CHAPTER THIRTEEN

Finding Settlement with Numbers, Maps, and Trees

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Most parties in a dispute eventually face a decision: whether to settle their dispute upon certain terms or not. Whether negotiating toward settlement directly or with the assistance of counsel and a mediator, parties are best able to make decisions in their own best interest if they understand their alternatives. Those alternatives necessarily include possible outcomes of the litigation process and their anticipated effect, as well as the proffered settlement and its anticipated effect. To this end, decision analysis, or risk analysis,[1] presents an important opportunity for the parties who want to assess the relative values of their alternatives.

This chapter does not suggest that quantitative comparisons of the dollar values of a party's alternatives represent the only wise way to make a decision. An individual party might wisely decide to reject a significant settlement offer for a claim of modest dollar value in favor of the personal, emotional satisfaction of watching the defendant's executives being cross examined, or for the goal of exposing alleged corporate immorality. That might be exactly the right decision, whatever an analysis of the numbers suggests.

However, I believe that *all* parties (and their lawyers) benefit from thoughtful analysis of their alternatives through careful and rigorous consideration of the value and cost to them of settlement options and of the embedded risks and possible outcomes of the litigation process. Settlements are truly informed and voluntary only if the parties choose them with a full understanding of their alternatives.

This chapter assumes the reader is familiar with basic decision or risk analysis in a tree structure. The "how-tos" of decision tree analysis are straightforward and are clearly described in many other texts.[2] My goal is to articulate how decision or risk analysis can assist parties and lawyers in negotiation and dispute settlement.

DECISION TREES AS TOOLS TO PROMOTE PERSPECTIVE

For a lawyer seeking to prepare a client for negotiation or mediation, the process of building a tree focuses the client on each component—the procedural twists, the probabilities and monetary value of possible outcomes—of the client's litigation alternative. The language and process of the discussion around building the tree is less emotional and more methodical than that in many lawyer-client discussions about an impending case, creating distance between the client and his or her case. Discussion takes place in terms of the legal and factual theories that may lead to full or partial summary judgment, and the methodological requirement to place these unpleasant possibilities on the tree functions as part of the exercise, rather than as validation of the other side. This process stands in contrast to more highly charged discussions of why and how the plaintiff was wronged or lines of questioning in deposition. The lawyer must explain to the client exactly why a given motion might result in partial summary judgment versus a complete victory or defeat. Counsel will have to explain the factors that might weigh against a liability verdict and how, even if liability were found, there is a wide range of possible damage awards. Once the possible branches have been drawn, and probability and pay-off estimates made, calculation of the expected monetary value (EMV) focuses the client on one way to think about settlement value.

The world of legal practice is far from perfect. Often, counsel fail to analyze rigorously their clients' cases or fail to discuss their analyses with their clients in a careful, clear, and meaningful way. Counsel may be emotionally and financially invested. Leaving aside the partisan perception bias that often infiltrates counsel's estimated probabilities, even highly regarded counsel sometimes fail to consider systematically the possible outcomes at various stages of the litigation. Most commonly, counsel will have named the highest (or nearly the highest) jury award as the payoff in the event of a liability finding, but will have failed to consider the wider range of possible damages and the probabilities associated with various points in the range.

Building a decision tree provides an opportunity to counter the typical, dangerous tendencies of disputants to oversimplify their decisions. When discussing litigation, some disputants and their lawyers rush quickly through discussions of what might happen at various stages in litigation, as if courts fired off litigation

outcomes in rapid, predictable succession, much like a machine pitching baseballs in a batting cage. This is in sharp contrast to the litigation process itself, which takes time and often involves difficult strategic choices at each stage. Building the tree structure forces the participants to slow down and weigh what the reality might be at each step along each branch. It is not glib. It is not done with a dramatic sweep of the arm. The very process of a thorough, thoughtful decision analysis, stopping to ask questions at each node and each branch, may reinforce the choices required in litigation.

CLARIFYING AND CALIBRATING ADJECTIVAL AMBIGUITIES

In preparation for settlement negotiation or mediation, a lawyer might tell his or her client, "I am quite confident that we will survive summary judgment, and I think we will have a very strong case on liability at trial." What does this mean for settlement valuation? Assume that if plaintiff wins at trial, damages in the amount of $250,000 will certainly be recovered. Based upon the adjectives used by the lawyer, would the lawyer and the client be willing to settle the case for $200,000? For $150,000? For $125,000? Of course, it depends on what the lawyer means by "quite confident" and "very strong."

For the past fifteen years, I have used a class exercise involving ten different descriptive phrases that purport to describe the strength of liability in a hypothetical case.[3] These include language such as "highly likely to win on liability," "very strong," "should win," and so forth. Participants are asked to record the percentage numbers they would ascribe to each phrase if they had spoken it with the vocal inflection provided to describe the chances of liability in a case. I then poll the class and derive a range for each descriptive phrase from the participants' highest to lowest recorded percentages. My poll *never* records a range narrower than 15 percent for any descriptive phrase. The typical range is 20 to 30 percent, and some cross over the midpoint. For example, the phrase "very strong on liability" often yields percentages ranging from 65 percent to 90 percent. The phrase "should win" often yields likelihood of liability percentages from 30 percent to 60 percent.

The lawyer-client discussion of percentages required to construct a decision tree often reveals disparities between the way descriptive phrases were intended and the way they were understood. It may also better enable lawyer and client to understand and discuss differing approaches to risk. Imagine a case in which a lawyer has previously stated to his or her client that the case is "quite strong." At the time, if asked, the lawyer might have quantified the "quite strong" chance of winning as 60 percent. The client heard the words "quite strong" and assumed that the lawyer meant an 80 to 90 percent likelihood. On that basis, the client expended significant sums in attorneys fees and is prepared to invest considerably more to prepare the case for trial. To the attorney, based upon his

or her attitude toward risk, a 60 percent shot is one worth taking unless the settlement offer on the table becomes much higher. (For purity's sake, we will disregard the attorney's attitude toward fees, or assume that he or she would take the 60 percent shot even if on a contingency fee.) The client may be more risk averse in general, or may need money now—making it difficult to turn down money on the table for a chance of only 60 percent. Perhaps it would take an 80 percent or 90 percent chance for the client to feel comfortable turning down the settlement offered.

A decision tree approach requires candid discussion between lawyer and client about the likelihood of each branch on the tree, each twist in the litigation path. That discussion is *always* worth having. Even if the decision tree is used for nothing more than adding clarity in the conversation of trial alternatives and the client's comfort with attendant levels of risk, the tree has added value.

IT'S EASY TO GET LOST WITHOUT A MAP

For most of us, when trying to follow directions, much less choosing from among alternative routes, looking at a map is far more helpful than an oral recitation. The same is true for client and lawyer faced with a case of any procedural complexity, involving multiple legal theories, evidentiary hurdles, different measures of damages, or ranges of damages calculations. In such a case, without a map, a client may simply be unable to process the available information readily due to the degree of complexity.

In a relatively complex case, creating the decision tree structure enables the parties and counsel to see uncertainties, anticipated twists, and possible outcomes in a way that would not be possible without a visual map. A many-branched tree structure emerging on the white board, legal pad, or computer enables the lawyer and client to see all of the variables that must fall into place to reach a subset of desirable outcomes. When a settlement offer on the table is compared to the prospect of a litigation process that must wind its way through that map, the settlement offer's simplicity and certainty may begin to appear more attractive (or less so, depending on the tree). By mapping and thus clarifying the structure of the litigation alternative, the tree helps the parties and counsel to make their decision, without probability percentages, costs, or payoffs.

THE POWER AND LIMITS OF EXPECTED MONETARY VALUE CALCULATIONS

When a formal decision tree or risk analysis is performed, all possible outcomes at each step of the litigation process are mapped in a tree structure. Each chance node is followed by the number of branches needed to represent what might

happen at that stage. Appropriate probabilities are assigned to each branch based on the parties' and counsel's best judgments. The monetary consequences of each possible outcome—net payoffs or payments, after deduction or addition of costs—are estimated. Depending on the estimated time to trial, that calculation may include discounting to present value. When all of the branches, probabilities, and payoffs are included, the rather dramatic calculation of EMV can be performed. Often, and unfortunately, referred to as the "settlement value," this single numerical result is achieved by multiplying (discounting) the dollar value of the possible outcomes by the probability that each will occur and adding them together. It is a cumulative outcome, weighted by the probabilities of the occurrence of various possible outcomes.

The EMV is an important data point. It suggests that if the case is tried one hundred times, the weighted average of the dollar values of those trial outcomes would be the EMV. If the decision maker were a computer intent upon betting wisely, its settlement-indifference point would be the EMV.

Analysis based on EMV may have only limited power to influence settlement positions. No case will be tried a hundred times. Putting in analytically correct branches, probabilities, and payoffs does not mean that the resulting EMV number will be the outcome in any single trial, much less the trial that is scheduled. Assuming the parties understand this (and they should), some will view the EMV as irrelevant to settling their single case. An EMV calculation also does not consider the parties' or lawyers' attitudes toward risk or their risk tolerance. Consider two cases with an EMV of $50,000. In the first case, one party has a 50 percent chance of winning $100,000 and a 50 percent chance of winning nothing, but paying nothing. In the second case, that party has a 60 percent chance of winning $100,000 and a 20 percent chance of winning nothing and paying nothing, but a 20 percent risk of having to pay $50,000 on a counterclaim. The $50,000 EMV is only part of the settlement picture. Depending on the financial circumstances, risk tolerance, and personal attitudes toward risk of both parties, these cases are likely to settle for quite different amounts. Sophisticated decision analysis can incorporate risk preferences into this calculation as well, but my experience suggests that this level of formal analysis is often unhelpful.[4]

With due deference to its limits, the EMV has strong claims for parties seeking to make prudent financial or business decisions. Many of us act according to a rationale of discounted risk and value. We do not (knowingly or without a gambler's addiction) invest our life savings on a horse race or in junk bonds. If there is a 90 percent chance of torrential rain, we wear rain slickers or carry umbrellas to protect costly shoes and clothing. If the chance of rain is 20 percent and we are wearing jeans and flip flops, we do not necessarily bother with rain gear.

Similarly, when making a financial decision, prudence requires asking, "What are the odds? What will I have to invest? What could I win? What could I lose?"

Investing heavily for a small chance of winning modest gains, or passing up an opportunity to cut losses in the face of a high likelihood of far greater future losses, is generally judged financially imprudent. Building a decision tree in a litigated case and calculating its EMV asks the same question over a sequential series of litigation steps and possible outcomes to determine a prudent settlement amount from a business or financial perspective.

EMOTIONAL ATTACHMENT TO NUMBERS

Many disputing parties recognize that emotion can get in the way of prudent decisions in their own or their corporate entity's best interests. We watch nations engage in politically and economically disastrous decisions as the result of national anger or pride. Unwise escalation and competitive drive lead companies to bid too high in corporate takeover battles. Sports stars reject enormous salary offers out of pride, ego, greed, and sometimes as a result of a distasteful or demeaning negotiation process.

Often, parties to a dispute articulate the desire for a "fair and reasonable" settlement and state their desire to make a sound and rational business or personal financial decision. They are able to recognize that emotions may be barriers to such sound judgment. However, they lack a measure for recognizing what settlement point is objectively fair and what is personally unacceptable capitulation. Assume that a plaintiff is angry with her former employer for her termination, which caused economic and emotional damage. Prior to mediation, she wanted to get at least a million dollars. The defense offered $500,000. Plaintiff's counsel does not think, based upon the progress of the negotiations thus far, that the defense will be convinced to offer anything more than $550,000 plus a bridge to the company's retirement status and eligibility for retirement medical benefits.

Without careful analysis, the plaintiff might feel the $550,000 plus retirement medical offer is insulting and that settling on those terms is giving a victory to the stingy and powerful corporate entity. However, if the plaintiff and her attorney build a decision tree for their case, include their analysis of possible outcomes of pretrial motions as well as their best estimates of probabilities for a range of possible trial (and perhaps appeal) results, and find that the resulting EMV is in the $500,000 range, the plaintiff might feel differently about the offer. While it obviously falls far short of what she had wanted, she may recognize that her original goal was fueled by emotion. The EMV allows her to accept a settlement in the range of the EMV as a sound financial decision in her own best interest, rather than a capitulation.

In performing their analysis, the plaintiff and her attorney should calculate the monetary value (if not the additional peace-of-mind value) of the retirement

medical benefit, using reasonable estimates of life expectancy and, at minimum, the amount of the company's annual contribution. After adding the dollar value of the retirement medical benefit to the lump sum portion, the plaintiff may come to see the settlement offer at least as the elusive "fair and reasonable" because it approaches or surpasses the EMV.

POWER OF PROBABILITY DISTRIBUTIONS

For a decision maker, the question is not only what the weighted average of possible outcomes is if the case were tried a hundred times—the question posed in an EMV calculation. Equally important questions are: Of all of the possible ways the case may turn out, how likely is it to turn out the way I'd like? What are the chances that the verdict amount will be greater than a certain threshold? How likely is it to be a disaster? Even if I lose, what are the chances that the loss will be safely within our ability to pay the verdict? A decision tree can provide insight into these questions, but not by "rolling back" the calculations from right to left, as is done when calculating the EMV. When a client or a lawyer wants to view the distribution of possible outcomes and their probabilities, calculations of probabilities flow from left to right. Each probability is multiplied by the next probability along each branch of the tree until you reach the terminal node at the far right. By looking at the array of possible outcomes, which is simply the list of values at the terminal nodes, the lawyer and client can see all of the possible ways (in dollar terms) the case might end and the probability associated with each possible ending.

Figure 13.1 shows how the probability calculations would work in a simple case involving a risk of summary judgment, a plaintiff's claim that could (under various theories and with different juries) generate high-, mid-, or low-level damages, and a counterclaim which, if successful, would generate a well-defined damages amount.

Note that each probability reflected at each possible outcome on the far right is simply the product of all of the probabilities that preceded it from the far left. Thus, from the top, a .8 chance of surviving summary judgment, multiplied by a .7 chance of success at trial, multiplied by a .8 chance that the counterclaim fails, and a .3 chance of a very high damages award—the best result for the plaintiff—has only a 13.4 percent chance of occurring.

The next outcome down on the right, found by following the path from surviving summary judgment (.8), liability finding at trial (.7), failure of the counterclaim (.8), and "mid" damages award (.4), has a 17.9 percent probability. However, if you look to the fourth, fifth, and sixth outcomes down from the top, you find the probabilities of having the counterclaim amount deducted from the liability award. The sum of these three possible outcomes—11.2 percent—is

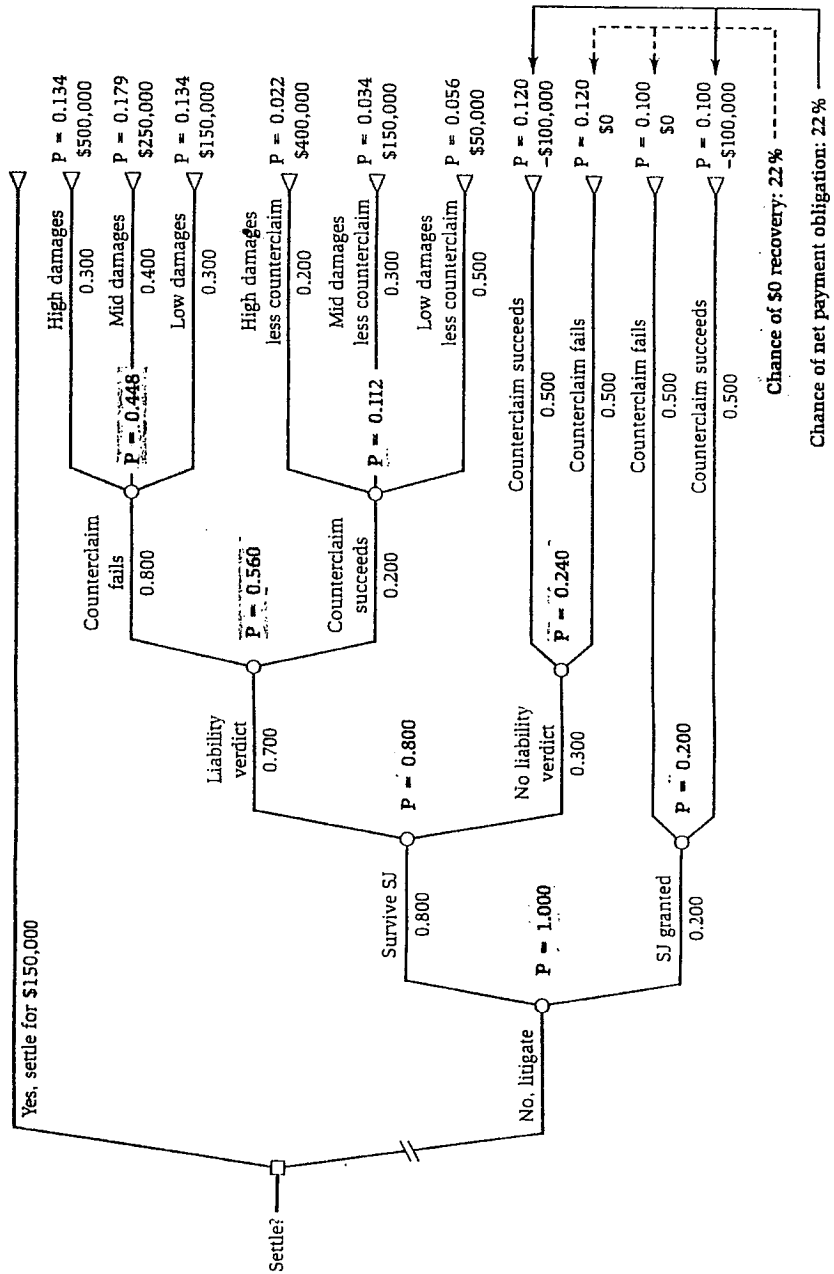

Figure 13.1. Example of Probability Calculations.

seen by looking left to the chance node labeled "counterclaim succeeds." Note that toward the bottom of the tree, along the path of "no liability verdict," the chances of a zero dollar verdict for the plaintiff, with a liability finding on the counterclaim and thus a payment obligation, is 12.0 percent (roughly equivalent to the chances of the plaintiff's "best outcome"). Moreover, if summary judgment were granted against the plaintiff but the counterclaim were to survive summary judgment, the plaintiff would have an additional 10 percent chance of the litigation outcome being a payment obligation. When these probabilities—12 percent and 10 percent—are added, the plaintiff can see that there is a 22 percent chance of an outcome that is a payment obligation on the counterclaims. The tree also shows a 22 percent chance of receiving nothing (but paying nothing to the defendant) by adding the 10 percent chance of summary judgment being granted, but the counterclaim failing, and the 12 percent chance of surviving summary judgment, but the plaintiff losing on liability and on the counterclaim.

The process of multiplying probabilities can easily be followed along each branch to its endpoint. Client and lawyer will be able to see that while their most desired outcomes are present, their likelihood may be outweighed by outcomes in much lower or negative dollar ranges. Seeing these outcomes arrayed and assigned a distribution of probabilities is a powerful reminder that the case will only be tried once, and that any of these results may occur.

COUNTING INTANGIBLES BECAUSE THEY ARE REAL

When constructing the decision tree for a litigation alternative, we often forget to think outside easily quantifiable litigation calculus. When considering the payoffs or endpoints, we add verdict amounts (negative numbers for defendants), dutifully subtract attorneys fees, and perhaps discount to present value. We know that there are other, less tangible but real, costs associated with trial. A relatively simple one is the employee time that will be lost as a result of depositions not yet taken, trial preparation, or attendance in court. Ongoing litigation may also dramatically affect a company or organization by pitting the interests of its associates or staff against each other. The litigation process and its uncertainty cause stress for many; some people may be particularly anxious at the prospect of testifying at trial. These detriments would be calculated as negative value consequences of pursuing the trial alternative. However, where a litigant would find satisfaction in the assertion of power or vindication by forcing the opponent to testify, proceeding to the trial would be credited with additional positive value in the payoff calculation on the far right of the tree, or that amount would be deducted at the end of the settlement branches.

Some parties may be well served by an effort to consider and assign value to some of these consequences. A relatively easy category is lost time. It is fair

(and some might say, wise) to ask the question, What are your executives' or other witnesses' time worth? This is particularly straightforward when that time is billed out to clients or within the corporation, as is often true for consultants and engineers. In other industries, precision may not be possible, but a reasonable estimate should be. One could take a single executive's annual compensation and arrive at an approximate hourly rate. In certain business contexts, it is fair to state that hourly time is not the problem, but rather distraction, lost opportunity, and failure to think about the next profitmaking deal. The purpose is not to trump up fake numbers for the purpose of encouraging settlement. The goal of the exercise is to avoid missing real costs that would not be reflected in a lawyer's typical "litigation budget" document.

It is admittedly more difficult to quantify some of the other real, but less tangible or precise, consequences of trial, such as loss of reputation or a stalled career. Still, if the purpose of the tree is to map the full decision's risks and its benefits, these intangibles should be reasonably quantified and fairly counted.

DECISION ANALYSIS AS A TOOL FOR MEDIATORS

In many legal disputes, both parties and often their lawyers firmly believe they will prevail at trial. Both sides claim theirs is the stronger case and see the other side's arguments or evidence as weak. Partisan perception bias is generally recognized to be the culprit[5] when there are no significant asymmetries of information. Particularly for a facilitative mediator, who has committed *not* to provide any neutral evaluation, partisan perception bias presents the most difficult challenge.

To help the parties and counsel to "see reality," facilitative mediators are generally advised to "ask probing questions." The theory is that such questions, albeit posed in a neutral way, will help the parties and counsel identify the weaknesses in their case and strength in the other side's case.[6] As a matter of practice, such "probing questions" are difficult to pose in a neutral way. One party's attorney says, "We will certainly get over summary judgment, and this is a rock-solid case on liability." When the mediator raises an experienced eyebrow and asks, "Do you really think these facts are likely to give rise to a constructive discharge finding? How does your theory deal with evidence of an offer to move your client's office location?" counsel and party are likely to respond defensively. The direct or indirect questioning of counsel's assertion risks creating an impression that the mediator "has taken the other side." The mediator's question goes directly to the heart of the plaintiff's grievance, and the mediator is expressing doubt, raising issues of trust and perceived neutrality.

Parties' assertions of certainty are not, however, hopelessly beyond discussion for mediators. A decision analysis approach can help parties explore assertions without raising the same risk of perceived bias. Consider a case in which

a finding of constructive discharge is critical for an award of substantial damages. If the plaintiff were found to have quit, rather than suffered constructive discharge, her damages would be limited to emotional distress from sexual harassment in the form of a hostile work environment while at the company. While discussing and building the decision tree with the mediator, plaintiff's counsel estimated the probability of a constructive discharge finding at 85 percent. Other estimates by the plaintiff's counsel may be somewhat optimistic to the mediator, but the 85 percent on constructive discharge seems wildly inflated, based on evidence discussed in the mediation. Rather than direct a "probing question" straight at this issue, the mediator might say, "Of course all of these probabilities are just estimates. When you say that a probability is 50 percent or 60 percent or 85 percent, you are saying that if the case were to be tried one hundred times, this might happen fifty times, or sixty times, or eighty-five out of a hundred times. But of course, the case will only be tried once. And no one can ever know for certain. When I say that I think I have a very strong argument, I might mean that I think it is a 60 to 70 percent chance. But there is always a range. It is never precise. If I were estimating the probabilities on a case or a particular motion, and I thought it was 70 percent, I certainly wouldn't argue that it was 70 percent and not 68 percent or 65 percent, or 70 percent and not 72 percent and not 75 percent or more. No one can be that precise, especially because the case will only be tried once. What I'd like to do is go back over your numbers. You've estimated 85 percent as the probability that there will be a finding of constructive discharge. I see that means you see it as a strong part of the case. Okay, but what if strong meant 70 percent or even 65 percent? That's still much higher than 50-50. Let's see what will happen to the EMV if you adjust percentages . . ."

In this way, the mediator has not expressed an opinion on the constructive discharge issue but has more generally probed counsel's certainty. The mediator has explored the idea of differing degrees of "strength" and how that may affect EMV, and thus what is a "fair and reasonable" settlement from plaintiff's perspective.

FOR THE MEDIATOR WILLING TO EVALUATE WHEN NECESSARY

Whether evaluative mediation is heretical, antithetical, oxymoronic, or sometimes an essential mediation practice component is not the topic of this chapter. It should be undisputed that many mediators believe evaluation to be entirely appropriate in certain circumstances. Although this chapter does not purport to provide a full range of advice to parties, their lawyers, or their mediators regarding effective techniques for evaluation,[7] the essence of that advice would be this: evaluate the merits of the trial alternative only as necessary to

counteract the effect of partisan perception bias. Evaluate (or ask the mediator to evaluate) tactfully, carefully, and late in the process, after the mediator has actively listened to each side's perspective, arguments, theories, and analysis. The inherent danger is that, once the mediator has provided at least one party with a negative evaluation, the mediator may no longer be perceived as neutral. The recipients of the negative evaluation may thereafter assume that any offer carried by the mediator, any negotiation coaching advice, or any suggested term is designed to achieve the other side's settlement number or terms because the mediator favors the other side's case. If that happens, the mediator can no longer function effectively in the neutral's role.

To evaluate and maintain both sides' confidence, the mediator is wise to create as much distance as possible between him or herself and the evaluation provided. If possible, it is also helpful for the mediator to adopt or accept as many of a party's arguments, theories, or assessments and to incorporate them into the neutral analysis. A decision tree approach to a mediator's evaluation enables both, while permitting the use of language with less emotional content. When the mediator adjusts a probability estimate down from 85 percent to 60 percent or 50 percent, he or she does not have to say, "I think your case is weaker." The fact that the discussion and recording of percentage and dollar estimates are physically directed to the drawn decision tree is also helpful. In effect, a decision tree can become an intermediary between the mediator and the evaluation being presented. When an EMV calculation is performed, the mediator can refer to the results of this neutral analysis rather than to his or her view of the strengths and weaknesses. The EMV or decision tree results may then be regarded in the manner of an objective criterion, a neutral, analytical suggestion of a settlement point. The mediator may also choose to offer his or her evaluation in ranges of probability or payoff, resulting in a range of EMVs as possible settlement amounts.

In some cases, using a decision tree may permit the mediator to evaluate selectively and sparingly, adopting or accepting (for the sake of argument) many of the probability and payoff judgments placed on the tree by one side. I refer to this technique as "piggy-backing" because the mediator's evaluation rides the structure and many of the numbers used in one or both sides' trees. When the mediator's evaluation diverges significantly only as to a few branches or payoff estimates, the mediator can engage in discussion only on those issues, explaining why his or her analysis is different. To the extent that the mediator's evaluation adopts one side's judgments and tree, that side has difficulty completely disregarding the EMV result. Most people are not 100 percent confident that they will be right 100 percent of the time. An EMV result derived from their own judgments plus just a few different assessments by an apparently intelligent and neutral mediator can powerfully influence the parties' views of a "fair and reasonable" settlement.

COMPARING ALTERNATIVE PATHS—WHAT WOULD EACH OUTCOME REALLY MEAN?

ecoming entangled in the litigation branches of a decision tree is asy. We become involved in capturing all the possible permutations of the ase progression, ensuring that the tree as drawn is a fair and logical map of e litigation, and that the probabilities and payoffs represent careful and expe-ienced judgment and analysis. It can be an intellectually challenging and ngrossing task. In a litigation and settlement context, when attorneys are lead-g the discussion and building the tree, there is a tendency to ignore the fact hat litigation is not the only path or branch to follow. Settlement—deciding not o litigate any further—is an entirely different branch or separate tree that is vorthy of drawing and valuing.

Looking back from the litigation choice to the settlement choice, and mapping r charting the latter's consequences, are critical and often overlooked steps in naking a wise decision. While evaluating the uncertainties associated with trial is mportant, looking at the decision of whether to litigate or to settle by exploring vhat will happen if you do settle is equally important. In practice, you can build he tree, or an extensive system of branches, representing the litigation on one lip chart or yellow pad and then list what will happen if the litigation ends. The settlement amount on the table should be listed, but what that amount r the settlement terms would enable the party to do should also be listed. On he plaintiff's side, one might list pay for college, fund a retirement annuity, pay for home health care, purchase a home in a different location. On the defense side, one might list pursue a corporate transaction after removal of the case's cloud on securities filings, purchase replacement equipment, complete a depart-mental reorganization, protect technical secrets, and so on. The visual juxtapo-sition and comparison of the choices—settlement versus litigation—facilitates the parties' wise decisions in their own interest. This is, after all, the point.

LIMITS AND RISKS OF QUANTIFICATION

"Garbage in, garbage out" is the phrase often used to denigrate the process of decision analysis. No one should deny that a decision tree is only as good as the thought and analysis that go into it. If the party, lawyer, or mediator constructing the tree has not thought carefully about the possible twists in the litigation process, if they have not researched and analyzed the case law and the factual evidence, and considered whether damages assertions can be proven, the resulting tree will be of no value.

Conversely, "quality ingredients in, quality product out." There is much value for a decision maker in a decision tree that carefully maps the next steps in the litigation and the possible outcome at each step, if the probabilities at each branch are informed by experienced and objective analysis, and the damages or cost figures are supported by evidence and consistent with legal theories of recovery.

Decision analysis necessarily involves quantifying—recording numbers that represent one's judgment about likely outcomes and percentage numbers that represent one's judgment about the likelihood of a particular outcome. Not everything in life can be quantified, nor should it be. The fact that our legal system requires quantification for compensation of bodily injury, disfigurement, pain and suffering, emotional distress, and lost quality of life does not render the quantification exercise less artificial and more valid. While it seems appropriate to record numbers for lost wages, or even estimates of likely jury awards, we might appropriately question the exercise of quantifying the emotional stress associated with going to trial, or the dollar value of watching the corporate higher-ups testify if forced to go to trial. When decision analysis moves into the territory of the intangible, the exercise seems more artificial and an uncomfortable validation of a mercenary ethic or worldview. For these reasons, this author often omits the step discussed earlier in "Counting Intangibles Because They Are Real." I will often list the less tangible positive and negative consequences of a settlement and litigation choices on the relevant easel or legal pad, but do not ask the parties to assign value—except perhaps in terms of lost time.

Finally, the process of decision tree analysis can be fairly criticized for creating an illusion of precision when precision is neither real nor possible. When a lawyer or party states that the chances of a liability verdict in a trial are 70 percent, that percentage number cannot be verified unless the case is indeed to be tried the proverbial one hundred times. Moreover, the lawyer who estimates the probability at 70 percent would be foolish to argue with another lawyer who would put it at 68 percent or 72 percent. No matter how long a span of trial experience, no one would claim to predict the future with such precision. The probability percentages used are simply place holders representing how strong we believe a claim to be and how confident we are that an argument or piece of evidence will convince a trier of fact. The payoff numbers placed at the terminal nodes and the outcome at the far right of the decision tree can be similarly misleading in their precision.[8] When $50,000 is placed at the payoff point of a decision tree as an estimate of a mid-level jury award for emotional distress, the number has no more claim on reality than a lawyer's stated opinion that the mid-level emotional distress award would most likely be in the $40,000 to $60,000 range. For the purposes of the decision tree,

picking a number representing one's best estimate of mid-level damages is necessary. The risk is that once percentages and number are recorded, people begin to believe and rely upon these numbers and percentages as if they were precise and entirely accurate. The only antidote is to step back from the tree and to note that each probability and payoff represents an estimate. Ironically, to facilitate wise decisions, after the tree has been painstakingly created and calculated, perhaps it should be blurred just a bit—viewed from some distance through a fuzzy lens.

Notes

1. Many people use the terms *decision analysis, risk analysis, litigation risk analysis,* or *decision tree analysis* interchangeably. For those who value precise terminology, decision analysis might be thought of as broader than risk analysis, for decision analysis looks to decisions over which the parties have control as well as those involving future risk and uncertainty. Decision analysis can be used to analyze the cost of acquiring information, making business decisions such as whether to submit proposals, building a new manufacturing facility, and so on. Thus, a decision tree includes decision nodes, which analyze the consequences of particular decisions, as well as chance nodes, reflecting points at which chance—externally imposed decisions or events—will determine the next outcome. These are the "risk analysis" portion of the tree, as they analyze the probabilities, risks, and costs associated with various possible outcomes. In a typical mediated case, the decision question is whether to settle for a certain amount or litigate. Following the "litigate" decision node are chance nodes, branches, and more chance nodes until the payoff or terminal node is reached. In other words, underlying (or to the right of) the decision problem is the risk analysis. For writings on decision analysis and risk analysis, see H. Raiffa, *The Art and Science of Negotiation* (Cambridge, Mass.: Belknap Press of Harvard University Press, 1982); and J. H. Hammond, R. L. Keeney, and H. Raiffa, *Smart Choices: A Practical Guide to Making Better Life Decisions* (New York: Broadway Books, 2002). For earlier work in this area see H. Raiffa, *Decision Analysis: Introductory Lectures on Choices Under Uncertainty* (Reading, Mass.: Addison-Wesley Publishing Company, 1970); and R. O. Schlaifer, *Analysis of Decisions Under Uncertainty* (New York: McGraw-Hill, 1967). This list of resources does not purport to be exhaustive, as the method is not new and has been described and used in many fields. Marc Victor, president of Litigation Risk Analysis, has authored numerous articles over the past twenty years and is recognized as one of the pioneers in the application of decision analysis to legal disputes and dispute settlement.
2. The following texts also contain clear and readable directions for people who wish to learn the how-tos of decision or risk analysis in a legal context. See M. Aaron and D. P. Hoffer, "Decision Analysis as a Method of Evaluating the Trial Alternative," in D. Golann (ed.), *Mediating Legal Disputes: Effective Strategies for Lawyers and Mediators* (New York: Little Brown, 1996), for descriptions of how to do the analysis for the resolution of legal disputes; this text was specifically written for mediators and lawyers in dispute resolution. Another entirely practical discussion of how to construct a decision tree is found in M. Aaron, "Decision Analysis as a Method of Evaluating the Trial Alternative," in D. Golann (ed.), *Mediating Legal Disputes: Effective Strategies for Lawyers and Mediators* (New York: Little Brown, 1996). A comprehensive treatment may also be found in D. P. Hoffer, "Decision Analysis as a Mediator's Tool," *Harvard Negotiation Law Review,* 1996, *1,* 113, and in various articles by Marc Victor. When computer assistance will be helpful, this author uses the software called DATA, offered by TreeAge, Inc.
3. The author was introduced to this exercise by her mediation mentors and colleagues Eric Green and Jonathan Marks, founders of the company then known as Endispute, Inc.
4. Factoring risk preferences and attitudes into the decision tree and thus reflecting it in the EMV is technically possible. However, within my practice, I choose not to do this for two reasons. First, thinking about and graphing a risk attitude curve can become quite complex, and I do not want the decision analysis process to become less accessible to the parties or counsel. Second, in my limited experience with this method, people tend to look at the decision tree and EMV that technically include their discounts for risk attitudes and risk intolerance and then say, "Oh, but I have to consider how I feel about the risks." That serves to double count and distort the risk issue. I suggest that practitioners—parties, lawyers, and mediators using this method—separate the data from the parties' feelings about that data. The decision tree is a theoretically nonemotional, analytical representation of the trial alternative. The EMV number that results is a piece of data—the predicted average trial result, weighted by probability. The parties and their attorneys can and should consider carefully how they want to consider the map of the tree and the data point it yields, and how they feel about the risks presented.
5. Partisan perception bias is a well-known psychological phenomenon, extensively documented in psychology. For clear summary treatments, see M. H. Bazerman, *Judgment in Managerial Decision Making* (New York: John Wiley & Sons, 1998). Partisan perception bias was alive and well among law students in Cincinnati, Ohio, in the spring of 2004. In a negotiation course exercise, whether students were assigned the plaintiff's or defense's side of a case simulation led to approximately a 30 percentage point difference in their average estimate of the likelihood of a liability verdict and a ten-fold difference in their estimate of likely damages awards, based upon virtually identical facts.
6. The facilitative mediator asking "probing questions" might also be characterized as a subtle type of evaluation, as it assumes a mediator view of reality and illumination toward that view. The author recognizes that this characterization challenges much of the current writing and that discussion is better deferred to another place and time.

7. See M. Aaron, "Evaluation in Mediation," in D. Golann (ed.), *Mediating Legal Disputes: Effective Strategies for Lawyers and Mediators* (New York: Little Brown, 1996).
8. Particularly in contract cases, the damages recoverable can sometimes be readily and precisely stated, along with statutory interest. If the lawyer is on a contingency fee or a flat fee basis, or has provided a reasonably accurate budget through trial, the tree's payoff numbers can be credited with the virtue of precision.

CHAPTER FOURTEEN

Option Generation

Be Careful What You Ask For . . .

Chris Guthrie

Option generation is central to negotiation theory. From the authors of *Getting to YES*, who argue that "the key to wise decision-making [in negotiation] lies in selecting from a great number and variety of options,"[1] to the authors of *Beyond Winning*, who identify option generation as the key to value creation,[2] option generation "is seen as one of the basic concepts of successful negotiation."[3]

Despite its central role in negotiation theory, option generation "seems to be underrepresented" as a subject of study[4] and "is not a well-understood phenomenon."[5] Negotiation theorists have almost uniformly endorsed it, but in so doing, they have celebrated its virtues without acknowledging its vices.

Option generation surely does have its virtues. To reach agreement, negotiators must consider at least one option, but if they focus narrowly on one option—such as the amount of money that will change hands—they may hit an impasse. Exploring other options may enable them to come to agreements they might not otherwise be able to reach.

Moreover, option generation can lead to *better* agreements because it enables negotiators to use value-creating tactics such as "log-rolling" and "add-ins."[6] Negotiators "logroll" when they engage in mutually beneficial trades based on different values they place on available options.[7] "For example, a new professor just out of graduate school and on the path toward tenure may be more interested in having extra research resources (i.e., laptop computer, research assistants, discretionary funds, etc.) than [in] teaching a particular