Introduction to risk analysis in litigation

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Introduction to risk analysis in litigation

Introductions

• Presenter backgrounds

• Experience with risk analysis?
Introduction to risk analysis in litigation

• Presentation Outline:
  • What is risk analysis? What it isn’t! When to use it?
  • Example case:
    • building a decision tree
    • litigation risk / settlement analysis
    • litigation strategy decisions
  • Risk Analysis in the ADR context (Negotiation / Mediation)
  • Privilege
  • Software and Training
  • Data elements
  • Questions
Introduction to risk analysis in litigation

• What is risk analysis? What it isn’t!
  • Decision analysis is a useful means of organizing uncertainties, regardless of number, which helps counsel and clients feel more comfortable in assessing the odds
  • Typical assessment language:
    • “good chance”
    • “in all likelihood”
    • “strong case”
  • A method to systematically quantify the risks and uncertainties inherent in the litigation process
  • Breaks down a complex legal proceeding into its basic parts
  • Allows counsel to think about and express themselves as to the value of the case in a more rigorous, calculated manner
  • Beware: Garbage in – garbage out! Requires careful and objective assessments
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• When to use it?
  • Types / size of case
  • Early case assessment
  • Strategy decisions
  • Settlement analysis
Client’s Legal Problem

- Wrongful dismissal claim by a former executive
- P was paid $1M salary; $1M annual stock options
- Our defence: mandatory retirement policy
- P’s arguments:
  - Didn’t know of policy
  - Policy didn’t apply to him as an executive
  - Legislation allowing such policies violates constitutional rights
- P says he is entitled to 24 months
- D says, if any, 12 months
To Settle or Not to Settle

- Claim seeks $4M in damages
- P has offered to settle for $1.5M
- The client’s question: is this offer to settle a reasonable one?
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Traditional Application of Professional Judgment:

Gut feeling

• “good chance”, “in all likelihood”, “strong case”, “almost a sure thing”, “some possibility”, etc.
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Advanced Application of Professional Judgment: Risk Analysis

Subjective judgment only → Applying subjective judgment systematically
“Just trust me” → Empirically supported conclusion
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Applied to our Wrongful Dismissal example…

5-Step Process
1. Identify Ultimate Issues and Significant Influencing Factors
   - Include assessment of uncertainties (e.g. evidentiary questions)
2. Define Outcomes
3. Assess and Assign Probabilities
4. Do the Math
5. Interpret and Refine the Results
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1. Identify Ultimate Issues and Significant Influencing Factors (adjustable as the litigation progresses)

• Will D be held liable?
  • Did P know of and agree to mandatory retirement policy?
  • If not, did policy apply to executives?
  • Is policy lawful?

• If liable, what are damages?
  • 1 year notice or 2 years notice?
  • Stock options or no stock options?
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Other potential influencing factors (will change and appear/disappear as litigation progresses):

- Availability and admissibility of evidence
- Impact of performance of witnesses
- Possible significant interlocutory determinations
- Who will be the judge
- Changes in law
- Appeals?
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2. Define Outcomes

On Liability: wrongfully dismissed or not?
- P knew and agreed to retirement policy OR P did not know
- IF P didn’t know:
  - Policy did not apply to executives OR Policy applies to everyone
- IF policy applies to everyone:
  - Policy lawful OR Policy unlawful

On Damages: If P wrongfully dismissed…
- P entitled to 12 months notice OR 24 months notice
- P entitled to stock options OR P not entitled to stock options
2. Define Outcomes: Liability

Liability Outcomes in Decision-Tree Format:

- **Settle**
  - P knew and agreed. MR Policy applied.
  - Employer: $1,500,000
  - Wins

- **Litigate**
  - P did not know.
    - Policy, in fact, did not apply to executives.
      - Loses
      - Policy lawful.
      - Wins
      - Policy unlawful.
      - Loses

3. Assign Probabilities: Liability

- **Settle**
  - P knew and agreed. MR
    - Policy applied: 0.2
    - Wins: 0.6
    - Losses: 0.4
  - P did not know: 0.8
    - Wins: 0.6
    - Losses: 0.4

- **Litigate**
  - Policy, in fact, did not apply to executives: 0.6
    - Wins: 0.6
    - Losses: 0.4
  - Policy applies to everyone on face: 0.4
    - Wins: 0.6
    - Losses: 0.4

- **Employer**
  - $1,500,000

**Decision**
4. Do the Math: Liability

- **Decision**: Settle
- **Litigate**: P knew and agreed. MR
  - Policy applied. 0.2
  - P did not know. 0.8
- **Wins**: 20%
- **Loses**: 48%

- **Policy, in fact, did not apply to executives.**
  - Policy lawful. 0.8
  - Policy unlawful. 3.4
- **Wins**: 19.2%
- **Loses**: 12.8%

**Win ~ 40%**
**Lose ~ 60%**

**Total**: 100%

Employer: $1,500,000

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2. Define Outcomes: Damages

Damages Outcomes in Decision-Tree Format:
3. Assign Probabilities: Damages

- **Decision**
  - **D Wins 0.4**
    - **1 Year Notice $1,000,000 0.4**
    - **No Stock Options 0.5**
      - **Stock Options $1,000,000 0.5**
        - **Stock Options $2,000,000 0.5**
          - **Payment $0 0.5**
    - **No Stock Options 0.5**
      - **Stock Options $2,000,000 0.5**
        - **Payment $4,000,000 0.5**
  - **D Loses 0.6**
    - **2 Year Notice $2,000,000 0.6**
    - **No Stock Options 0.5**
      - **Stock Options $2,000,000 0.5**
        - **Payment $2,000,000 0.5**

Payment

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4. Do the Math: Damages

- **D Wins 0.4**
  - 1 Year Notice
    - $1,000,000 0.4
  - 2 Year Notice
    - $2,000,000 0.6

- **D Loses 0.6**
  - No Stock Options 0.5
    - $1,000,000 12%
    - $2,000,000 18%
  - Stock Options 0.5
    - $1,000,000 12%
    - $2,000,000 18%
  - Total 100%

Payment
- $0 40%
- $1,000,000 12%
- $2,000,000 18%
- $4,000,000 18%
- Total 100%

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5. Interpret the Results: Probability Distribution

Expected Value = $0(\times40\%) + $1(\times12\%) + $2(\times12\%) + $2(\times18\%) + $4(\times18\%) = $1,440,000
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5. Interpret the Results: “Zone of Agreement” Analysis

Factor in:

- Legal costs, cost of parties’ time, “risk premium”, etc.
The excel perspective

### Risk of Fixed Term Contract (%)

<table>
<thead>
<tr>
<th>Likelihood of Misrep Win (%)</th>
<th>100</th>
<th>75</th>
<th>67</th>
<th>50</th>
<th>33</th>
<th>25</th>
<th>12.5</th>
<th>0%</th>
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<td>100</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
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<td>75</td>
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<td>$572,117</td>
<td>$403,359</td>
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<td>67</td>
<td>$957,000</td>
<td>$804,117</td>
<td>$755,195</td>
<td>$651,234</td>
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<td>$498,352</td>
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<td>50</td>
<td>$1,450,000</td>
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<td>$1,144,234</td>
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<td>$829,203</td>
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<td>$476,133</td>
<td>$523,438</td>
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<td>33</td>
<td>$1,943,000</td>
<td>$1,632,602</td>
<td>$1,533,274</td>
<td>$1,322,203</td>
<td>$1,111,132</td>
<td>$1,011,805</td>
<td>$638,018</td>
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<td>25</td>
<td>$2,175,000</td>
<td>$1,827,539</td>
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<td>$2,436,719</td>
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<td>$1,658,406</td>
<td>$1,510,156</td>
<td>$1,641,016</td>
<td>$1,046,875</td>
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</table>

** Weighted exposure where no fixed term: (i) valid termination (1/3); (ii) one year notice required (2/3 of 2/3); (iii) no valid termination until 2009 - (1/3 of 2/3).

**Lose Misrep/Win Contract** $1,046,875
**Lose Misrep/Lose Contract** $2,900,000
**Win Misrep** $0
**Win Misrep(67%)/Lose Contract (67%)** $755,195

### Weighted Exposure Based Upon Chances of Alternative Outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Exposure (millions)</th>
<th>Weight 1</th>
<th>Amount 1 (millions)</th>
<th>Weight 2</th>
<th>Amount 2 (millions)</th>
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</thead>
<tbody>
<tr>
<td>Lose Misrep/Lose Contract</td>
<td>2.9</td>
<td>0.15</td>
<td>0.435</td>
<td>0.2</td>
<td>0.58</td>
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<tr>
<td>Lose Misrep/ 1 Year Notice</td>
<td>1.15</td>
<td>0.1778</td>
<td>0.20447</td>
<td>0.35</td>
<td>0.4025</td>
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<tr>
<td>Win Misrep</td>
<td>0</td>
<td>0.45</td>
<td>0</td>
<td>0.35</td>
<td>0</td>
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<tr>
<td>Lose Misrep/ Win Contract</td>
<td>0</td>
<td>0.1333</td>
<td>0</td>
<td>0.05</td>
<td>0</td>
</tr>
<tr>
<td>Lose Misrep/ Notice to end 2009</td>
<td>2.4</td>
<td>0.0889</td>
<td>0.21336</td>
<td>0.05</td>
<td>0.12</td>
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</table>

**Weighted Total** 1 0.85283 1 1.1025

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<table>
<thead>
<tr>
<th>Item</th>
<th>Definite Exposure</th>
<th>Significant Exposure</th>
<th>Significant Exposure</th>
<th>Small Exposure</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>opening EBITDA</td>
<td>9,013,000</td>
<td>9,013,000</td>
<td>9,013,000</td>
<td>9,013,000</td>
<td>accounts for items listed by KPMG as “Material misstatements”</td>
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<tr>
<td>license royalty</td>
<td>0</td>
<td>0</td>
<td>2,112,000</td>
<td>4,224,000</td>
<td>2.8 (h), (i) or (k)</td>
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<tr>
<td>stock compensation to execs</td>
<td>0</td>
<td>0</td>
<td>2,155,661</td>
<td>4,224,000</td>
<td>2.8 (j), (k), per KPMG Audit, note 4(a)</td>
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<tr>
<td>performance-based stock plan</td>
<td>802,187</td>
<td>802,187</td>
<td>802,187</td>
<td>802,187</td>
<td>2.8 (j) whole amount, less 559,000 already deducted</td>
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<tr>
<td>management bonuses</td>
<td>0</td>
<td>683,938</td>
<td>683,938</td>
<td>955,809</td>
<td>allocation of 2005 second half per KPMG/ allocation over 12 months</td>
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<tr>
<td>foreign exchange gain on long-term debt</td>
<td>0</td>
<td>0</td>
<td>2,112,000</td>
<td>4,224,000</td>
<td>0 definition of Aggregate Earnout EBITDA</td>
</tr>
<tr>
<td>management fees</td>
<td>0</td>
<td>0</td>
<td>44,000</td>
<td>44,000</td>
<td>TCR charges excluded above; 44,000 based on 65-35 allocation per KPMG</td>
</tr>
<tr>
<td>acquisition cost</td>
<td>0</td>
<td>0</td>
<td>402,279</td>
<td>402,279</td>
<td>admitted in S/D</td>
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<tr>
<td>payroll expense</td>
<td>0</td>
<td>0</td>
<td>402,279</td>
<td>402,279</td>
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<tr>
<td>R. &amp; D. Expenses</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2005 audit, p. B85</td>
</tr>
<tr>
<td>refurbishment expenses</td>
<td>0</td>
<td>0</td>
<td>509,000</td>
<td>509,000</td>
<td>505,000 unsubscribe R&amp;M; KPMG</td>
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<tr>
<td>all other associated costs</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>section 2.8 exclusion</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>based on analysis that X</td>
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<tr>
<td>termination costs</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>based on arm's length basis and reasonable</td>
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<tr>
<td>warranty reserve</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>professional fees</td>
<td>104,600</td>
<td>254,600</td>
<td>254,600</td>
<td>254,600</td>
<td>254,600 stock plans, per KPMG</td>
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<tr>
<td>deferred revenue</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2,446,730</td>
<td>error from recognition of start-up costs at project inception; upgrade on completed K basis</td>
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<tr>
<td>allowance for doubtful accounts</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>61,946</td>
<td>61,946 basis upon experience</td>
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<td>inventory reserve</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>based on challenge to estimate</td>
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<tr>
<td>SSL technology</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>based on analysis that warranty reserve insufficient based on experience</td>
</tr>
<tr>
<td>business closure</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>based on analysis that warranty reserve insufficient based on experience</td>
</tr>
<tr>
<td>123 Parts sales</td>
<td>0</td>
<td>134,739</td>
<td>134,739</td>
<td>134,739</td>
<td>all business went to 123</td>
</tr>
<tr>
<td>123 added margin project sales</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>242,648</td>
<td>based on KPMG draft exposure analysis</td>
</tr>
<tr>
<td>related party transactions: 123 sales through 123</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>based on KPMG draft exposure analysis</td>
</tr>
<tr>
<td>related party transactions: 123 project work</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>based on KPMG draft exposure analysis</td>
</tr>
<tr>
<td>related party transactions: 123 purchases from ABC</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>based on KPMG draft exposure analysis</td>
</tr>
<tr>
<td>relocation costs</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>EBITDA after adjustments</td>
<td>10,322,066</td>
<td>11,799,743</td>
<td>17,638,350</td>
<td>23,302,599</td>
<td>18,211,231</td>
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<tr>
<td>Contingent consideration</td>
<td>0</td>
<td>0</td>
<td>198,302</td>
<td>8,317,059</td>
<td>0</td>
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<tr>
<td>Interest @ 6% to December 31, 2007</td>
<td>0</td>
<td>0</td>
<td>25,779.22</td>
<td>1,081,217.61</td>
<td>0</td>
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<tr>
<td>Payment of Legal Costs</td>
<td>3,000,000</td>
<td>-3,000,000</td>
<td>3,000,000</td>
<td>3,000,000</td>
<td>0</td>
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<tr>
<td>Total payable by (- to) 123</td>
<td>-3,000,000</td>
<td>-3,000,000</td>
<td>3,224,081</td>
<td>12,398,276</td>
<td>0</td>
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<tr>
<td>Weighted</td>
<td>-150,000.00</td>
<td>-1,350,000.00</td>
<td>1,128,428.31</td>
<td>1,859,741.43</td>
<td>0</td>
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<tr>
<td>Aggregate Weighted Exposure</td>
<td>1,488,169.74</td>
<td>2,988,169.74</td>
<td>2,988,169.74</td>
<td>2,988,169.74</td>
<td>0</td>
</tr>
</tbody>
</table>
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Alternatively other hard and soft costs can be factored directly into the outcomes with risks assigned:

- Legal costs – incurred, payable to other side, recoverable
- Internal costs (actual plus opportunity costs)
- Time value of money – calculate present value of outcomes (after expected number of years in litigation)

These “transaction costs” can have a significant impact on both plaintiff’s and defendant’s expected values

Also perform the risk analysis from the perspective of the other side (as best as you can)
Advantages of Risk Analysis

• An indispensable tool for arriving at an informed settlement position
• Enhances counsel’s professional judgment
• “Gut feeling” analysis is difficult to explain to client, and does not always inspire confidence
• Enables strategic settlement offers
• Helps to sort out relative importance of different issues in a case
  • Software programs can conduct “sensitivity analysis” on each factor
  • Identifies most important issues of which to persuade opposition (and mediator)
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Frailties

• Have the right issues?
• Have the right relationships between the issues?
• Developing the right probabilities and verdict outcomes.
• Overreliance on numbers without holistic overview of case.
• “Garbage in – garbage out.”
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Risk Analysis in the ADR Context (Negotiation / Mediation)

• One of goals of ADR: to encourage each side to make a more realistic appraisal of the strengths/weaknesses of its case

• Asking parties to develop a joint risk analysis of the case advances this goal
  • Narrows issues and focuses debate over specific uncertainties
    • Issue-by-issue discussion vs. sweeping generalities
  • Focus on objective assessments and probabilistic thinking helps remove emotions from the process
  • Quantification exercise forces both sides to acknowledge that total defeat and total victory are unlikely
  • Helps to erode entrenched positions
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Risk Analysis in the ADR Context cont’d

• Can be used to better assess BATNA and WATNA, and likelihood of litigated outcomes in between

• A powerful tool to persuade settlement conference judge
  • Establishes counsel’s good faith and ability to compromise (as long as haven’t input 100% at every branch!)

• Effectively conveys the complexities of a case to a mediator
  • The more educated the mediator is of the case, the better
  • Visual, numeric advocacy far more powerful than verbal, qualitative advocacy
Questions?
Further reading

• Marjorie Corman Aaron and Wayne Brazil, “Shaking Decision Trees for Risks and Rewards”, Dispute Resolution Magazine Fall 2015 (22:1)


• The Honourable George W. Adams, Mediating Justice: Legal Dispute Negotiations (Toronto: CCH Canadian Limited, 2003)


• Evan Slavitt, “Using Risk Analysis as a Mediation Tool” (2005) 60 Disp. Resol. J. 18

• David P. Hoffer, “Decision Analysis as a Mediator’s Tool” (1996) 1 Harv. L. Negot. L. Rev. 113
Thank you

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