Playing the Odds – Using Data Analytics in Patent Prosecution and Litigation

Adam Stephenson

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What are Patent Data Analytics?

- Tools like Anticipat, PatentAdvisor, and others provide patent prosecution data divided up in a variety of ways
  - Examiner
    - Appeal rates
    - Grounds of rejection on appeal (§ 102, § 103, § 112)
    - Legal basis Board used to rely on reversing Examiner
    - RCE rates
    - Outcomes after RCE
    - Allowance rates
  - Art Unit level data (gives insight into supervisor)
  - Assignee
    - Excellent for identifying and studying your competition

Why Patent Data Analytics?

- Central Limit Theorem:
  - The larger the data set, the greater the odds the observed average is the true average
  - <u>You and your client are NOT special</u>—play the odds

- Use Cases
  - *Ex parte* appeals
  - The "Right" Appeal reversal rate (for the doubters)
  - Considerations for litigating patents
    - Involved in *ex parte* appeals
    - Motions to stay
    - Section 101 issues

Ex parte Appeals Process

- Notice of Appeal
- Pre-Appeal Brief Request for Review (optional)
- Appeal Brief (2 mo)
- Examiner's Answer (no guaranteed time frame)
- Reply Brief + Appeal Forwarding Fee (2 mo)
- Docketing Notice
- Panel Selection (no visibility as to who or when at present)
- Decision (depends on backlog)
- Examiner implements decision (Reversal = Implement + Type C PTA)

Ex parte appeal vs. RCE

- *Ex Parte* advantages:
  - Stop the clock/stop the bleeding
  - Take decision out of Examiner's hands
  - Get C-delay
    - Reversal for single claim is sufficient
    - No loss of B-delay from RCE

To Take or Not to Take, That is the Question

- Pre-Appeal Brief
  - Examiner, Supervisor, and another Supervisor confer to review the brief
  - Very little feedback if unsuccessful

- Appeal Brief
  - Full brief filed (all arguments)
  - Examiner, Supervisor, another Supervisor + Appeal Specialist confer
  - Reopen Prosecution/Examiner's Answer/Notice of Allowance
  - If prosecution reopens, still stuck with your Examiner
    - USPTO takes position that they are not required to send case to board (*Hyatt* cases)

Many Cases Shake Out Before a Board Decision

- Data from PatentAdvisor (2000-10/13/2018) of actual Board Decisions versus total cases appealed
  - **TC 1600: 13.3% (Biotech)**
  - TC 1700: 29.5% (Chemical)
  - TC 2100: 31.9% (Computer Architecture)
  - TC2400: 30.1% (Computer Networks)
  - TC2600: 26.0% (Telecommunications)
  - TC2800: 19.9% (Semiconductors)
  - TC2900: 83.3% (Design group, 6 appeals only)
  - TC3600: 32.9% (E-commerce)
  - TC3700: 29.8% (Mechanical)
- In TC 1600, 31% of cases were RCE'd after Notice of appeal.
  - Feedback from Courtenay Brinkerhoff at Foley is causes are (1) having to wait past the 6 month date for an Examiner to respond to an after-final response or (2) time for experimental data for an RCE.

Examiner Level Data: Examiner Preference = High Variability

- Examiner Rina Duda:
  - 20.9% of appeals decided, 100% Applicant losses counting RCEs
  - 30.2% of appeals exit after Appeal Brief, (5 allowances, 6 reopenings)

- Examiner Sally Haden:
  - 30.8% of appeals decided, 50% Applicant losses counting RCEs
  - 34.6% of cases exit after Appeal Brief (7 allowances, 12 reopenings)

- Examiner Kailash Srivastava (TC1600)
  - 8.1% of cases decided
  - 71.6% of cases exit after Notice of Appeal (21 allowances, 23 RCEs)

What Legal Issues are Favorable for an Appeal?

§ 102(all)

- Reversal Rate Data from Anticipat.com (~Jan 2013 – 10/13/2018)
  - TC 1600: 37%/46% (Biotech)
  - TC 1700: 42%/49%(Chemical)
  - TC 2100: 35%/38% (Computer Architecture)
  - TC2400: 36%/45% (Computer Networks)
  - TC2600: 35%/42% (Telecommunications)
  - TC2800: 42%/52% (Semiconductors)
  - TC2900: No Data (Design group)
  - TC3600: 50%/61% (E-commerce)
  - **TC3700: 52%/64% (Mechanical)**

  - **USPTO: 43%/52%**

What Legal Issues are Favorable for an Appeal?

§ 103(a)

- Reversal Rate Data from Anticipat.com (~Jan 2013 – 10/13/2018)
  - TC 1600: 27%/35% (Biotech)
  - TC 1700: 30%/39%(Chemical)
  - TC 2100: 27%/35% (Computer Architecture)
  - TC2400: 26%/37% (Computer Networks)
  - TC2600: 25%/33% (Telecommunications)
  - TC2800: 33%/41% (Semiconductors)
  - TC2900: No Data (Design group)
  - TC3600: 41%/52% (E-commerce)
  - **TC3700: 43%/57% (Mechanical)**

  - **USPTO: 33%/43%**

What Legal Issues are Favorable for an Appeal?

§ 112(all)

- Reversal Rate Data from Anticipat.com (~Jan 2013 – 10/13/2018)
  - TC 1600: 51%/56% (Biotech)
  - TC 1700: 47%/52%(Chemical)
  - TC 2100: 40%/46% (Computer Architecture)
  - TC2400: 40%/45% (Computer Networks)
  - TC2600: 37%/40% (Telecommunications)
  - TC2800: 52%/56% (Semiconductors)
  - TC2900: No Data (Design group)
  - TC3600: 51%/57% (E-commerce)
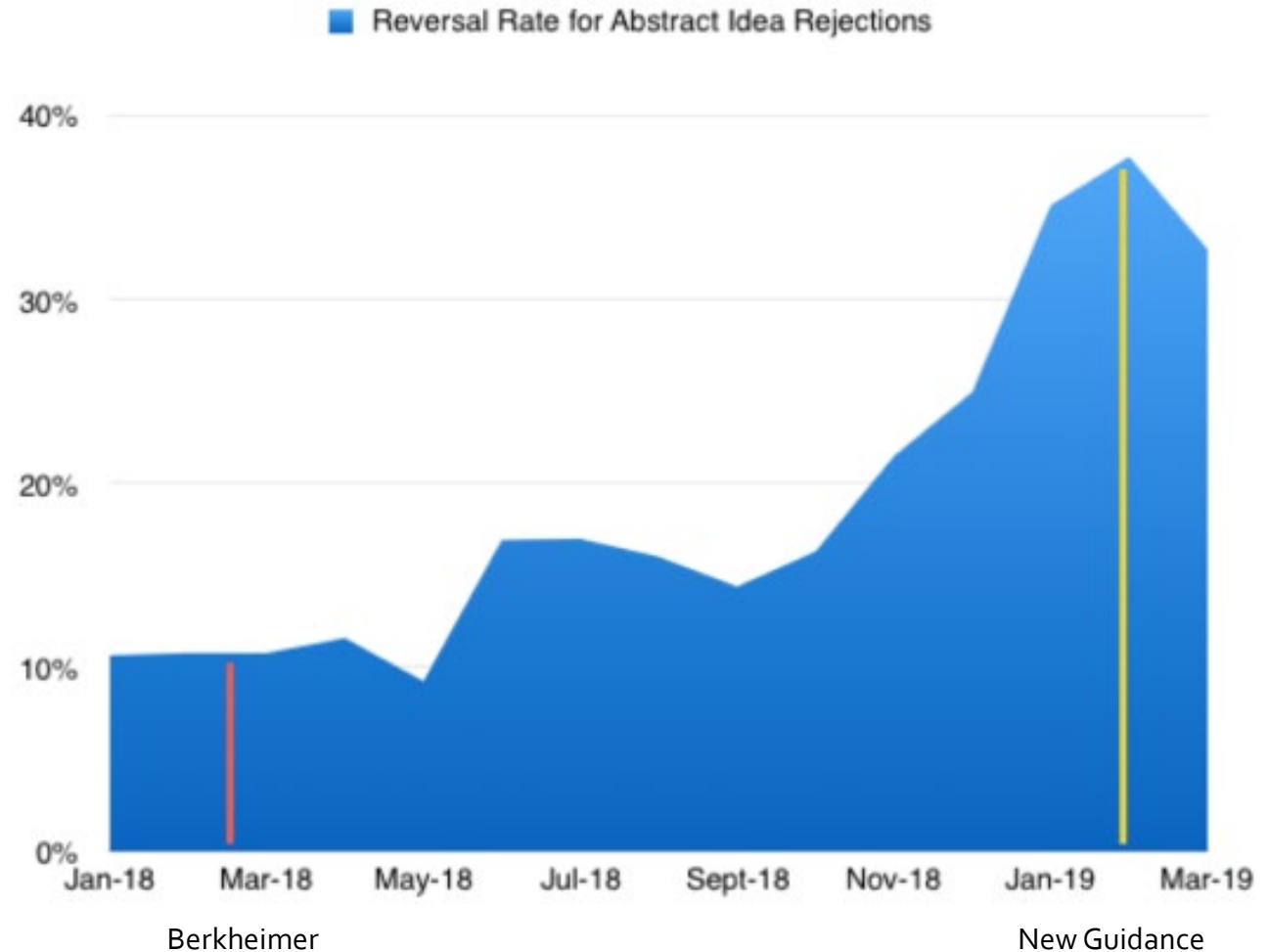 - **TC3700: 52%/57% (Mechanical)**

  - **USPTO: 48%/53%**

IPTechLaw

Intellectual Property Technology Law Group
480.264.6075

What Legal Issues are Favorable for an Appeal?

§ 101 (all grounds)

- Reversal Rate Data from Anticipat.com (~Jan 2013 – 10/13/2018)
  - TC 1600: 26%/27% (Biotech)
  - TC 1700: 25%/31%(Chemical)
  - TC 2100: 25%/28% (Computer Architecture)
  - TC2400: 20%/23% (Computer Networks)
  - TC2600: 23%/26% (Telecommunications)
  - TC2800: 16%/16% (Semiconductors)
  - TC2900: No Data (Design group)
  - **TC3600: 12%/14% (E-commerce)**
  - TC3700: 24%/25% (Mechanical)

  - **USPTO: 16%/18%**

But: §101 reversal rate is shifting

Reversal Rate for Abstract Idea Rejections

Berkheimer

New Guidance

Graph from
https://blog.anticipat.com/2019/05/14/the-ptab-sets-another-record-for-reversing-abstract-idea-rejections/

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What Legal Ground Does the Board Find Dispositive?

- USPTO-Wide Data from Anticipat.com (~Jan 2013 – 10/13/2018)

- Most frequently occurring legal ground supporting reversal:
  - § 102: All-Elements Rule
  - § 103(a): Combination must teach or suggest all Claim limitations
  - § 112: Indefiniteness over Written Description
  - § 101: Abstract Idea – Step 1 over Step 2 and *Prima Facie* case

- Anticipat will show you what legal grounds your examiner has been reversed for (via the tags)

Data proves an appeal is a negotiating opportunity

- Filing a Notice of Appeal ≠ the Board will decide the case

- Appealing is a patent term adjustment favorable negotiating approach

- Learn from others' experiences with your Examiner, not your own
  - Examiner Preferences:
    - A Leading Indicator: Interview outcomes
      - Srivastava: 312 allowances/159 other outcomes
      - Duda: 107 allowances/32 other outcomes
      - Haden: 73 allowances/120 other outcomes
  - If interviews are a coin flip or worse, appealing is probably the better way
  - For Examiners who cannot admit they are wrong on the phone, they can't admit they are wrong in writing either

Examiner Preferences + Legal Issue + Legal Ground = High Confidence

- Examiner Duda:
  - 2 decisions, 100% pure reversals on §102, *prima facie* case
  - 2 decisions, 100% pure + partial reversals on §103, *prima facie* case
  - If your ground is proper *prima facie* case, likely to go to the Board, but then win

- Examiner Haden:
  - 2 decisions, 100% pure reversals on §102, 3 legal grounds
  - 15 decisions, 59% pure + partial reversals on §103, 4 legal grounds
  - If you have any ground, may go to the Board, but likely to win

- Examiner Srivastava
  - 1 decision, 100% pure reversals on §102, 1 legal ground
  - 2 decisions, 50% pure reversals on §103, 1 legal grounds
  - If you ever do get to the Board (91% of the time you won't), good odds

Is the Case Ready?

- Pointers: Make sure your case is ready
  - Claim language issues
    - Typos/Rule 312 issues OK
  - Prior art handled by actual claim language
  - No rejections left unappealed—
    - Don't leave obviousness-type double patenting unresolved
    - Will lose all PTA if case is affirmed for OTDP

- If case is not ready, then appeal would <u>not</u> be recommended.

What is the "right" reversal rate for ex parte appeals?

- USPTO: Around a 50% affirmance rate for *ex parte* appeals at the PTAB is the right number.
  - Directly from a member of senior USPTO leadership and at least one person (an IPO Patent Office Practice committee member)
  - Various justifications have be offered for this:
    - The appealed cases are "cherry picked" by applicants
    - The appealed cases are "closer cases" than the average garden variety patent application

The USPTO's way of measuring PTAB appeals is limiting

- Each case on Anticipat has been analyzed to determine the outcome of each <u>legal issue</u> by the Board, NOT the overall case.
  - Current PTAB disposition statistics call a case affirmed if all of the claims remain rejected under at least one legal ground.
  - This approach is too simplistic.
    - Obviousness type double patenting rejections cause decisions to count as affirmed when all other grounds are reversed.
  - Anticipat's approach also includes tagging the legal grounds for reversal or affirmance by the Board

"Lies, d---d lies, and statistics"

- How does the issue-level data cast light on what is the "right" reversal rate at the Board?

- Total unexamined inventory at USPTO from current Dashboard Spreadsheet as of Feb 2019:
  - 550,193 non-RCE inventory
  - 29,890 RCE inventory
  - 48,256 Design inventory
  - **Total that could result in an appeal**: 628,339

- Total *ex parte* appeal decisions by the PTAB in February 2019 (from Anticipat):
  - 686

Statistical Sample Sizes and Validity

- To obtain a 5% margin of error (confidence interval) at a 99% confidence level for population of 628,339, the random sample size is 665.

- If the cases for the Board decisions were randomly selected from all finally rejected cases, then the PTAB would be generating a statistically sufficient number of decisions.

- Sample size information from:
    - https://www.surveysystem.com/sscalc.htm#one

PTAB Decisions are not Random, but Representative

- While the PTAB decisions are not purely statistically random samples, each one is a <u>representative</u> sample.
  - Statistically, they are NOT merely anecdotal evidence (gut)

- Each PTAB decision represents:
  - Applicant disagrees with at least one legal ground of rejection
  - Applicant with the money to fund an appeal
  - Examiner, Supervisor, and other appeal conferees decide to send case to Board

The USPTO, not Applicants decide the reversal rate

- Contrary to conventional wisdom, it is <u>not</u> Applicants driving decisions by the Board. It is the Examining corps.
  - Each *ex parte* appeal decision is the result of a <u>deliberate</u> decision by 3-4 Examiners to send a case to the board <u>after reading the appeal brief which outlines the entire legal arguments advanced by the Applicant</u>.
  - The reply brief cannot raise new arguments, and the Board ignores new arguments.

- Every reversed case is a self inflicted injury.

- Current novelty appeals data indicates the results of the appeal conference is a coin flip

PTAB Appeals Decisions as an End of Line Quality Control Monitor

- *Ex parte* appeal decisions represent an end of line quality control monitor for the patent prosecution process.

- The customer is the patent applicant.

- The product is the final rejection.

- Each Board decision represents a customer return, where the customer has asked for review of the product (the Examiner's decision and reasoning in the rejection) by the Board.

- Each Board reversal on a legal issue is a confirmation by the USPTO itself that <u>the product was actually defective</u> as to a legal issue.

- While end of line quality control monitors are not effective in improving the overall quality of a process, these monitors clearly indicate the degree of a quality problem in a process.

How bad is the quality problem?

- For novelty rejections, the USPTO-wide reversal rate is 42% for all claims and 53% for at least one claim.
  - For all novelty products returned by customers for review by the Board, the Board found the Examining corps' product defective over half of the time.
  - The leading cause of failure was inability to discern that a single reference did not disclose each and every element of the claim arranged as in the claim (All Elements Rule).
  - Not claim construction driven—Anticipat separates these two tags

- Novelty is not the hardest legal ground of rejection Examiners are asked to apply.

- In any commercial setting, a process that generates over 50% <u>valid customer returns</u> has a major quality issue with the process.
  - Such a result, given the number of PTAB decisions in the data set (>41,000 decisions involving novelty) this result is statistically significant.

How consistent is the issue?

- The recent blog post using Anticipat data for obviousness indicates that after two years, the observed reversal rate by the Board for §103 rejections moved no more than a couple of percentage points.
  - Overall reversal rate for all claims was at 34% and 44% for at least one claim.

- The USPTO Examination process is stably producing large numbers of defective products every month and year.

- The Examining corps is making the same decisions consistently and the PTAB is likewise making corresponding decisions.

- The decisions are driven by the Examining corps' reward system (disposals/counts)

Takeaways

- Patent prosecution data indicates the extent and level of quality issues in the USPTO's present examination processes.

- If the USPTO cannot afford to ignore this data, neither can we as patent prosecutors

- Chess grandmasters are beaten by computers that run through all the possible outcomes and then make the current move that leads to the strongest calculated outcome

- So can we as patent prosecutors :
  - Examiner Preferences + Legal Issue + Legal Ground = High Confidence

Patent Prosecution Data Considerations in Litigation

- Declaration to counter argument that 101 issue still could exist in case because PTAB is not required to raise 101 rejections as a new ground of appeal where such grounds exist (0.15% number is the historical rate)

- USPTO research indicates that *ex parte* appealed cases are 50% more likely to be litigated (based on a random sample)

- Patents issued by junior examiners with no signature authority are less likely to be litigated
  - USPTO and other scholars theorize this is because junior examiners take more time to examine than the senior examiners
  - But examiners with partial signing authority have about the same litigation rates as examiners who can sign for themselves.
  - My view: going to be impossible to see a statistically significant effect given the variability in the USPTO process
    - Data from Marco et al., "Patent Examination Quality and Litigation: Is There a Link?" USPTO Economic Working Paper No. 2017-09 (June 2017)

Patent Prosecution Data in Motions to Stay

- Quality issues exist even for those patents that have been subjected to *ex parte* appeals
  - Was the right art cited by the Examiner on appeal?
  - The fact that the Office has a near 40% - 50% failure rate on appeal for many legal grounds suggests a pervasive quality problem with examination generally
  - Prosecution data for the Examiner issuing the case could be useful for supporting a motion to stay a case pending an *ex parte* reexam or IPR, particularly where the case was NOT appealed
    - This Examiner has a 93% allowance rate with 50% first action allowances. Over 85% of the time an interview leads to an allowance.
    - The Examiner is very friendly but may not be as careful as others.
    - Reasonable to infer his work is more likely to be flawed than the average examiner in his art unit (cite the comparative statistics from other examiners in art unit from PatentAdvisor)

Q&A

Remember the Dinosaurs!

Any Questions?