ADR & IP Disputes

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CHAPTER FOUR:

Application of Decision Tree Analysis in Litigation & Settlement Strategies

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APPLICATION OF DECISION TREE ANALYSIS (DTA) IN IP LITIGATION AND SETTLEMENT STRATEGIES

I. BACKGROUND

A. Intellectual Property (IP)

1. Patents: 35 U.S.C. §§ 1-376 = the federal patent statute.
2. Trademarks: 15 U.S.C. §§ 1051-1127 = the federal trademark statute.
3. Copyrights: 17 U.S.C. §§ 101-810, 1001-1010, 1101, 1201-05, 1301-32 = the federal copyright statute.
4. Trade Secrets: Tort and contract statutes and common law of states; Economic Espionage Act of 1996, codified at 18 U.S.C. §§ 1831-39.

B. Characteristics of IP Litigation

1. Complex[1]
2. Costly[2]
   a. Patent = $2,000,000
   b. Trademark = $600,000
   c. Copyright = $500,000
   d. Trade Secret = $875,000
3. Uncertain[3]
4. Delay[4]

C. Alternate Dispute Resolution (ADR)

1. Alternate to Litigation[5]
2. Negotiation
3. Arbitration
4. Mediation
5. Others

II. THE NEEDS THAT EXIST IN ANALYZING SETTLEMENT

A. The Question Presented

1. "We have received a settlement offer from BadGuys Co. of $500,000 for their patent infringement and must decide whether to accept the offer or proceed with litigation." The essential question is whether acceptance of the settlement offer is in the best interests of the client.
2. "BadGuys Co. have refused to settle. But they have offered arbitration as an alternative resolution mechanism to litigation. We must decide whether to arbitrate or litigate." The essential question is whether arbitration is in the best interests of the client.

B. How To Evaluate That Interest?

1. Need a highly analytical, objective, and systematic approach to litigation-related decisions, preferably devoid of emotion
2. Communication is critical among client, counsel, opponent, and opposing counsel

C. Litigation Risk Analysis Provides An Approach

1. Use DTA[6] = Evaluation and Communication Tool (or Facilitative Model) [*See, e.g.*, FIG. 1]
2. Litigation Risk Analysis combines
   a. Intuition +
   b. Rigor +
   c. Logic

   To make better decisions in the face of Risk and Uncertainty
   And better decisions yield better outcomes in the long run
3. Combine Three Sources of Information
   a. Litigation Strategies
   b. Attorney Experience, Expertise, Data, Judgment, Intuition
   c. Client Preferences
4. Cost of DTA
   a. Not insubstantial (depends on level of sophistication desired)
   b. Insignificant relative to the cost of litigation

III. THE MECHANICS OF DTA

A. A Logical, Five-Step Process

1. Structure Case Using a Dependency or Influence Diagram [FIG. 2]
   a. The tree is most useful when it includes as many variables as possible
   b. Identify critical issues
   c. Highlight interactions
   d. Note principal issues and sub-issues
2. Create tree by assessing probabilities using lists of reasons [FIG. 3]
   a. Trees begin with a square on the left, which represents the decision to be made
   b. The tree grows to the right by adding circular "branch" points representing key uncertain events that will occur and affect the outcome; branches represent possible outcomes of the uncertainty
   c. Project the likelihood of success based upon the strengths and weaknesses of the case, for example:
      i. Very likely to occur ("slam dunk") = 0.9
      ii. Likely to occur ("good chance") = 0.7
      iii. Even chance = 0.5
      iv. Not likely to occur = 0.3
      v. Very poor chance = 0.1
   d. Anticipate possible range of awards

e. To find the overall value of the litigation, simply factor in the probabilities to calculate the expected values then add the expected values of the several possible outcomes; each ultimate outcome value is discounted by its intervening probability (moving from right to left in the tree) back to the original decision square

f. Compare the litigation v. settlement (or arbitrate) options

3. Calculate Values (e.g., litigate v. settle) and view probability distribution
   a. The calculated probabilities and values of ultimate outcomes are presented as a bar chart [FIG. 4]
   b. Use Cumulative Probability Evaluation: the probability that, considering all possible outcomes, a particular variable (e.g., litigation recovery) will be above or below some limit
4. Refine results using common sense
5. Perform sensitivity analysis [FIG. 5]
   a. Determine which issues are "critical" to the outcome
   b. Devote more time and effort to developing those issues

B. Risk[7]

1. Clients and counsel have different levels of risk aversion even when confronted with similar situations
2. Each party tends to view its case as stronger than the opponent sees it

C. Other Factors

1. Discovery and trial costs reduce the value of the litigation outcome
   a. Can we recover costs and attorney fees?
2. Time and energy of Plaintiff to litigate has a value
3. The time value of money
   a. Settlement now versus litigation recovery in 2-3 years
   b. Can calculate using present dollar values

D. Implementations

1. Hand and calculator (small, routine matters)
2. Spreadsheets[8]
3. Special software[9]
4. Seminars[10]

IV. THE ADVANTAGES OF DTA

A. Get a "Handle" on Complexity; DTA helps most with more complex cases

1. Confirm intuitive determinations
2. Assist in decision process
3. Identify what other information is needed
4. Anticipate issues and their importance
5. The process is as important as the outcome

B. Repeat Tree from Adverse Perspective (benefits become costs)
   1. Persuade opposing counsel ("this is why your offer is too low")
   2. Present to mediator as advocate ("here is our view of the case")
   3. Incorporate data in negotiations (plan your negotiation strategy)

C. Levels of detail depending on communication needs
   1. Develop sub-issues
   2. For example: validity, obviousness, differences between the prior art and the claims, expert testimony
   3. Use multiple, interrelated trees

D. A Dynamic tool; Revise DTA as case proceeds and events become known
   1. DTA has value beyond initial settle v. litigate decision
   2. Updates are important for effective case management
   3. Reinvestigate a prior failed settlement attempt

E. Run DTA using several estimates of the variables
   1. Best v. worst case scenarios v. most likely scenario
   2. Evaluate the sensitivity of the derived values to different input values by inserting a range of input values for the input to be tested and tabulating the results (in the example of FIG. 3, the litigation option is relatively insensitive to the issue of literal infringement)
   3. Devote time and effort to gain a relatively high confidence level in assessing the probability of "impact" outcomes, perhaps with the help of a third party or further study (better allocation of resources)

F. Force Client and Counsel to consider carefully all relevant factors
   1. Product of a team effort
   2. Protection by attorney-client privilege and, perhaps, work product

G. Bridge communication gap between litigation counsel ("we're likely to win," "damages are speculative," "it's going to be a battle of experts," "the key to this case is claim interpretation," etc.) and business client (who may be familiar with DTA or similar business tools)
   1. More effective, less ambiguous communication
   2. Potential misunderstanding avoided
   3. Presents legal uncertainties in management terms

H. DTA provides, admittedly based on estimates and projections, a set of figures which can helpfully guide planning and communications
   1. Data enables an informed recommendation to litigate or settle
   2. Data enables an informed recommendation to litigate or pursue ADR
   3. Use data to manage litigation in an effective and cost-efficient way
   4. Make smart litigation decisions
   5. Focus on outcome-determinative issues

I. Not a panacea; keep the limitations of DTA in mind

V. POTENTIAL LIMITATIONS OF DTA

A. The mathematics are daunting
   1. It's not rocket science; Working with DTA is simple math and is easily done by computer
   2. Work with an assistant

B. "Garbage in, garbage out"; Inputs to the tree, especially probability, are unreliable
   1. Certainly, it is important to develop reasonable justifications for the numbers
   2. The Read Corporation v. Portec, Inc., 970 F.2d 816, 829 n.9 (Fed. Cir. 1992) ("An honest opinion is more likely to speak of probabilities than certainties.")
   3. Communicate and discuss the uncertainty inherent in DTA-derived data
   3. You have something better?[11]

C. Sources of non-objective assessments of probabilities and benefits
   1. Bias (litigators want to litigate; clients like their cases)
   2. Inexperience (get the facts)
   3. Recency (once burned, twice shy)
   4. Primacy (treasurer overly concerned with possible capital loss)

VI. WHEN IS DTA UNNECESSARY--IF EVER?

UNNECESSARY	REALLY?
The case is simple with certain facts and known legal issues.	But even a cursory tree, perhaps done by hand, might help.
A small dollar amount is at stake.	Again, a cursory tree might still help.
No difficulty is anticipated in achieving settlement.	But a tree might help determine the settlement amount
The opponent is a large customer and suit is not an option.	But a tree might help select an appropriate ADR option.
A need exists to establish precedent; therefore, litigation is the clear option.	Then a tree might help plan litigation strategy.

NOTES

1. Many federal jurists have ranked patent law concepts as among the most challenging faced by the federal bench. *See, e.g.*, L. Hand, J., "That issue [of patent validity] is as fugitive, impalpable, wayward, and vague a phantom as exists in the whole paraphernalia of legal concepts . . . . If there be an issue more troublesome, or more apt for litigation than this, we are not aware of it." Harries v. Air King Products Co., 183 F.2d 158, 162 (2d Cir. 1950), quoted with approval by the Federal Circuit in Stevenson v. Sears Roebuck & Co., 713 F.2d 705, 711 (1983).

2. Every other year, the American Intellectual Property Law Association (AIPLA) conducts a survey and reports on various economic aspects of intellectual property law practice, including patents, trademarks, copyrights, trade secrets, and related matters. The Report of the Economic Survey 2003 provides the median data cited for a case of average complexity.

3. Some would define an "appeal," for example, as: "In law, to put the dice into the box for another throw." Ambrose Bierce, The Devil's Dictionary 9 (Oxford University Press 1999).

4. "Patent litigation frequently is complex, long, and difficult." Rohm and Haas Co. v. Brotech Corp., 127 F.3d 1089, 1092 (Fed. Cir. 1997). Cases often take two-to-three years to trial, sometimes much longer. Some type of ADR proceeding may be preferred to litigation, or settlement might be agreed upon, because: "The 'promptness of decision . . . in all judicial actions is one of the elements of justice.'" Hughes Aircraft Co. v. The United States, 86 F.3d 1566, 1577 (Fed. Cir. 1996) (quoting Forsyth v. City of Hammond, 166 U.S. 506, 513 (1897)).

5. Abraham Lincoln discouraged lawsuits and often urged his clients to resolve their disputes amicably. In law lectures he gave in 1850, he said: "Discourage litigation. Persuade your neighbors to compromise whenever you can. Point out to them how the nominal winner is often a real loser--in fees, expenses, and waste of time. As a peacemaker the lawyer has a superior opportunity of being a good man. There will still be business enough . . . ." The Library of America, Lincoln: Speeches & Writings 1832-1858, "Notes on the Practice of Law" (1850), quoted by J. Shestack, "Abe Lincoln, Lawyer," in The Pennsylvania Lawyer at 25-26 (Jan./Feb. 1996). Other legal minds have agreed: "As a litigant, I should dread a lawsuit beyond almost anything else short of sickness and death." Hon. Learned Hand, "The Deficiencies of Trials to Reach the Heart of the Matter," in Association of the Bar of the City of New York, Lectures on Legal Topics 89, 105 (1926).

6. Business schools introduced DTA in the 1960's; business and public policy decision makers often use DTA. The legal community has only begun to tap DTA as a potential tool.

7. See H. Raiffa, "The Art & Science of Negotiation" (Harvard, 1982), for a good discussion of risk in the context of negotiation and litigation.

8. *See, e.g.*, Excel® by Microsoft as used by P. Prestia, "Decision Tree: Good Tool For Analysis," les Nouvelles 60 (March 1994). *See also* J. Barkett, "The Courtroom of the Twenty-First Century--ADR," at 13-18, Shook, Hardy & Bacon, LLP (Miami, FL) (2004).

9. *See, e.g.*, TreeAge Software, Inc., 1075 Main Street, Williamstown, MA 01267.

10. *See, e.g.*, Marc B. Victor, Center for Litigation Risk Analysis, 3000 Sand Hill Road, Menlo Park, CA 94025, (650) 854-1104.

11. Litigation itself is all about risk. Of course, risk is simply a reflection of uncertainty; there is no risk when the probability of an occurrence is either zero or 100 percent. *See, e.g.*, Givens v. United States Retirement Board, 720 F.2d 196, 200 (D.C. Cir. 1983) ("That's what makes horse races and Supreme Court cases."); Oiness v. Walgreen Co., 88 F.3d 1025, 1029 (Fed. Cir. 1996) ("The evidence adds vague estimation and gross extrapolation to unsupported presumption. At every step, this damages calculation is fraught with speculation.") (discussing damage award in patent infringement case).

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1. J. Barkett, "The Courtroom of the Twenty-First Century--ADR," Shook, Hardy & Bacon, LLP (Miami, FL) (2004).

2. D. Gold, "Valuing Litigation," Harvard Negotiation Project, Harvard Law School, Harvard University, Cambridge, MA 02138.

3. A. Gump, "Using Decision Models in the Real World," PM Network 43 (Jan. 2001).

4. C. Miller, "Risk Analyses Measure Likely Litigation Results in $s and %s," U.S. Business Litigation at 14 (July 1997).

5. C. Niro, "The Decision Tree: A Systematic Approach to Settlement Decisions," 82 Ill. B. J. 154 (March 1994).

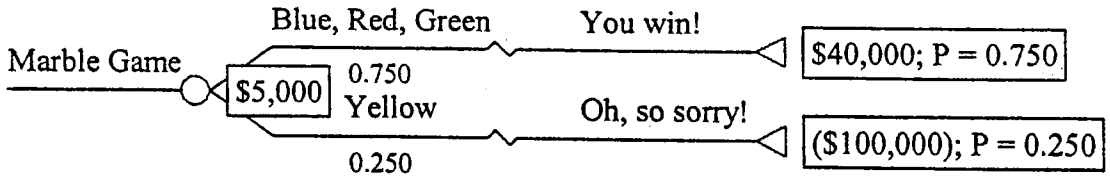
6. P. Prestia, "Decision Tree: Good Tool For Analysis," les Nouvelles 60 (March 1994).

7. G. Seidel, "The Use of Decision Tree Analysis in Dispute Resolution," University of Michigan, A Teaching Note and Case Prepared for The National Institute for Dispute Resolution Program on Professional Education (1986).

8. R. Venning, "Planting Decision Trees In The ADR Forest," Heller, Ehrman, White & McAuliffe LLP (2004).

Chapter Four:
Application of Decision Tree Analysis in Litigation & Settlement Strategies

APPENDIX:
Sample Charts and Diagrams



You are at a fair. In front of you is a booth with a large jar having 200 marbles: 50 each of blue, red, green, and yellow. The game is free to play, and you win $40,000 if you draw a blue, red, or green marble. Unfortunately, if you draw a yellow marble, you must pay $100,000.

Would you play?

$40,000 x 0.75 = $30,000

-$100,000 x 0.25 = -$25,000

$30,000 -$25,000 = $5,000

CONCLUSION: Yes, because the Expected Value is positive, but there is significant risk.

FIG. 1

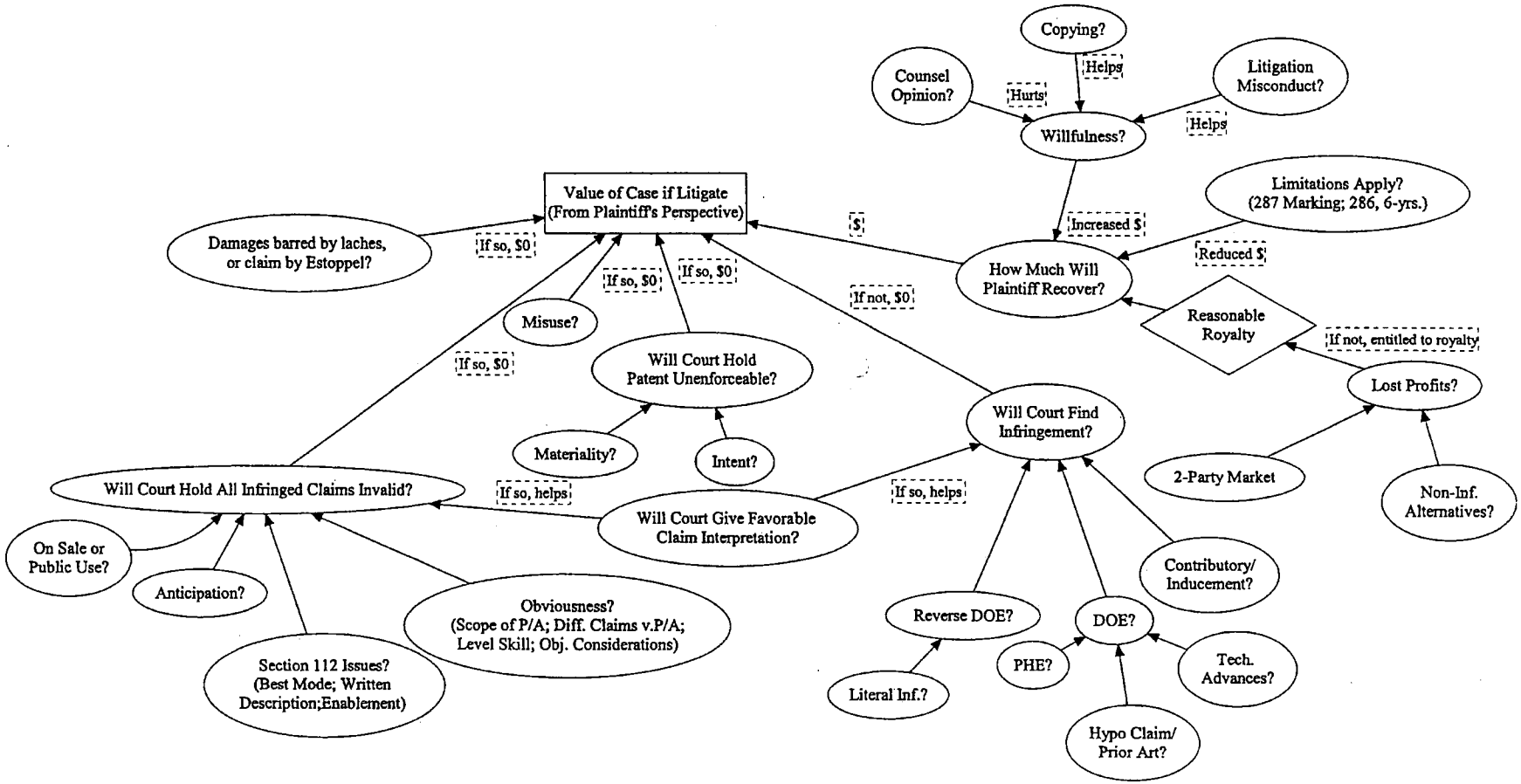

Copying?
Helps
Counsel Opinion?
Hurts
Litigation Misconduct?
Helps
Willfulness?
Value of Case if Litigate (From Plaintiff's Perspective)
$
Increased $
Limitations Apply? (287 Marking; 286, 6-yrs.)
Reduced $
How Much Will Plaintiff Recover?
Damages barred by laches, or claim by Estoppel?
If so, $0
If so, $0
If so, $0
If not, $0
Misuse?
Reasonable Royalty
If not, entitled to royalty
If so, $0
Will Court Hold Patent Unenforceable?
Lost Profits?
Will Court Find Infringement?
Materiality?
Intent?
2-Party Market
Non-Inf. Alternatives?
Will Court Hold All Infringed Claims Invalid?
If so, helps
Will Court Give Favorable Claim Interpretation?
If so, helps
On Sale or Public Use?
Anticipation?
Obviousness? (Scope of P/A; Diff. Claims v.P/A; Level Skill; Obj. Considerations)
Section 112 Issues? (Best Mode; Written Description;Enablement)
Contributory/ Inducement?
Reverse DOE?
DOE?
PHE?
Tech. Advances?
Literal Inf.?
Hypo Claim/ Prior Art?

FIG. 2

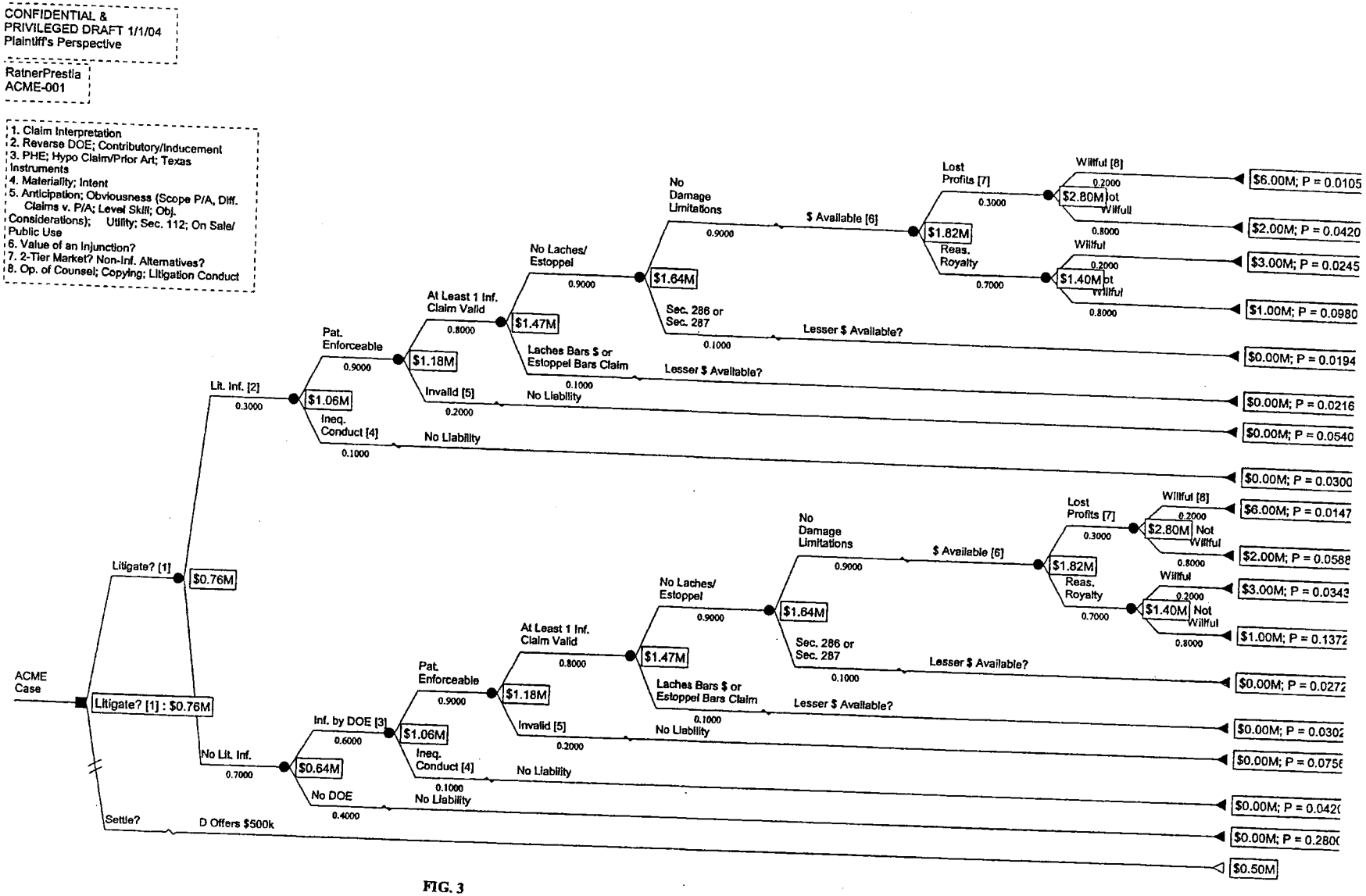

CONFIDENTIAL &
PRIVILEGED DRAFT 1/1/04
Plaintiff's Perspective
RatnerPrestia
ACME-001
1. Claim Interpretation
2. Reverse DOE; Contributory/Inducement
3. PHE; Hypo Claim/Prior Art; Texas Instruments
4. Materiality; Intent
5. Anticipation; Obviousness (Scope P/A, Diff. Claims v. P/A; Level Skill; Obj. Considerations); Utility; Sec. 112; On Sale/Public Use
6. Value of an Injunction?
7. 2-Tier Market? Non-Inf. Alternatives?
8. Op. of Counsel; Copying; Litigation Conduct
ACME Case
Litigate? [1] : $0.76M
Litigate? [1]
$0.76M
Lit. Inf. [2]
0.3000
$1.06M
Pat. Enforceable
0.9000
$1.18M
At Least 1 Inf. Claim Valid
0.8000
$1.47M
No Laches/ Estoppel
0.9000
$1.64M
No Damage Limitations
0.9000
$ Available [6]
$1.82M
Reas. Royalty
0.7000
Lost Profits [7]
0.3000
$2.80M
Willful [8]
0.2000
Not Willful
0.8000
$6.00M; P = 0.0105
$2.00M; P = 0.0420
$1.40M
Willful
0.2000
Not Willful
0.8000
$3.00M; P = 0.0245
$1.00M; P = 0.0980
Sec. 286 or Sec. 287
0.1000
Lesser $ Available?
$0.00M; P = 0.0194
Laches Bars $ or Estoppel Bars Claim
0.1000
Lesser $ Available?
$0.00M; P = 0.0216
Invalid [5]
0.2000
No Liability
$0.00M; P = 0.0540
Ineq. Conduct [4]
0.1000
No Liability
$0.00M; P = 0.0300
No Lit. Inf.
0.7000
$0.64M
Inf. by DOE [3]
0.6000
$1.06M
Pat. Enforceable
0.9000
$1.18M
At Least 1 Inf. Claim Valid
0.8000
$1.47M
No Laches/ Estoppel
0.9000
$1.64M
No Damage Limitations
0.9000
$ Available [6]
$1.82M
Reas. Royalty
0.7000
Lost Profits [7]
0.3000
$2.80M
Willful [8]
0.2000
Not Willful
0.8000
$6.00M; P = 0.0147
$2.00M; P = 0.0588
$1.40M
Willful
0.2000
Not Willful
0.8000
$3.00M; P = 0.0343
$1.00M; P = 0.1372
Sec. 286 or Sec. 287
0.1000
Lesser $ Available?
$0.00M; P = 0.0272
Laches Bars $ or Estoppel Bars Claim
0.1000
Lesser $ Available?
$0.00M; P = 0.0302
Invalid [5]
0.2000
No Liability
$0.00M; P = 0.0756
Ineq. Conduct [4]
0.1000
No Liability
$0.00M; P = 0.0420
No DOE
0.4000
No Liability
$0.00M; P = 0.2800
Settle?
D Offers $500k
$0.50M

FIG. 3

Probability Distribution
of Plaintiff's Expected Litigation Damages Awards

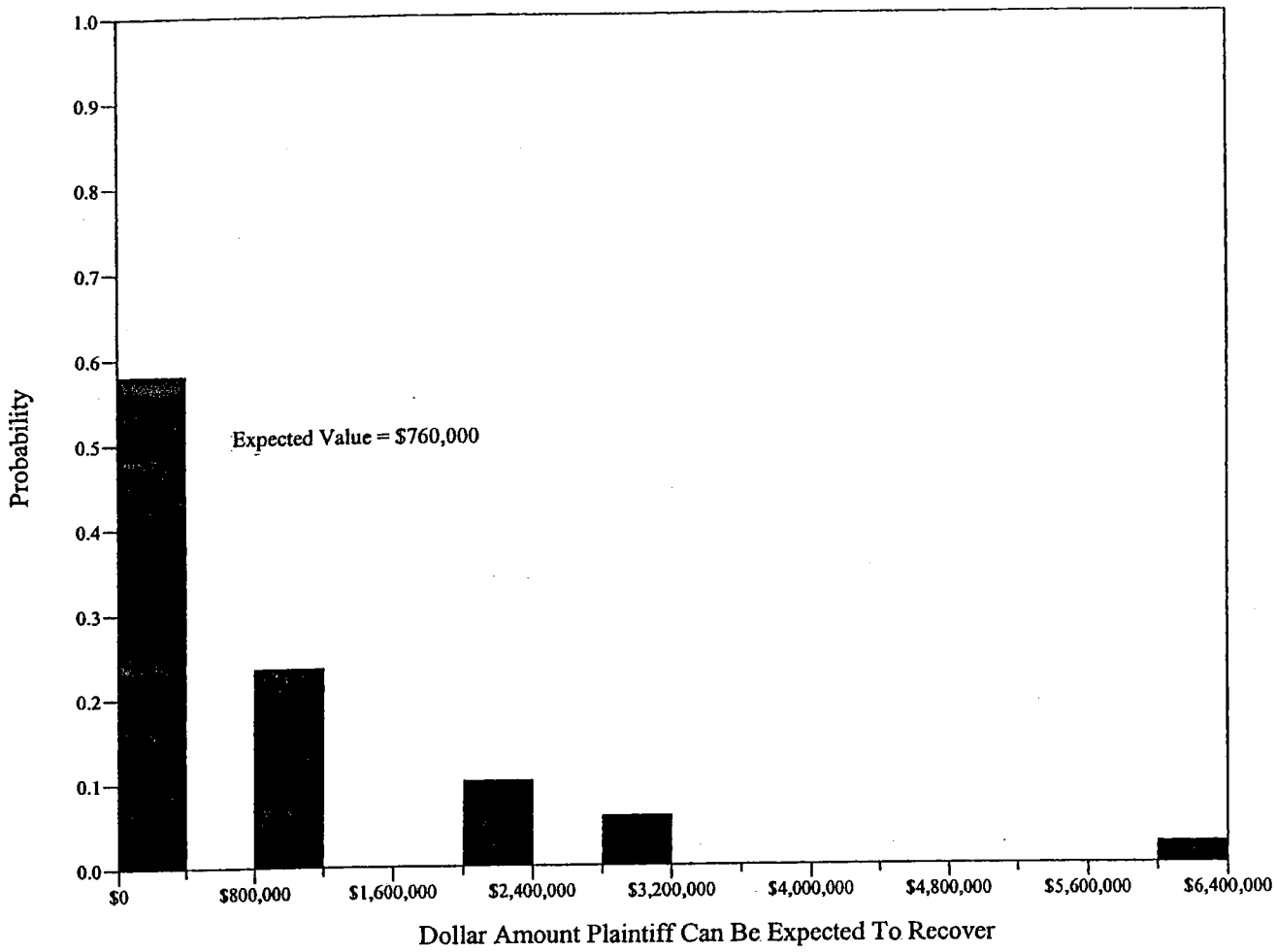
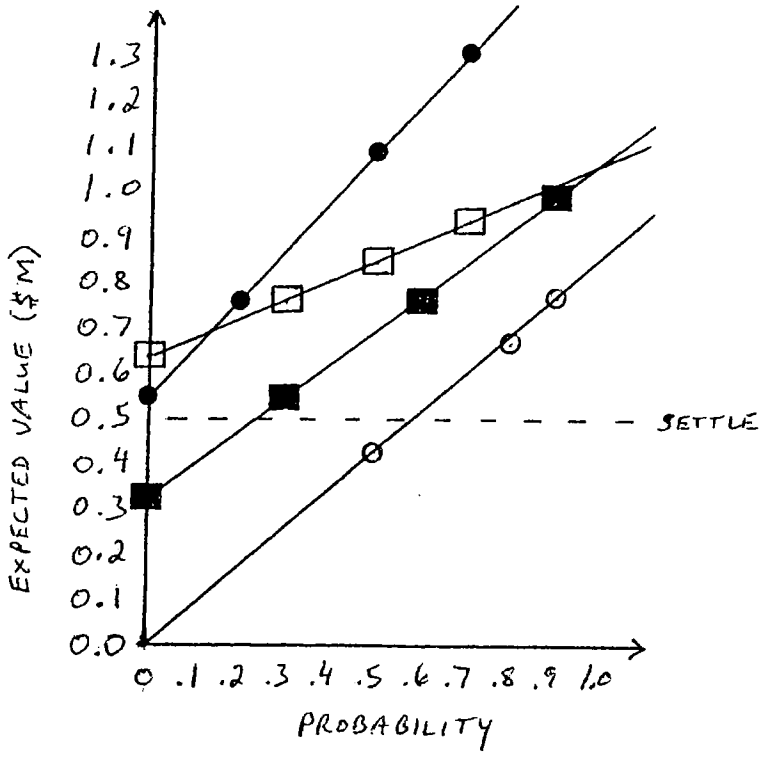


FIG. 4



UNCERTAINTY = ENFORCEABILITY

○

Probability	EV of Litigation
0.9	0.76M
0.8	0.68M
0.5	0.42M

UNCERTAINTY = WILLFULNESS

●

Probability	EV of Litigation
0.0	0.55M
0.2	0.76M
0.5	1.09M
0.7	1.31M

UNCERTAINTY = LITERAL INF.

□

Probability	EV of Litigation
0.0	0.64M
0.3	0.76M
0.5	0.85M
0.7	0.93M

UNCERTAINTY = DOC. OF EQUIV.

■

Probability	EV of Litigation
0.0	0.32M
0.3	0.54M
0.6	0.76M
0.9	0.99M

FIG. 5