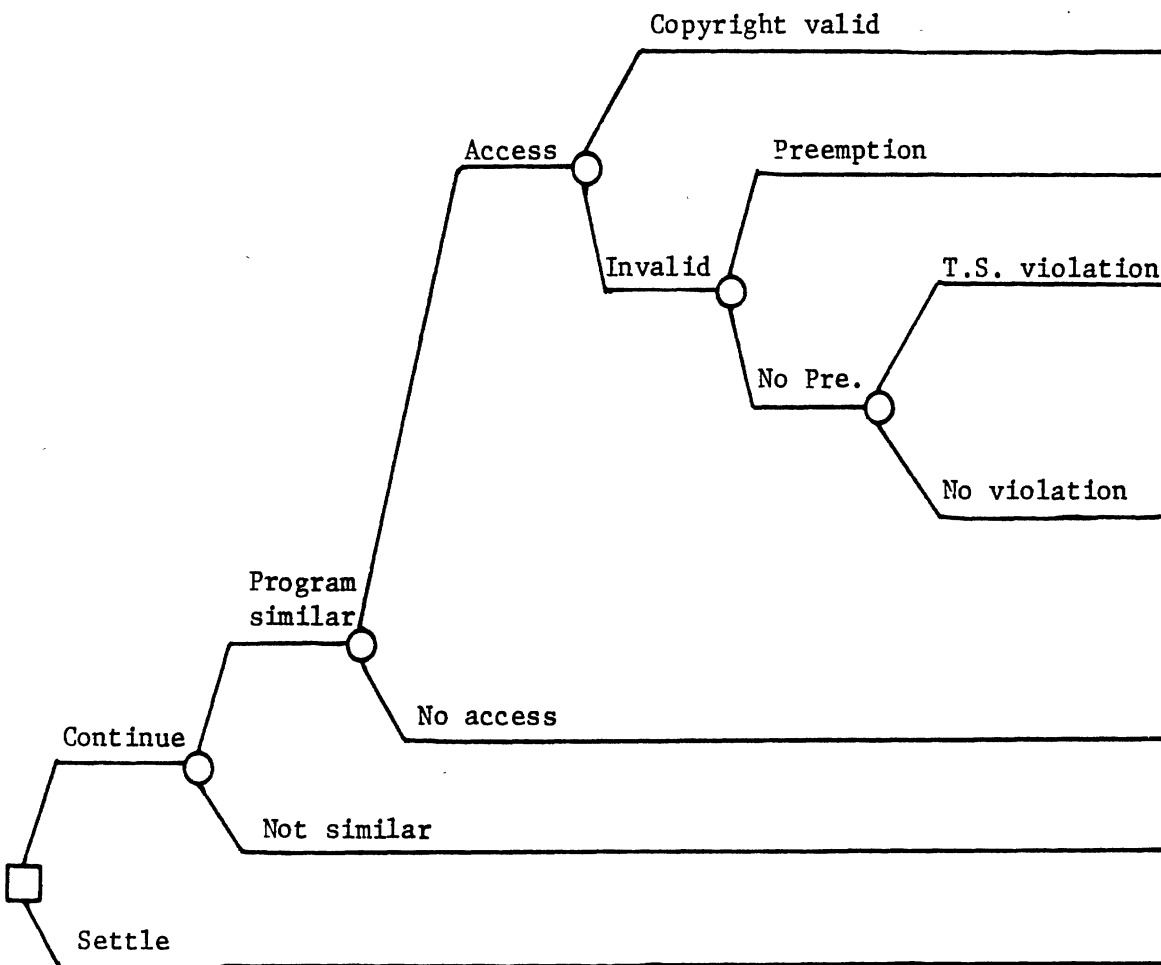


Figure 2

2. Assignment of Probabilities. The next step in building the model of a litigation decision is to assign probabilities at each of the chance forks. The assignment of probabilities is part of the everyday work of attorneys¹⁴⁴ and Alpha's attorney has already assigned probabilities in the action against Beta. The problem, however, is that the attorney's assessment is stated verbally, not in numbers.

Various studies have shown that verbal probability statements mean different things to different people.¹⁴⁵ For example, the attorney's memorandum indicates that "there is a high probability that the court will hold our copyright valid." What does "high probability" mean? In one study some people interpreted this as a 40 percent chance, others as a 98 percent chance, with a median of 85 percent.¹⁴⁶ If the attorney means 40 percent when using the words "high probability" and the executive interprets the words to mean 98 percent, serious miscommunication has occurred which can lead to costly decisions.¹⁴⁷

Despite their usefulness in facilitating communication, however, the assignment of probability numbers has been criticized on the grounds that lawyers are not trained in providing probability estimates.¹⁴⁸ A strong argument can be made that such criticism is unjustified because estimating probabilities is at the heart of legal education and law practice.¹⁴⁹ And, even if there is some validity to the criticism, techniques are available to assist the attorney in probability assessment.

One tool used by decision analysts to assess probabilities is the decision wheel, which has been described as follows:¹⁵⁰

[A decision wheel] is a two-color wheel where the relative

amount of each color can be varied (from 0% blue/100% orange to 100% blue/0% orange). Counsel then adjusts the two colors until they are in the same relative proportion as the more and less likely legal outcomes are. Use of the wheel is very important because a visual representation makes people think harder before answering a question, and because most people have a very imperfect idea of probabilities: 80 and 90 percent seem similar until one sees that 80% is 4 to 1 odds and 90% is 9 to 1 odds.

Other techniques might include some of the alternative dispute resolution methods discussed earlier in this paper. For example, the neutral advisor in a minitrial might be asked to give an opinion of the strong and weak points of each party's case and the probable trial result.¹⁵¹

Regardless of the specific technique selected, probability assessment provides counsel with the opportunity to formalize the process of analyzing arguments on both sides of each issue.¹⁵² This process is especially important because, as shown by studies conducted by Kahneman and Tversky, individuals tend to make estimates by starting with an initial value (the "anchor") and then making adjustments in order to reach a conclusion. However, adjustments are usually insufficient, which results in bias toward the initial value.¹⁵³

The attorney for Alpha, after a careful probability assessment, translates the verbal probability statements into the following numbers:

- a. Similarity ("better than even") = 60 percent
- b. Access ("it is likely") = 70 percent
- c. Validity of Copyright ("high probability") = 80 percent

d. Preemption ("very high probability") = 90 percent

e. Trade Secrets Violation ("it is likely") = 70 percent

These probabilities are noted at the chance forks on the decision tree in Figure 3.

3. Endpoint Values. As the final step in building a litigation decision model, values are noted at the end of each of the decision tree branches. The endpoint value for the "settle" branch, as noted in Figure 3, is the \$1.5 million settlement offer made by Beta.

The calculation of the other branch endpoint values is more complicated. The president has determined that the present value¹⁵⁴ of the injunction is \$5.3 million. The president deducts from this amount the present value of future legal fees and costs, \$100,000. The sunk costs of \$75,000 are not taken into account. However, another expense has been overlooked by the president and counsel¹⁵⁵ - the cost of management involvement in litigation. This cost, although difficult to quantify,¹⁵⁶ represents the largest litigation expense.¹⁵⁷ For example, studies indicate that the "disruption factor" in a patent infringement case can translate into hundreds of thousands of dollars in lost market share.¹⁵⁸ We will assume that Alpha analyzes the extent of management involvement and determines its cost to be \$200,000 (present value). When this amount is deducted, along with future legal fees and costs, from \$5.3 million, Alpha will net \$5 million if it wins the case. This amount is specified at the end of the two "win" branches in Figure 3. If Beta prevails in the case, Alpha will lose \$300,000, the combined legal and management costs. This figure has been noted at the end of each of the "lose" branches in Figure 3.

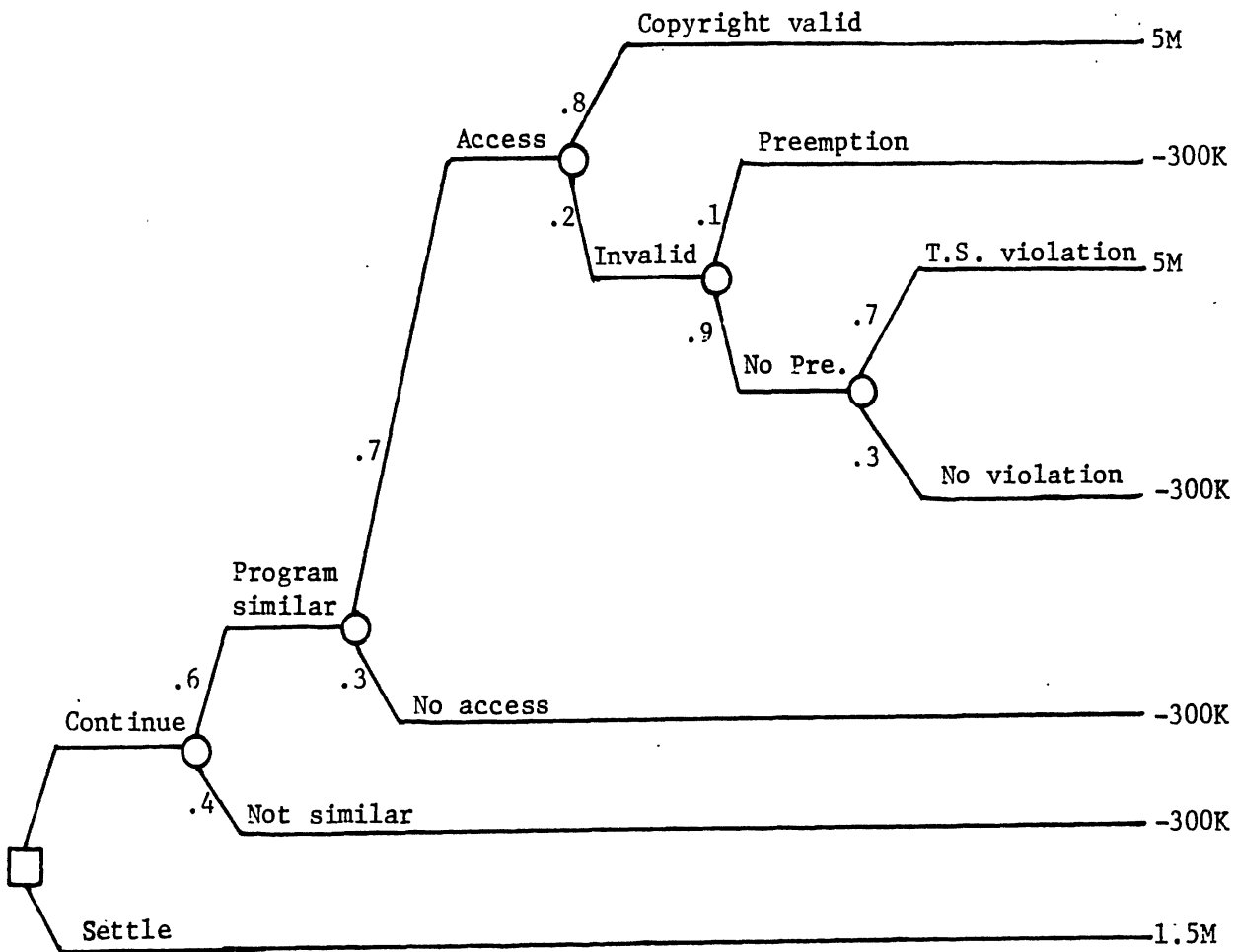


Figure 3

For purposes of this discussion, we assume that the values that have been noted at the endpoints were determined by the president in conjunction with Alpha's finance department. In calculating these values, a finance department might develop its own decision tree model, with probability distributions at each chance fork. Alternatively, depending on the nature of the litigation, the plaintiff might enter into a high-low contract with the defendant,¹⁵⁹ which would enable the parties to specify with certainty the value of a win or loss.

B. Use of the Model for Litigation Decisions

Having developed the model of the litigation decision, the president of Alpha is now ready to use the model in making a settlement decision or, if settlement fails, in actively managing the litigation.

1. The Settlement Decision. The decision tree can be used in three ways which will enable the president to reach an informed settlement decision. First, an "expected value" of the litigation investment can be calculated and compared with the value of the settlement offer. Second, the decision tree can be used to calculate the overall probability of success, should the case go to trial. Finally, given time and money resource constraints, the decision tree will enable the president to make a rational selection of the particular issues that warrant further research.

The expected value of the litigation is a value determined by calculating the weighted average of the "continue" option. This calculation is accomplished through a process called "folding back" the decision tree.¹⁶⁰ Moving from right to left on the tree, weighted averages are calculated for each chance fork. For example, the weighted average at the trade secrets fork is \$3.41 million, the sum of $(.7 \times \$5 \text{ million})$ and $(.3 \times -\$300,000)$. The weighted average at the preemption fork is \$3.039 million, the sum of $(.1 \times -\$300,000)$ and $(.9 \times \$3.41 \text{ million})$. By folding back the tree, the president calculates that the litigation has an expected value of \$1.761 million, as noted in Figure 4.

The president at this point might decide to continue with the litigation because the expected value of the litigation (\$1.761 million) exceeds the settlement value (\$1.5 million). The president might reason

that, if several major investment decisions - such as the litigation decision - are made over the next few years, the company will do better by "playing the averages." Other executives, however, might feel less comfortable with playing the averages, possibly because of a different risk profile.¹⁶¹ These executives would probably use the decision tree to clarify their decision making rather than as the sole basis for the decision.¹⁶²

A second use of the decision tree is to calculate the overall probability of success. The tree shows two paths to success, the copyright validity path and, if the copyright validity theory fails, the trade secrets path.¹⁶³ The overall chance for success is calculated by multiplying the "win" probabilities along these two paths¹⁶⁴ and then combining the two figures. As indicated in Figure 4, the chance for success on the copyright validity issue is 33.6 percent ($.6 \times .7 \times .8$) while the chance for success on the trade secrets issue is 5.3 percent ($.6 \times .7 \times .2 \times .9 \times .7$). These two figures are added together to arrive at an overall probability for success of 39 percent.

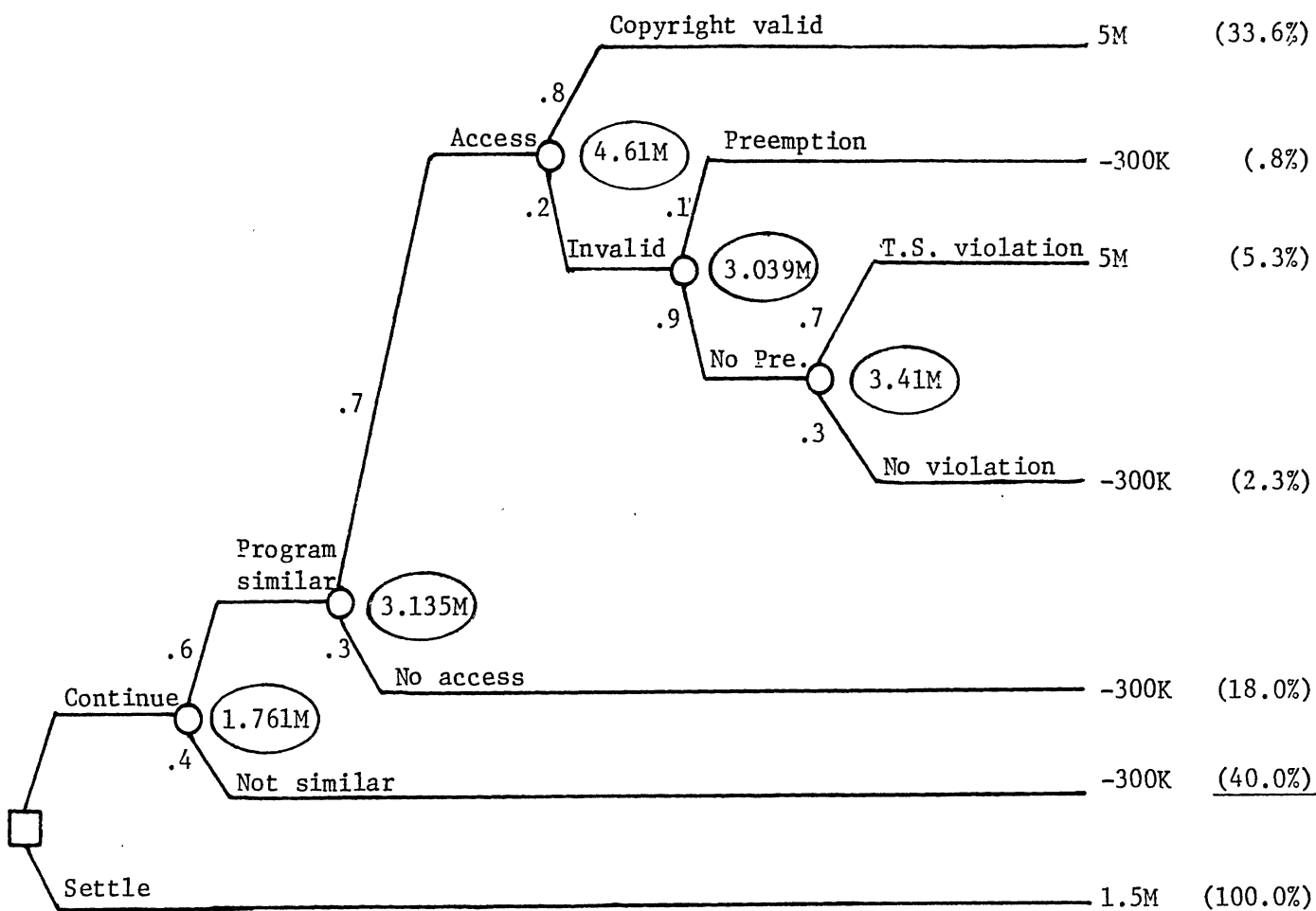


Figure 4

The chance for success in a lawsuit is often the first question raised by a client, but a question that many attorneys are ill-equipped to answer. The reason for this might be attributed in part to the case method used in law schools. Law school training tends to have a single-issue orientation in which the pros and cons of each issue in a case are articulated and debated in great detail with no attempt, at the conclusion of a discussion, to weave together separate issues and assess the overall chance for success.

As a result, when a client attempts to probe the details of a case, which is necessary if alternative dispute resolution and litigation management are to be effective, the attorney's response is often similar to the five-issue analysis presented by the Alpha attorney. This leads to miscommunication and overestimation of the chance for success by the client. When asked to state the overall chance for success given the attorney's summary of the issues in the Alpha case, for example, executives give estimates ranging from 24 to 90 percent, with a median of 65 percent.¹⁶⁵

Why does the client's estimate of success (median of 65 percent) differ so dramatically from the result (39 percent) when the decision tree analysis is used? Although this is an area ripe for further research, several possible reasons come to mind. First, the client may be misinterpreting the individual probability statements, such as "it is likely," made by the attorney, a problem discussed earlier in this paper.¹⁶⁶ Second, even if the attorney's verbal statements are translated into numbers, clients might be susceptible to the general tendency of people to overestimate the probability of conjunctive events.¹⁶⁷ Finally, again assuming that the verbal statements are

translated into numbers, clients might not understand the theorems of probability. For example, in informal experiments, several individuals have assumed, incorrectly, that the overall probability of success is calculated by taking the average of the "win" probabilities for each issue.¹⁶⁸

Whatever the reason, a client's optimistic interpretation of an attorney's analysis might account in part for the popularity of litigation as a mechanism for resolving disputes.¹⁶⁹ Presumably a client who knows that the attorney is predicting an overall chance for success of 39 percent will be less inclined to commence litigation and more inclined to settle or use alternative dispute resolution than a client who thinks the chances are 65 percent.¹⁷⁰ Economic analysis of the settlement decision tends to focus on differences between the disputants' estimates of their probabilities for success as a major obstacle preventing settlement.¹⁷¹ Decision analysis suggests that perhaps the reasons for failure to settle go deeper - to miscommunication between attorney and client.

A final example of the use of decision tree analysis in making a settlement decision relates to the allocation of scarce resources. We might assume, for example, that attorneys working on the Alpha case disagree on the chances for success with regard to particular issues. Most of the staff attorneys agree that the probability of success on the similarity issue is 60 percent and on the copyright validity issue is 80 percent. However, a few attorneys are more pessimistic; they feel that the 60 percent chance on the similarity issue should be 50 percent. They also feel that the 80 percent chance on the copyright validity issue should be only 60 percent. The attorneys want to do further

research in order to refine the probability assessments for these two issues. The president, however, with an eye on the budget, concludes that there is only time and money enough for further work on one of the issues. Which issue is more important?

The decision tree model allows the president to do a sensitivity analysis to answer this question. In decision analytic terms, the question is this: Will the decision to continue with the case change if the probabilities are revised downward? Or, stated another way, is the decision sensitive to a downward change in probabilities?

These questions are answered by revising the probabilities and then recalculating the expected value. If the chance for success on the copyright validity issue is changed from 80 percent to 60 percent the new expected value of continuing with the litigation is \$1.597 million, which is still greater than the settlement offer of \$1.5 million. Thus, if the executive plays the averages, the change in probability would not change the decision to continue with the litigation. If the chance for success on the similarity issue is revised from 60 percent to 50 percent, however, the expected value drops to \$1.418 million - less than the settlement offer. Consequently, the decision of whether or not to settle is sensitive to the 10 percent change in the similarity probability but not to the 20 percent change in the copyright validity probability.

The ability to use sensitivity analysis to discriminate among issues has never been more important. Lawyers are trained in law school and law practice to "leave no stone unturned."¹⁷² Today, however, with liberalized discovery rules¹⁷³ and with the availability of at least

sixty-eight computerized data bases relating to law,¹⁷⁴ clients must be able to determine which issues are more important than others if legal costs are to be contained. In other words, clients must "... calculate when certain stones should be left in place, uninspected."¹⁷⁵

Sensitivity analysis proves the methodology that enables clients to make this calculation.

2. Litigation Management. When a case cannot be settled immediately, an executive can use a decision tree to make certain budgeting decisions relating to litigation. Two examples - budgeting for expert witness fees and discovery costs - will be given.

Alpha's counsel wants to hire several eminent computer scientists to testify during the trial regarding the similarity of the Alpha and Beta programs. Counsel has determined that with their testimony Alpha's chances for success on the similarity issue will improve from 60 percent to 70 percent. The president now wants to determine the maximum amount that the company is willing to spend for expert witness fees.

Although in practice budgeting decisions of this nature are almost pure conjecture for the client,¹⁷⁶ the decision tree can be used to reduce the guesswork. The president has already calculated the expected value of the litigation without the expert testimony, \$1.761 million. The president now must determine the new expected value when the "win" probability for the similarity issue is raised from 50 percent to 60 percent, which is \$2.105 million. The difference between the two values, \$344,000, is the maximum amount that should be budgeted for the experts' testimony. That is, if the attorney's analysis is correct, expert testimony will improve the case by no more than the amount of \$344,000.

The analysis of discovery costs is more difficult. Before trial counsel wants to hire several outside experts to evaluate and compare the Alpha and Beta programs in order to determine whether they are similar. The attorney also wants to take the depositions of several Beta employees for the same purpose. What is the maximum amount that should be budgeted for paying the experts and taking the depositions?

A decision analyst would state the question as follows: If the discovery process yields "perfect" information - that is, if the discovery tells Alpha exactly how the court will decide the similarity issue - what is the maximum value that Alpha should pay for the information?¹⁷⁷ In answering this question, two assumptions are made. First, unlike the testimony of expert witnesses, the discovery process will not alter Alpha's chance for success, which will remain at 60 percent. Discovery, instead, will simply disclose whether this particular case is one of the cases that falls within the 60 percent "win" category. Second, it is assumed that Beta can use discovery to obtain the information that Alpha acquires through its discovery procedures.

Given these assumptions and perfect information, the president of Alpha calculates a new expected value. If the perfect information (the perfect prediction of the court's decision on the similarity issue) reveals that the programs are not similar, Alpha would drop its case and thus avoid the loss of \$300,000 in expenses. If the package is similar, Alpha would proceed with the case. The expected value at the chance fork for similarity is recalculated as follows to reflect these decisions: $(.6 \times \$3.135 \text{ million}) + (.4 \times 0) = \1.881 million . This new expected value is \$120,000 larger than the original expected value

(\$1.761 million) or, to phrase it in decision analytic terms, the expected value of perfect information is \$120,000. Because perfect information would improve the expected value by this amount and the information obtained through discovery is typically less than perfect, the most that Alpha should pay for discovery costs is \$120,000.

3. Attitude Toward Risk. A detailed discussion of the impact of a client's attitude toward risk is beyond the scope of this paper. Two points regarding risk, however, deserve mention. First, through the use of a decision tree, a client's attitude toward risk can be incorporated into litigation decisions. This is accomplished by constructing a utility function for the client, replacing the dollar amounts in the decision tree with values from the function, and folding back the tree to calculate expected utilities.¹⁷⁸ A utility function developed for a client as plaintiff may differ considerably from the function for the same client named as a defendant. The reason for this discrepancy is that a person making choices among gains (the plaintiff) tends to be risk averse, while a person making choices among losses (the defendant) tends to be risk seeking.¹⁷⁹

A second important point regarding risk is the realization that it is the client's risk profile that is to be taken into consideration, not that of the attorney. Beginning with the classic study by Swalm,¹⁸⁰ it has been recognized that a manager's utility function tends to be more closely related to the individual's attitude toward risk than the company's risk profile. Likewise, it has been assumed that an attorney's attitude toward risk differs considerably from that of a client.¹⁸¹ Although this issue calls for further research,¹⁸² it is clear for the time being that, if legal costs are to be contained,

clients must educate attorneys about corporate goals, values, beliefs and attitude toward risk - in sum, "the lawyer must understand your 'corporate culture.'"¹⁸³

C. Decision Tree Analysis in Practice

Decision tree analysis today is becoming an accepted tool for use in solving everyday management problems.¹⁸⁴ There is also anecdotal evidence to the effect that the use of decision tree analysis to make litigation decisions is becoming more popular. For example, at least four of the "Big Eight" accounting firms use decision tree analysis in providing litigation support services.¹⁸⁵ And a 1982 survey of law department practices indicates that 26 of the 91 companies surveyed use decision theory techniques in evaluating major cases.¹⁸⁶

In order to obtain more detailed information regarding the use of decision analysis in practice, the 108 members of the American Corporate Counsel Association Litigation Committee were surveyed. Responses were received from 67 members; of these a little over twenty percent (14) indicated that they use decision analysis. Most of the users (10) developed the analysis solely within the law department, without assistance from other departments or consultants. Major advantages cited, listed in order of frequency, were:

1. Usefulness of decision trees in structuring problems;
2. Aids communication with client;
3. Calculation of the overall probability of success;
4. Calculation of settlement values (by "folding back" the decision tree);
5. Discussion of issues using numerical probabilities; and
6. Identification of key issues (that is, sensitivity analysis).

Of the respondents who use decision analysis, most (11) consider it to be one factor used in decision making, rather than the sole basis for making decisions. Some respondents also use it for purposes other than litigation, including analysis of mergers and acquisitions, preventive law decisions (for example, advising the company how to handle toxic wastes for which the company is not legally responsible), and advising the board of directors on business judgments.

Although none of the respondents indicated that computer programs are used in the analysis, it is likely that such use will accelerate sharply in the near future as the computer gains increasing recognition as a tool for legal analysis and decision making.¹⁸⁷ Several microcomputer packages have come onto the market in recent years that provide facilities for constructing and using decision trees.¹⁸⁸ One of these products, Arborist, is available with a 96-page booklet that describes both the package and the use of decision tree analysis in making litigation decisions.¹⁸⁹ Although the software is user friendly and is being used by large law firms¹⁹⁰ the major benefit in using Arborist is its performance of calculations in major, complex litigation.

IV. CONCLUSION

This paper represents a first attempt to provide an overview of linkages between legal and business approaches to dispute resolution. The paper also discusses in greater detail a particular technique - decision tree analysis - that illustrates the potential benefits that can arise from increased interaction between those engaged in legal and business research.

Business law professors are especially well positioned to facilitate this interaction. Although business law research tends to be more applied than theoretical, with a business orientation, business law professors are trained in legal research methodology and produce high-quality legal research. Given their placement in business schools, business law professors also have the opportunity to interact with colleagues from other disciplines engaged in dispute resolution research.

Dispute resolution is an especially important facet of business law teaching and research. In fact, business law might be considered synonymous with preventive law because, to the extent that business law professors are successful in educating future managers, legal costs will be mitigated and legal decision making, with its attendant power and influence, will gravitate from the law function to management. Along with their emphasis on preventive law, business law professors play an important role in educating future clients about alternative dispute resolution and management's role in litigation. Without this information clients will not fully appreciate the importance of seriously considering alternative processes.

In this paper a number of promising dispute resolution research opportunities for business law professors have been discussed, including the relationship between law and power,¹⁹¹ comparative law research on differences between the inquisitorial and adversarial systems,¹⁹² and dispute management.¹⁹³ The use of decision tree analysis alone raises a number of dispute resolution research topics, such as the qualitative process used in constructing a decision tree,¹⁹⁴ assessment of an attorney's probabilities,¹⁹⁵ framing of the issues,¹⁹⁶ and

incorporation of the client's attitude toward risk into the decision-making process.¹⁹⁷ The use of decision tree analysis in areas other than dispute prevention - for example, in financial reporting,¹⁹⁸ in assessing business judgments,¹⁹⁹ and in merger and acquisition decisions²⁰⁰ - also deserves further research. Finally, the incorporation of ethics into the analysis is a research topic that touches all other areas of research.²⁰¹

Institutional support for dispute resolution research has increased in recent years.²⁰² By pursuing various research opportunities and utilizing institutional support, business law professors have an opportunity to advance dispute resolution teaching and research and, in so doing, to provide a model illustrating to the corporate world how the law function (in a business school, the business law or legal studies department) can interrelate with other areas²⁰³ in a manner that meets institutional needs and accomplishes common goals.

FOOTNOTES

1. Fifty-nine law schools offer courses in arbitration, forty-three in negotiation, and forty in interviewing, counseling and negotiation. 1983 LAW SCHOOL DIRECTORY OF DISPUTE RESOLUTION PROGRAMS 51-57 (K. Brannelly ed. 1983).

2. Id. at iii. The first law school textbook was published in 1985. S. GOLDBERG, E. GREEN & F. SANDER, DISPUTE RESOLUTION (1985). This textbook was followed by a casebook in 1986. L. KANOWITZ, ALTERNATIVE DISPUTE RESOLUTION (1986).

3. "Like law schools, business schools across the country report that the burgeoning interest in dispute resolution has surfaced in a plethora of courses dealing with the subject.

"The trend has been spearheaded by a class of business professors keenly aware of the advantages of short-of-court solutions to business problems." ADR Blossoms in Business Schools, ALTERNATIVES, Oct. 1985, at 11.

4. Academy of Management Proposal for the Formation of a Power/Negotiation/Conflict Resolution Interest Group 2 (January, 1986) (unpublished document).

5. Id. at 5.

6. Id. At the Amos Tuck School of Business Administration at Dartmouth, for example, the Executive Power and Negotiation course is the most popular course in the school. When the course was first offered, twenty percent of the student population enrolled; the percentage today stands at ninety percent.

"I teach people to stay out of court," says Prof. Leonard Greenhalgh of the Amos Tuck School of Business Administration at Dartmouth. "Almost all business situations have the potential for conflict, so the question is: How deal with it?" he reasons. "Litigation is only one way, and it is often heavy-handed and not productive."

The importance of dispute resolution (DR) for business is much on the minds of business students as well, Professor Greenhalgh maintains. While "business is certainly becoming dissatisfied with litigation," he says, the pressure for curricular treatment of the topic often comes from the students themselves. ADR Blossoms in Business Schools, supra note 3, at 11.

7. See, e.g., S. GOLDBERG, E. GREEN & F. SANDER, supra note 2, at 19-89; L. KANOWITZ, supra note 2, at 39-76; and R. LEWICKI & J. LITTERER, NEGOTIATION (1985). It appears that, to date, most of the literature on negotiation has been written by law professors or practicing attorneys. Menkel-Meadow, Toward Another View of Legal Negotiation: The Structure of Problem Solving, 31 U.C.L.A. L. REV. 754, 755-756 (1984).

8. Groups Increase Aid to ADR Professors, ALTERNATIVES, October 1985, at 12. The Center for Public Resources has developed an alternative dispute resolution pledge that has been signed by the chief executive officers of about one-hundred American corporations. J. HENRY & J. LIEBERMAN, THE MANAGER'S GUIDE TO RESOLVING LEGAL DISPUTES 127-128, 154-156 (1985).

9. The business school meeting, which was hosted by Walter Wriston, then chairman of Citibank, was attended by deans and professors

from Carnegie-Mellon, Columbia, Cornell, Dartmouth, Georgetown, Massachusetts Institute of Technology, The University of Michigan, New York University, Northwestern, Stanford and Wharton. Business and Law School Deans Discuss ADR Education, ARBITRATION TIMES, Winter 1984, at 1.

10. The Task Force is focusing its efforts in three areas: research, teaching, and the developing of workshops. Reports of the AAA Task Force on Law and Business Schools, ARBITRATION JRL., Sept. 1985, at 17.

11. NATIONAL INSTITUTE FOR DISPUTE RESOLUTION, PROGRAM ON PROFESSIONAL EDUCATION: GRANTS ANNOUNCEMENT AND PROGRESS REPORT (1986).

12. ADR Blossoms in Business Schools, supra note 3, at 11.

13. A dispute, for purposes of legal research, exists when a claim based on a grievance is rejected by the other party. Miller & Sarat, Grievances, Claims, and Disputes: Assessing the Adversary Culture, 15 LAW & SOC'Y REV. 525, 527 (1980-81); Galanter, Reading the Landscape of Disputes: What We Know and Don't Know (and Think We Know) About Our Allegedly Contentious and Litigious Society, 31 UCLA L. REV. 4, 13 (1983); Trubek, Sarat, Felstiner, Kritzer & Grossman, The Costs of Ordinary Litigation, 31 U.C.L.A. L. REV. 73, 87 (1983). Some researchers, however, define a dispute as a conflict which is made public. See, e.g., Mather & Yngvesson, Language, Audience, and the Transformation of Disputes, 15 LAW & SOC'Y REV. 775, 776 (1980-81).

14. Mnookin & Kornhauser, Bargaining in the Shadow of the Law: The Case of Divorce, 88 YALE L.J. 950 (1979).

15. U.S. DEPARTMENT OF JUSTICE, PATHS TO JUSTICE: MAJOR PUBLIC POLICY ISSUES OF DISPUTE RESOLUTION 20 (1984).

16. Academy of Management Proposal for the Formation of a Power/Negotiation/Conflict Resolution Interest Group, supra note 4, at 1.
17. See, e.g., infra text accompanying note 55 on an employee's use of power.
18. See J. HENRY & J. LIEBERMAN, supra note 8, at 78.
19. See infra text accompanying notes 40-56.
20. See infra text accompanying notes 110-117.
21. CENTER FOR PUBLIC RESOURCES, CORPORATE DISPUTE MANAGEMENT xxvi (1982).
22. L. BROWN & E. DAUER, PLANNING BY LAWYERS 309 (1978).
23. CORPORATE DISPUTE MANAGEMENT, supra note 21, at xxviii-xxix.
24. Id. at xxix.
25. Id. at 125-137.
26. Id. at 171-210.
27. J. HENRY & J. LIEBERMAN, supra note 8, at 102.
28. Id. at 105.
29. CORPORATE DISPUTE MANAGEMENT, supra note 21, at 211-218.
30. J. HENRY & J. LIEBERMAN, supra note 8, at 104.
31. L. BROWN & E. DAUER, supra note 22, at 335-358.
32. Gonser & Wilhelm, The Litigation Audit, 68 A.B.A.J. 446 (1982).
33. Beckenstein, Gabel & Roberts, An Executive's Guide to Antitrust Compliance, HARV. BUS. REV., Sept.-Oct. 1983, at 101.
34. J. HENRY & J. LIEBERMAN, supra note 8, at 109.
35. See Comment, Protecting at Will Employees Against Wrongful Discharge: The Duty to Terminate Only in Good Faith, 93 HARV. L. REV.

1816 (1980); Lopatka, The Emerging Law of Wrongful Discharge - A Quadrennial Assessment of the Labor Law Issue of the 80s, 40 BUS. LAW. 1 (1984).

36. J. HENRY & J. LIEBERMAN, supra note 8, at 110. For a description of the role of the ombudsman at Control Data Corporation see CORPORATE DISPUTE MANAGEMENT, supra note 21, at 229-241. If the ombudsman is unable to resolve a dispute, the minitrial might be used as an alternative to litigation. Id. at 243-247. Minitrials are discussed infra at text accompanying notes 81-96.

37. See, e.g., L. KANOWITZ, supra note 2, at 135-146; S. GOLDBERG, E. GREEN & F. SANDER, supra note 2, at 298-300.

38. See, e.g., S. GOLDBERG, E. GREEN & F. SANDER, supra note 2, at 548-49.

39. In L. KANOWITZ, supra note 2, at 41-68, a section on "Power Versus Reason" contains for the most part a case, NLRB v. Insurance Agent's International Union, 361 U.S. 477 (1960), and readings on missiles, deterrents and United States - Soviet Union negotiations. S. GOLDBERG, E. GREEN & F. SANDER, supra note 2, at 29-33, contains an excerpt from Fisher, Negotiating Power, 27 AM. BEHAV. SCI. 149, 149-150, 160-164 (1983), in which Fisher acknowledges that "Getting to Yes has been justly criticized as devoting insufficient attention of the issue of power."

40. See R. LEWICKI & J. LITTERER, supra, note 7, at 239-257. The word "power" even appears in course titles; see, e.g., supra note 6.

41. Id. at 239.

42. Greenhalgh, Changing Behavior Through Performance Appraisal, in THE MANAGER AS NEGOTIATOR AND DISPUTE RESOLVER 132-33 (1985).

43. French & Raven, The Bases of Social Power, in STUDIES IN SOCIAL POWER 150-167 (D. Cartwright ed. 1959). See Greenhalgh, supra note 42, at 133.
44. R. LEWICKI & J. LITTERER, supra note 7, at 247.
45. Greenhalgh, supra note 42, at 133.
46. R. LEWICKI & J. LITTERER, supra note 7, at 252.
47. Greenhalgh, supra note 42, at 134.
48. R. LEWICKI & J. LITTERER, supra note 7, at 251.
49. Greenhalgh, supra note 42, at 134.
50. R. LEWICKI & J. LITTERER, supra note 7, at 244.
51. Greenhalgh, supra note 42, at 134-35.
52. R. LEWICKI & J. LITTERER, supra note 7, at 243.
53. Greenhalgh, supra note 72, at 134.
54. A 1982 study of California wrongful discharge cases that went to juries revealed that plaintiffs were successful in ninety percent of the cases and the average award was \$450,000. See Lopatka, supra note 35, at 3.
55. See, e.g., Greenhalgh, supra note 42, at 140-41.
56. Id. at 132.
57. See PATHS TO JUSTICE: MAJOR PUBLIC POLICY ISSUES OF DISPUTE RESOLUTION, supra note 15, at 4.
58. See, e.g., the classifications in CORPORATE DISPUTE MANAGEMENT, supra note 21, at MH 16-17; PATHS TO JUSTICE: MAJOR PUBLIC POLICY ISSUES OF DISPUTE RESOLUTION, supra note 15, at 34; S. GOLDBERG, E. GREEN, F. SANDER, supra, note 2, at 8; J. MARKS, E. JOHNSON & P. SZANTON, DISPUTE RESOLUTION IN AMERICA: PROCESSES IN EVOLUTION 42-50 (1984).

59. PATHS TO JUSTICE: MAJOR PUBLIC POLICY ISSUES OF DISPUTE RESOLUTION, supra note 15, at 12.

60. "We usefully distinguish pure types like adjudication and mediation, but institutions usually do not operate in accordance with a single prototype. In practice these types are combined, and much dispute processing deviates from the avowed prototype." Id. at 30.

61. Thibaut & Walker, A Theory of Procedure, 66 CAL. L. REV. 541, 546 (1978). See also THE ROLE OF COURTS IN AMERICAN SOCIETY 89 (J. Lieberman ed. 1984); Sheppard, Third Party Conflict Intervention: A Procedural Framework, 6 RESEARCH IN ORGANIZATIONAL BEHAVIOR 141, 150 (1984). Other common denominators of alternative dispute resolution techniques are retranslation of the problem from legal issues to the real issues, patent responsiveness to each party, access to third parties, and analysis of incentives to resolve disputes. CORPORATE DISPUTE MANAGEMENT, supra note 21, at xxvii-xxviii.

62. Thibaut & Walker, supra note 60, at 546.

63. Id.

64. THE ROLE OF COURTS IN AMERICAN SOCIETY, supra note 61, at 95. See also Fuller, The Forms and Limits of Adjudication, 92 HARV. L. REV. 353, 392 (1978); J. HENRY & J. LIEBERMAN, supra note 8, at 69.

65. S. GOLDBERG, E. GREEN & F. SANDER, supra note 2, at 8; THE ROLE OF COURTS IN AMERICAN SOCIETY, supra note 61, at 89.

66. Meyerowitz, The Arbitration Alternative, 71 A.B.A.J. 78, 79 (1985).

67. THE ROLE OF COURTS IN AMERICAN SOCIETY, supra note 61, at 95.

68. See infra text accompanying notes 99-103.

69. PATHS TO JUSTICE: MAJOR PUBLIC POLICY ISSUES OF DISPUTE RESOLUTION, supra note 15, at 12-13. These advantages, of course, do not apply to every situation. For example, in some cases arbitration may take as long as litigation. J. HENRY & LIEBERMAN, supra note 8, at 71-72.

70. For an example of cost savings, see CORPORATE DISPUTE MANAGEMENT, supra note 21, at 338.

71. Other creative approaches include final-offer arbitration and one-way arbitration. With final-offer arbitration, the parties first make final offers, and then the arbitrator (without seeing the offers) makes an award. The actual award will be the final offer that is closer to the arbitrator's award. This procedure offers an inducement to the parties to make reasonable final offers. If the plaintiff, for instance, makes a reasonable offer that is closer to the arbitrator's award than the defendant's offer, the plaintiff will receive the amount of its offer. S. GOLDBERG, E. GREEN & F. SANDER, supra note 2, at 282.

With one-way arbitration, only one party, typically the more powerful party, agrees to be bound by the arbitration. DISPUTE RESOLUTION IN AMERICA: PROCESSES IN EVOLUTION, supra note 58, at 47. For an example of the one-way arbitration procedure used by Ford Motor Company see CORPORATE DISPUTE MANAGEMENT, supra note 21, at 219-228.

72. S. GOLDBERG, E. GREEN & F. SANDER, supra note 2, at 281-82.

73. J. HENRY & J. LIEBERMAN, supra note 8, at 75.

74. WALL STREET JOURNAL, Aug. 6, 1980, at 1, col. 1.

75. J. HENRY & J. LIEBERMAN, supra note 8, at 75.

76. S. GOLDBERG, E. GREEN & F. SANDER, supra note 2, at 281.

77. CORPORATE DISPUTE MANAGEMENT, supra note 21, at 79.

78. Conciliation is similar to mediation, although the third party plays a less-active role. FEDERAL TRADE COMMISSION, HANDLING CUSTOMER COMPLAINTS: IN-HOUSE AND THIRD-PARTY STRATEGIES 9 (1980).

79. THE ROLE OF COURTS IN AMERICAN SOCIETY, supra note 61, at 96.

80. PATHS TO JUSTICE: MAJOR PUBLIC POLICY ISSUES OF DISPUTE RESOLUTION, supra note 15, at 14.

81. E. FINE, CPR LEGAL PROGRAM MINI-TRIAL WORKBOOK, App. 7.

82. J. HENRY & J. LIEBERMAN, supra note 8, at 129-137.

83. Id. at 32.

84. E. FINE, supra note 81, at 56.

85. For a description of the procedure by three parties involved in the Telecredit-TRW minitrial, see Green, Marks & Olson, Settling Large Case Litigation: An Alternative Approach, 11 LOY. L.A. REV. 493 (1978). See also Text of TRW-Telecredit Mini-Trial Protocol, ALTERNATIVES, April 1984, at 15.

86. For a description of the Telecredit-TRW minitrial by the neutral advisor, see Davis, A New Approach to Resolving Costly Litigation, 61 J. PAT. OFF. SOC'Y. 482 (1979).

87. The best account of the Telecredit-TRW minitrial is found in J. HENRY & J. LIEBERMAN, supra note 8, at 19-25. See also, E. FINE, supra note 81, at 31-33 and CORPORATE DISPUTE MANAGEMENT, supra note 21, at MH 22-26.

88. Mini-trials Lauded, 71 A.B.A.J. 71 (1985). See, e.g., CORPORATE DISPUTE MANAGEMENT, supra note 21, at MH 26-53; E. FINE, supra note 81, at 34-55.

89. J. HENRY & J. LIEBERMAN, supra note 8, at 31.

90. Id. at 43-44.

91. Id. at 36-39, 46-47.

92. Minitrials to the Rescue? 70 A.B.A.J. 134 (1984).

93. J. HENRY & J. LIEBERMAN, supra note 8, at 39-42.

94. See United States v. United States Gypsum Co., 438 U.S. 422 (1978).

95. See Northern Pacific Ry. v. U.S., 356 U.S. 1 (1958).

96. See F.T.C. v. Consolidated Foods Corp., 380 U.S. 592 (1965).

For examples of other per se offenses that might relate to minitrial negotiations, see CORPORATE DISPUTE MANAGEMENT, supra note 21, at MH 76-77.

97. J. MARKS, E. JOHNSON & P. SZANTON, supra note 58, at 44.

98. S. GOLDBERG, E. GREEN & F. SANDER, supra note 2, at 282-83.

See also Lambros & Shunk, The Summary Jury Trial, 29 CLEV. ST. L. REV. 43 (1980); J. MARKS, E. JOHNSON & P. SZANTON, supra note 58, at 46.

99. NATIONAL INSTITUTE FOR DISPUTE RESOLUTION, COURT-ORDERED ARBITRATION ISSUE 4 (1985).

100. S. GOLDBERG, E. GREEN & F. SANDER, supra note 2, at 225, 228; J. MARKS, E. JOHNSON & P. SZANTON, supra note 58, at 46.

101. COURT-ORDERED ARBITRATION ISSUE, supra note 99, at 3.

102. S. GOLDBERG, E. GREEN & F. SANDER, supra note 2, at 225, 230-31. In states where the findings of an arbitration panel are admissible in court, the procedure has withstood challenges on constitutional grounds. Johnson v. St. Vincent Hosp., Inc., 404 N.E.2d 585 (Ind. 1980); Parker v. Children's Hosp. of Philadelphia, 483 Pa. 106, 394 A.2d 932 (1978).

103. S. GOLDBERG, E. GREEN & F. SANDER, supra note 2, at 230. See, e.g., In re Smith, 381 Pa. 223, 112 A.2d 625 (1955).

104. S. GOLDBERG, E. GREEN & F. SANDER, supra note 2, at 246.
105. See Goldberg, The Mediation of Grievances Under a Collective Bargaining Contract: An Alternative to Arbitration, 77 NW. U. L. REV. 270 (1982).
106. S. GOLDBERG, E. GREEN & F. SANDER, supra note 2, at 247. See also J. FOLBERG & A. TAYLOR, MEDIATION 277-280 (1984).
107. See, e.g., THE ROLE OF COURTS IN AMERICAN SOCIETY, supra note 61, at 98; J. MARKS, E. JOHNSON & P. SZANTON, supra note 58, at 44, 48.
108. J. W. THIBAUT & L. WALKER, PROCEDURAL JUSTICE: A PSYCHOLOGICAL ANALYSIS (1975). See Sheppard, supra note 61, at 150.
109. See Sheppard, Managers as Inquisitors: Some Lessons from the Law, in NEGOTIATING IN ORGANIZATIONS 193, 207 (M. Bazerman & R. Lewicki eds. 1983).
110. Id. at 194.
111. Id. at 202.
112. Id. at 204.
113. Id. at 205.
114. Sheppard, supra note 61, at 162.
115. Sheppard, supra note 109, at 208.
116. Id. at 208-209.
117. Id. at 209-210.
118. Trubek, Sarat, Felstiner, Kritzer, Grossman, supra note 13, at 86-88.
119. See supra text accompanying note 15.
120. CORPORATE DISPUTE MANAGEMENT, supra note 21, at xxviii.
121. Id. at 64.
122. Id. at 312.

123. Banks, Companies Struggle to Control Legal Costs, HARV. BUS. REV., March-April 1983, at 169.

124. Id. at 168. Other factors, however, may account in part for the reduction in expenses and staff. For instance, in 1976 Xerox "...was in the throes of major litigation." CORPORATE DISPUTE MANAGEMENT, supra note 21, at 312. Settlement of this litigation would presumably reduce the need for legal services.

125. See, e.g., Allen, How to Be a Smart Consumer of Legal Services: Controlling Legal Fees and Lawyers, in HOW TO KEEP YOUR COMPANY OUT OF COURT 23-40 (P. Allen ed. 1984); J. HENRY & J. LIEBERMAN, supra note 8, at 96-98, 147-153; Chayes, Greenwald & Wing, Managing Your Lawyers, HARV. BUS. REV., Jan.-Feb. 1983, at 84; Quinn, Preparing the Litigation Budget, ALTERNATIVES, Feb. 1983, at 1; Warshauer, Litigation Management Techniques, ALTERNATIVES, Nov. 1984, at 7.

126. "Personalized decision analysis has become an accepted part of the staff services that major corporations draw on routinely, much as they do industrial psychology, cost analysis, marketing research, and economic analysis. And virtually all the major areas of government have adopted decision analysis in one form or another." Ulvila & Brown, Decision Analysis Comes of Age, HARV. BUS. REV., Sept.-Oct. 1982, at 131. See also M. PETERSON, NEW TOOLS FOR REDUCING CIVIL LITIGATION EXPENSES 25 (1983); Fisher, He Who Pays the Piper, HARV. BUS. REV., March-April 1985, at 158.

127. See CONCEPTS AND APPLICATIONS OF MODERN DECISION MODELS (V. Tummala & R. Henshaw eds. 1976).

128. See, e.g., R. ANTHONY & J. REECE, ACCOUNTING: TEXT AND CASES 726-28 (1983).

129. See P. MARSHALL, MANAGERIAL ECONOMICS: TEXT AND CASES 245-251 (1973).
130. See R. BREALEY & S. MYERS, PRINCIPLES OF CORPORATE FINANCE 204-213 (1981).
131. See W. O'DELL, A. RUPPEL & R. TRENT, MARKETING DECISION MAKING: ANALYTIC FRAMEWORK AND CASES 96-100 (1976).
132. See Hatvany, Decision Making: Managers and Cognitive Models, in MANAGING ORGANIZATIONS (D. Nadler, M. Tushman & N. Hatvany eds. 1982).
133. See Duncan, What Is the Right Organizational Structure? Decision Tree Analysis Provides the Answer, ORGAN. DYN., Winter 1979, at 59.
134. See, e.g., S. BARNOON & H. WOLFE, MEASURING THE EFFECTIVENESS OF MEDICAL DECISIONS (1982); P. HILL, H. BEDEAU, R. CHECHILE, W. CROCHETIERE, B. KELLERMAN, D. OUNJIAN, S. PAUKER, S. PAUKER & J. RUBIN, MAKING DECISIONS 152-176 (1979) [hereinafter cited as P. HILL].
135. See S. GOLDBERG, E. GREEN & F. SANDER, supra note 2, at 549; R. GILSON, THE LAW AND FINANCE OF CORPORATE ACQUISITIONS 87-101 (1986).
136. See J. HENRY & J. LIEBERMAN, supra note 8, at 98-99; R. BEHN & J. VAUPEL, QUICK ANALYSIS FOR BUSY DECISION MAKERS 132-162, 234-270 (1982); H. RAIFFA, THE ART & SCIENCE OF NEGOTIATION 66-77 (1982); M. PETERSON, supra note 126, at 25-28.
137. See, e.g., Beron, Litigation Analysis: A Comprehensive, Logical Approach to Litigation Decision-Making, SAN FRAN. ATT., Aug-Sept. 1984, at 1; Bodily, When Should You Go to Court, HARV. BUS. REV., May-June 1981, at 103; Greenberg, The Lawyer's Use of Quantitative Analysis in Settlement Negotiations, 38 BUS. LAW. 1557 (1983); James,

Decision Tree Analysis of Lawsuits, PREV. LAW RPTR., April 1984, at 150; Victor, The Proper Use of Decision Analysis to Assist Litigation Strategy, 40 BUS. LAW. 617 (1985). The Victor article offers the best explanation of the decision tree technique.

138. READINGS ON THE PRINCIPLES AND APPLICATIONS OF DECISION ANALYSIS vii (R. Howard & J. Matheson eds. 1983).

139. Id. at viii. "Decision analysis is a discipline for systematic evaluation of alternative actions as a basis for choice among them." R. BROWN, A. KAHR & C. PETERSON, DECISION ANALYSIS, AN OVERVIEW vii (1974).

140. READINGS ON THE PRINCIPLES AND APPLICATIONS OF DECISION ANALYSIS, supra note 138, at viii. The classic reference on decision analysis is H. RAIFFA, DECISION ANALYSIS (1970). For a concise introduction to the topic see R. BROWN, A. KAHR & C. PETERSON, supra note 138. See also P. HILL, supra note 134; R. BEHN & J. VAUPEL, supra note 136. For an introduction to descriptive decision making, see G. WRIGHT, BEHAVIORAL DECISION THEORY (1984).

141. See Greenberg, supra note 137, at 1559-61.

142. See Victor, supra note 137, at 617, 627. For examples of the simple form, see R. BEHN & J. VAUPEL, supra note 136, at 134; Bodily, supra note 137, at 108; Greenberg, supra note 137, at 1557; M. PETERSON, supra note 126, at 26; H. RAIFFA, supra note 136, at 72.

143. See, e.g., Beron, supra note 137, at 7; James, supra note 137, at 153; Victor, supra note 137, at 620.

144. "When the legal advisers of a party advise a settlement, they must of course form some sort of judgment as to the probability of success in the action, and indeed the decision whether or not to settle involves all the elements of a betting transaction. One must estimate

the chances of success, what it will cost the client if he loses, and what he is likely to gain if he wins." R. EGGLESTON, EVIDENCE, PROOF AND PROBABILITY 4 (1978).

145. See, e.g., R. BEHN & J. VAUPEL, supra note 136, at 75-78; Beyth-Marom, How Probable is Probable? A Numerical Translation of Verbal Probability Expressions, 1 JRL. FORECASTING 257 (1982); Lichtenstein & Newman, Empirical Scaling of Common Verbal Phrases Associated with Numerical Probabilities, 9 PSYCH. SCI. 563 (1967).

146. R. BEHN & J. VAUPEL, supra note 136, at 76.

147. Misinterpretation of the word "fair," for instance, may have led to the Bay of Pigs fiasco. Id., at 77. Intrepretation of local sayings is a special problem. Some Texas lawyers use the expresson "That dog won't hunt," which is interpreted to mean less than a 25 percent chance. Victor, supra note 127, at 625.

148. See, e.g., M. PETERSON, supra note 126, at 16; Gonser, Soma & Wilhelm, The Computer as a Tool for Legal Decision Making, PRACT. LAW., Sept. 1981, at 12: For a general introduction to the subjective interpretation of probability, see R. WINKLER, INTRODUCTION TO BAYESIAN INFERENCE AND DECISION 15-18 (1972).

149. "I wish, if I can, to lay down some first principles for the study of this body of dogma or systematized prediction which we call the law, for men who want to use it as the instrument of their business to enable them to prophesy in their turn...." Holmes, The Path of the Law, 10 HARV. L. REV. 457, 458 (1897).

150. M. Victor, Litigation Risk Analysis 5 (Nov. 4, 1982) (unpublished manuscript). See also Spetzler & Stael von Holstein,

Probability Encoding in Decision Analysis, 22 MGT. SCI. 340, 348-350 (1975).

151. See supra text accompanying note 86. For examples of minitrials in which neutral advisors have served this function, see Taylor, Fine & Moukad, CPR Working Taxonomy of Alternative Legal Processes, ALTERNATIVES, May 1983, at 14. Other alternative dispute resolution methods that might be used in probability assessment are med-arb and court-annexed arbitration. See supra text accompanying notes 99-106.

152. Victor, supra note 137, at 619, 621.

153. Tversky & Kahneman, Judgment Under Uncertainty: Heuristics and Biases, 185 SCI. 1124, 1128-29 (1974). See also JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES (D. Kahneman, P. Slovic & A. Tversky eds. 1982).

154. See supra note 141.

155. The failure of executives to consider the cost of management involvement might be attributed to the fact that the decisions in disputes are usually "framed" by attorneys, who often fail to take into account such considerations. "The same decision can be framed in several different ways; different frames can lead to different decisions." Kahneman & Tversky, The Psychology of Preferences, 246 SCI. AM. 160, 166 (1982). Although the issue has not yet been researched, one would suspect that framing the issues in a dispute as business rather than legal issues would improve the chance for success in resolving the dispute without resorting to litigation. See also infra note 179.

156. "A common thread pervades all courtroom contests: lawyers are natural competitors, and once litigation begins they strive mightily to win using every tactic available. Business executives are also competitors, and when they are in litigation, they often transfer their normal productive and constructive drives into the adversary contest. Commercial litigation takes business executives and their staffs away from the creative paths of development and production and often inflicts more wear and tear on them than the most difficult business problems." Burger, Isn't There a Better Way, 68 A.B.A.J. 275 (1982).

157. J. HENRY & J. LIEBRMAN, supra note 8, at 46. See also Gonser & Wilhelm, supra note 32, at 446.

158. CORPORATE DISPUTE MANAGEMENT, supra note 21, at 338-39.

159. See supra text accompanying notes 71-72.

160. See R. BROWN, A. KAHR & C. PETERSON, supra note 138, at 11-15.

161. See infra text accompanying notes 178-183.

162. See infra p. 38.

163. Delineating a trade secrets path along the copyright validity path would not aid the analysis because, if the copyright is valid, Alpha will win regardless of the trade secrets outcome.

164. "There is a theorem in probability theory that tells me that I can find the probability of any string of branches through the tree simply by multiplying all of the component probabilities together." R. BROWN, A. KAHR & C. PETERSON, supra note 130, at 25. See also WINKLER, supra note 148 at 34.

165. These results are from an in-class experiment conducted in an executive program in early 1986. Similar results were obtained when the

experiment was replicated in an MBA class (range of 24 to 90 percent, with a median of fifty percent) and a law school class (range of 30 to 99 percent, with a median of 65 percent). The results in the law school class indicate that communication is a problem between attorneys as well as between attorneys and clients. See also M. Victor, supra note 150, at 4.

166. See supra text accompanying notes 145-147.

167. "The general tendency to overestimate the probability of conjunctive events leads to unwarranted optimism in the evaluation of the likelihood that a plan will succeed or that a project will be completed on time." Kahneman & Tversky, supra note 153, at 1129.

168. This method of calculation was used by several law students in the in-class experiment. See supra note 165.

169. But see Galanter, supra note 13, for an examination of the hyperlexis syndrome.

170. See, e.g., How to Evaluate Cases for ADR Potential, ALTERNATIVES, August 1984, at 1.

171. R. POSNER, ECONOMIC ANALYSIS OF LAW 422, 436. (1977)

172. J. HENRY & J. LIEBERMAN, supra note 8, at 13.

173. Id. at 10.

174. Yates, Nearly Everything You Want to Know About Data Bases, 71 A.B.A.J. 90 (1985).

175. J. HENRY & J. LIEBERMAN, supra note 8, at 17.

176. In-class experiments with executives, business students and law students reveal that estimates range from 0 to nearly the full amount of the potential damage recovery (in Alpha's case, \$5 million).

177. See R. BROWN, A. KAHR & C. PETERSON, supra note 138, at 19-22.
178. Id. at 47-48.
179. Kahneman & Tversky, supra note 155, at 162, 164. Framing (id. at 166) also plays a role in developing the utility function for a litigation decision. Framing, in turn, might depend on community values. In a conference to determine whether to appeal an adverse decision, for example, a "... Sydney client will ask, 'How much will we get if we win?' The Melbourne client will ask 'How much will it cost me if we lose?'" R. EGGLESTON, supra note 144, at 4.
180. Swalm, Utility Theory - Insights into Risk Taking, HARV. BUS. REV., Nov.-Dec. 1966, at 113. See also V. BRUDNEY & M. CHIRELSTEIN, CORPORATE FINANCE 1174 (1979).
181. H. RAIFFA, supra note 136, at 75.
182. Studies completed to date indicate that economic arrangements with attorneys can influence the generation of cases. See S. GOLDBERG, E. GREEN & F. SANDER, supra note 2, at 153. J. Brett & S. Goldberg have developed an especially useful simulation illustrating this point. The simulation, Rapid Printing Co. v. Scott Computers, Inc., is distributed by the Disputes Processing Research Program at the University of Wisconsin.
183. See Allen, supra note 125, at 32.
184. See supra note 126.
185. ARTHUR YOUNG, LITIGATION CONSULTING AND SUPPORT SERVICES 2 (1982); COOPERS AND LYBRAND, LITIGATION SERVICES 12-14 (undated); Letter from Andrew J. Capelli, National Practice Director, Peat, Marwick, Mitchell & Co. (Feb. 18, 1986); Telephone interview with Jeffrey Kenrich, Price Waterhouse (March 3, 1986).

186. D. James, Survey of Law Department and Board of Directors Practices - 1982 19 (Feb. 4, 1983) (unpublished manuscript).
187. See Gonser, Soma & Wilhelm, supra note 148, at 13.
188. Henrion, Software for Decision Analysis: A Review of Riskcalc, Arborist and Supertree, 12 OR/MS TODAY 24 (1985).
189. Arborist Helps Attorneys Plan Lawsuits, INTERACTIONS, Sept. 1985, at 2.
190. Decision Trees, 72 A.B.A.J. 33 (1986).
191. See supra text accompanying notes 39-56.
192. See supra text accompanying notes 115-117.
193. See supra text accompanying notes 120-125.
194. See supra text accompanying notes 142-143.
195. See supra text accompanying notes 144-153.
196. See supra notes 155, 179.
197. See supra text accompanying notes 178-183.
198. "Management needs to have an understanding of the litigation so they can talk to lenders, financial analysts, accountants, and stockholders." Warshauer, supra note 125, at 7.
199. See supra p. 38.
200. Id.
201. See P. HILL, supra note 134, at 27-55.
202. See supra text accompanying notes 8-12.
203. See supra text accompanying notes 126-133.