Pricing IP Litigation Risk in Transactions

Introduction & Case Study

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IP Risk is Relevant to Transaction Pricing in a Variety of Contexts including:

- Sale/Acquisition of a Business
- Sale/Acquisition of a Patent Portfolio
- Equity Investment in a Technology Company
- IP-Backed Loans and Securitization of Royalty Streams
- Financing Attorney Fees and Costs in Patent Litigation

Example 1 - Sale/Acquisition of a Business

- Deal Pricing – Discounting Valuation for Offensive IP Risk
  - Business Objectives
    - Exclusion – Protection of Market Share
    - Licensing – Revenue Generation
  - Offensive IP Risk Components
    - Invalidity/Unenforceability Risk
    - Non-infringement Risk
    - Scope Limitation Risk
    - Design-around Risk
    - Title Defect Risk
    - Excessive Encumbrance Risk

Example 1 - Sale/Acquisition of a Business

- Deal Pricing – Discounting Valuation for Defensive IP Risk
  - Defensive (Third Party Infringement) Risk
    - Business Objectives
      - Freedom to Operate
      - Royalty Reduction
  - Defensive IP Risk Components
    - Inability to invalidate
    - Inability to establish non-infringement
    - Inability to design-around
    - Inability to obtain reasonable license terms

Example 2 - Sale/Acquisition of Patents

- Applicability of previous factors for an IP licensing company vs. an operating company
- Other examples

Parties on both sides of an IP transaction, be it licensing, a patent sale, or M&A, often struggle with how to deal with IP litigation risk.

- The seller or licensor minimizes the risks.
- The buyer or licensee wants indemnification for any risks.
- Compromise is often based on negotiated trade-offs, not on a rational, quantifiable basis.
  - One of the parties may have to yield on some other issue to get the deal done.
  - Often, however, the risks are small enough that they should not be a significant factor in the negotiations.

The approach described here has several benefits:

- Logical foundation, transparent to both sides
- Quick and efficient determination of which issues are critical
  - Have the greatest financial impact and risk for both parties
- Focuses negotiations on these critical issues
  - Reveals explicitly any significant disagreements
  - Shows the effects of these disagreements on the deal
  - Saves time and money in coming to an agreement

The art of business-like decision-making is the art of balancing risk and reward.

- Many lawyers and business people do not have a clear, unambiguous definition of Risk
  - Requires a statement of likelihood like:
    - Could
    - Might
    - Will
    - Or, most effectively, a probability (quantitative)
  - And requires a statement of consequence
    - Hit by a car
    - Lose our shirts
    - Or, most effectively, lose ten million dollars (quantitative)

Many attorneys and business people do not think as clearly as they might about the rewards either.

- The upside too requires a statement of likelihood and a statement of consequence.
- We almost always focus on the risks, the downside
  - It is usually quantifiable and attributable after the fact
    - There is someone's name on the check
    - The accounting system knows exactly how much was misspent
- The potential upsides are never precise or well defined
  - Very few people get fired for increasing sales by 30% when they should have increased them by 40%
  - Very few attorneys are criticized for settling a case for $20M when the expected loss was $10M

Risk is Uncertainty: There are even risks when there is no possible downside.

- Example
  - You own the opportunity to call the toss of a coin
  - If you call it correctly, you will win $5M
  - The expected, or average value is .5 x $5M = $2.5M
  - I am sure that most of us would sell that opportunity for significantly less than $2.5M.
  - The difference between the Expected value and your Minimum Selling Price (your Reservation Price) is your Risk Premium, the amount you are willing to give up on average to remove uncertainty
    - That you might lose and not have $5M
    - The Reservation Price will be proportionally significantly smaller for a coin toss for $5M than it would be for a coin toss for $50.

Evaluating the IP related business impacts is straightforward.

- Start with a very simple business cash flow model.
  - Future probabilistic projections of:
    - Market size
    - Market growth
    - Markets share
    - Costs
      - Fixed and Variable
    - Revenues
    - Capital Expenditures

For the purchase of IP relating to the entry into an existing competitive market, there are two risks:

- Offensive: The IP will not protect your position in the market when asserted against competitors.
- Defensive: The IP will not protect you through countersuit or settlement ammunition for cross licensing.

Both offensive and defensive value (risk) must be looked at probabilistically and the value is the difference between having and not having the IP.

Let's look at a simple case study: A contract electronics manufacturer is considering moving upstream in the development process.

- The current business model assumes no risks, other than manufacturing quality and on-time delivery
  - Competition and customers are compelling them to become, essentially, an OEM manufacturer
    - Includes design as well as manufacturing
  - They would have to take on more risk in a market with razor-thin margins, as they would have to indemnify their customers for:
    - Product liability
    - Component reliability
    - IP Litigation liability
- The question they needed answered was:
  - **How much should they charge their customers for these risks on a unit basis?**
    - We will focus here on the IP litigation risks

For the purposes of this case study, which relates to a business line extension, the trolls do not have a direct impact on these decisions.

- Generally, for business driven decisions, the existence of, and possible suits by, trolls do not have a significant effect.
  - The one exception is the purchase of IP assets to keep them out of the hands of trolls.

The source (Types of Plaintiffs) of potential IP litigation is an important factor to consider in evaluating IP litigation risk.

- Major v Minor
- Participant or Non-participant in relevant market
- For example, Trolls would be included in Major or Minor Non-Participant category.
  - The distinction between Major or Minor may be less important today as capital can flow to fund potentially high stakes patent litigation.

There are other important factors to consider in evaluating IP litigation risk.

- For each category we need to assess a base case (median) value:
  - Likelihood of litigation
  - Cost of Trial
    - Out of Pocket
    - Business disruption
      - Distraction of management and key technical personnel
    - Depends on intensity and duration of plaintiff's pursuit
  - Likelihood of losing
  - Damages If Lose
    - Multiplier of the revenue of our part
      - Our part is one component of a finished product
      - Royalty rate basis can be the value of the finished product
    - Royalty rate
  - Likelihood and Value of Settlement
    - Value as a percentage of the expected trial outcome
  - An Indemnity Cap is not uncertain, but we include it here to measure its impact on the cost of IP risk.

Let's first examine the context or frame of this particular example.

	Frame				
Contract Type	**Claim Category**	**Specific Prod. Area**	**Activity Source**	**Claim Target**	**External Source of Claim**
ODM-Like	Particular Product	Mechanical Related	Design	Customer (Indem.)	Major Market Player
					Minor Market Player
					Major Non Market Player
					Minor Non Market Player

Now let's look at the initial base case (median) inputs.

	Inputs - Base Case										
External Source of Claim	Prob. of Claim	Prob. of Settle	Settlement as Pct. of EV of Lit	Lit. Cost if Trial	Pct. of Lit. Costs if Settle	Prob. of Liability	Prod. Price Mult for Damage Basis	Royalty Rate	Prob. o Willful	Expected Willful Multiplier	IP Damage Cap (includes costs)
Major Market Player	0.01	0.90	35%	$2.M	35%	0.65	1.25	1.5%	0.20	2.00	$10.M
Minor Market Player	0.02	0.85	50%	$1.5M	30%	0.55	1.10	2.0%	0.20	2.00	$10.M
Major Non Market Player	0.07	0.65	60%	$2.M	65%	0.40	1.40	3.0%	0.25	2.00	$10.M
Minor Non Market Player	0.03	0.75	55%	$1.5M	50%	0.35	1.20	2.5%	0.20	2.00	$10.M

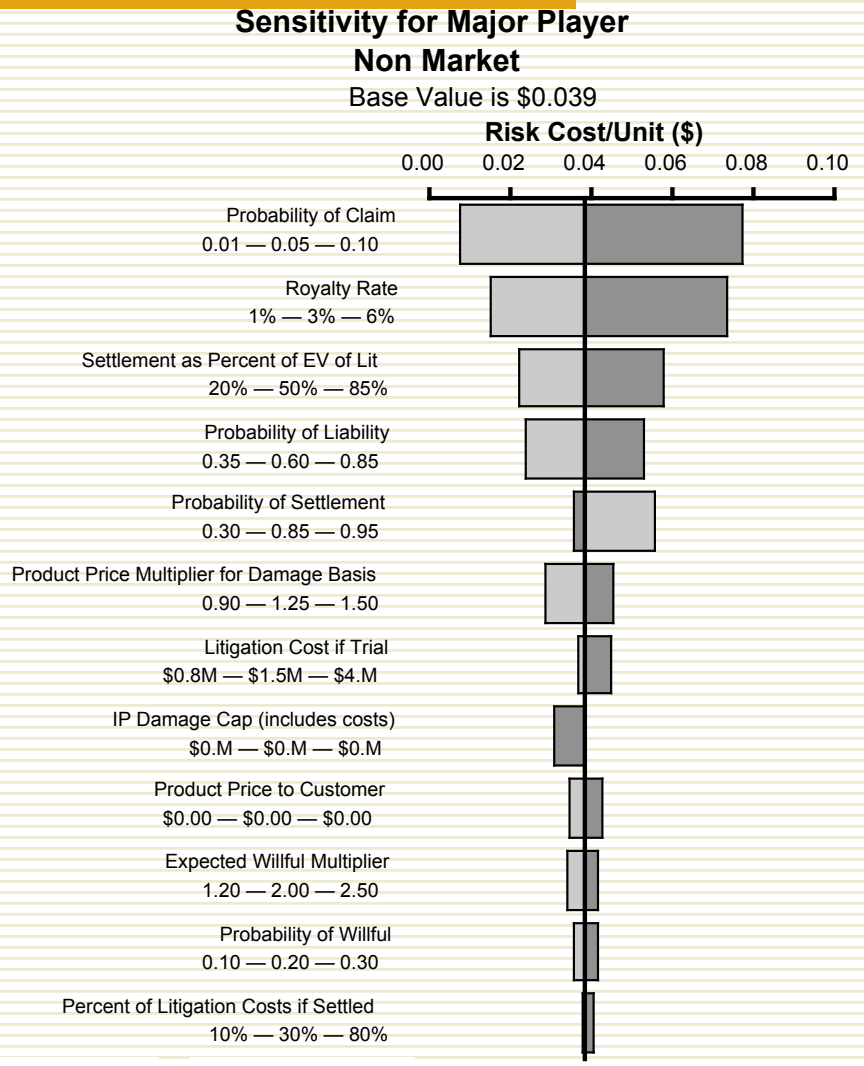
Relevant data is usually available, even if only as a simple calculation based on experience and general knowledge.

- For example, this is how one might estimate the likelihood of a claim by a Major Market Player
- Number of similar products produced over the last 5 years and the number of suits that have resulted from each of the categories.
  - Example: There are 10 manufacturers of the same end product
  - Each has had 5 new models/year over that time period.
  - There haven't been any claims on this particular component
    - Mechanical
  - If there had been one, the probability would be 1/(10 manufacturers x5 products / year x5 years) = .4%
- Our customer is a Major Market player so they would very likely be a codefendant, and, since we have had a long relationship, we expect that their patent portfolio would likely be available for a countersuit.

For each input variable, we assess a consistent range - the 10th percentile and the 90th percentile.

- For example, the usual and customary royalty rates range from 2-4% base on the mechanical part price in the particular industry.
  - So a reasonable possible range of a royalty rate for damages should we be found liable at a trial would be:
    - 10%tile - 1%
    - 50%tile - 3%
    - 90%tile - 6%

For each category or source of possible litigation, we can develop a sensitivity chart which shows which inputs' ranges have the greatest impact on the expected value of that source of risk.



The first four variables capture 96% of the uncertainty

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Now we can focus on doing research and/or thinking further about the critical inputs for each category.

- For the Major Non-Market player
  - Probability of a claim
  - Royalty Rate determined by jury
  - Settlement Value as a percent of the Expected Trial Outcome
  - Probability of Liability
- The initial estimates and ranges are a "gut feel" assessment based on experience and "back of the envelope" estimates.
  - Sometimes that is all we have to go on, but it is still better than flying by the seat of your pants for the overall risk assessment.

The summaries show that the largest risk, not unexpectedly, comes from the Major Non-Market Players.

	Major Market Player Summary	Minor Market Player Summary
Probability of Claim	0.010	0.020
Expected Cost if Claim	$2.98M	$3.32M
Expected Cost/Unit	**$0.003**	**$0.007**
Expected Cost as % of Unit Cost	0.01%	0.03%

	Major Player Non Market Summary	Minor Player Non Market Summary
Probability of Claim	0.070	0.030
Expected Cost if Claim	$5.77M	$3.56M
Expected Cost/Unit	**$0.040**	**$0.011**
Expected Cost as % of Unit Cost	0.16%	0.04%

The results can also be displayed in the form of a probability distribution

The approach described here has several benefits and can be used to evaluate the IP litigation risk in any transaction.

- Logical foundation, transparent to both sides
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Addendum: Principles of and Basis for Evaluating IP Litigation Risk

We propose a business-like approach to Valuing IP Litigation Risk

- The underpinnings are a Decision Analytic framework
- It is a quantitative approach
- Decision and Risk Analysis
  - Uses explicit quantitative probability judgments
  - Risk is taken into account by the use of probability
- First, let's look at a few basic concepts that we will be using.

The probabilities we are using here are a quantification of judgments, based on knowledge and experience.

- The probabilities we are trying to quantify are unique, one time events.
- There is no right answer to a probability judgment.
  - The question we want answered is, "Will we win or lose the suit?"
    - For this question there is a correct answer, either "Yes" or "No", we just don't know which.
  - If you assign a probability of .05 to an event and it happens, it does not mean that the .05 was wrong.
  - These probabilities are different from the likelihood of throwing a 7 with a pair of dice, which can be right or wrong.
  - The best we can do is make a quantified, explicit judgment as to the likelihood of an event.

The probabilities we will be using here are a quantification of judgments, based on knowledge and experience (continued).

- Words don't work.
  - Extensive tests show they are ambiguous.
    - For one person, very likely means 90-100%, while to another it may mean 60-70%
  - We must combine several uncertainties to come to a decision.
    - We can't do that with words, but we can with likelihoods expressed as numbers - probabilities.
- Probabilities change with new knowledge.
  - They shouldn't change much unless something extreme or unlikely happens that could influence our judgment.
- Quantification does not imply precision.
  - We are quantifying these numbers to be unambiguous and to allow us to combine judgments to come to a decision, not because we are trying to be overly precise.

Our valuation criterion will be the Expected Net Present Value of the resulting monetary cash flows.

- Think of it as a probability weighted average.
- Expected Value represents the average value—if you could play many times.
- We define Expected Value as the sum over all the outcomes of each outcome times its respective probability.