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The Power of Analytics

Hon. Milton Shadur (N.D. Ill.) (retired)

"More significantly, Nancy certainly should have been alerted to the prospect that 'something is rotten in the state of Denmark' n5 . . . n5 William Shakespeare, Hamlet act 1, sc. 4, line 90."

"Nonetheless, even though doing so may be 'to paint the lily, to gild refined gold' (William Shakespeare, King John act 4, sc. 2), . . ."

"But because it may be that 'the better part of valour is discretion' (William Shakespeare, King Henry IV, Part I, act 5, sc. 4, line 120), . . ."

"Eiben's beef that the new plans were derived from and were substantially similar to his earlier drawings is much like Portia's contention that the contracted-for pound of flesh could not be extracted unless it were done without any accompanying drop of blood (William Shakespeare, Merchant of Venice act 4, sc. 1)[.]"

"On examination, what had presented such a formidable appearance turned out in large part, with full apologies to the Bard of Avon, to be 'full of sound and fury, signifying nothing,' n4 . . . n4 William Shakespeare, Macbeth act 5, sc. 5, lines 27-28."

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The Power of Analytics

Hon. Milton Shadur (N.D. Ill.) (retired)

3

The Power of Analytics

Hon. Milton Shadur (N.D. Ill.) (retired)

4

The Power of Analytics

Hon. Milton Shadur (N.D. Ill.) (retired)

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Analytics

Defined

"Analytics is the process of discovering, interpreting and communicating significant patterns in data. Quite simply, analytics helps us see insights and meaningful data that we might not otherwise detect."

Source: <https://www.oracle.com/business-analytics/what-is-analytics/>

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**Analytics for Patent Evaluation & Prosecution:
Marrying Effectiveness with Efficiency**

February 16, 2023

Presented By:
David V. Dilenschneider, Esq.
Client Relations Consultant
LexisNexis Intellectual Property Solutions




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Agenda

- The Importance of Effectiveness and Efficiency for Today's Practitioner
- How Analytics Help One to be Effective and Efficient
- The "Ethical Rule" Guidepost: Comment 8 to Rule 1.1
- Using a Patent Analytics Platform to Evaluate a Patent Portfolio
- Using a Patent Analytics Platform to Identify Disruptive Innovation
- Using a Patent Analytics Platform to Assist in Patent Prosecution



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What Do Patent Practitioners Need?
Effectiveness



**More than ever before,
today's practitioner
must get the right
answer – preferably the
first time.**

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What Do Patent Practitioners Need?
Effectiveness



**Effectiveness is simple –
it means getting the
right result.**

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What Do Patent Practitioners Need?
Effectiveness

**Think – what
information does a
practitioner need in
order to achieve the
most-favorable result
for his/her client?**

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What Do Patent Practitioners Need?
Effectiveness – but what is missing?



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What Do Patent Practitioners Need?
Effectiveness



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What Do Patent Practitioners Need?
Effectiveness – without Efficiency




“Another such victory, and I will be left without an Army.”

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What Do Patent Practitioners Need?
Efficiency

More than ever before, today’s practitioner must be efficient when it comes to accessing and analyzing information.



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What Do Patent Practitioners Need?
Efficiency: The Headlines

Increasing The Efficiency of Lawyers

Law Firm Efficiency: Responsiveness, Reflection and Checklists

The Ethics Corner: The New Efficiency Trend

LAW FIRMS MAKE MORE MONEY BEING MORE EFFICIENT

Legal Productivity: 7 Ways to Make Your Law Firm More Efficient


EFFICIENCY TIPS WEBINAR FOR SMALL LAW FIRM ATTORNEY’S

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What Do Patent Practitioners Need?
Efficiency

Efficiency means performing the identified task quicker – or in an easier way – or perhaps even in a better way.




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What Do Patent Practitioners Need?
Efficiency


Think - how can a practitioner do his/her work in the shortest amount of time (with fewer resources)?



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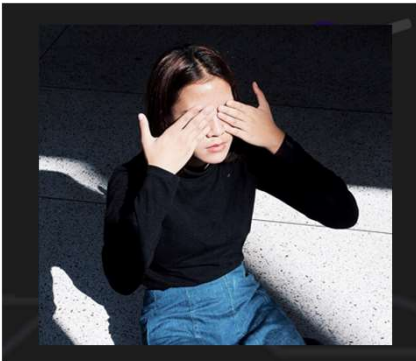
What Do Patent Practitioners Need?
Effectiveness and Efficiency - Together



Effectiveness is getting the right results
Efficiency is getting results quickly

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Pre-Modern Analytics Decision Making
The Need for More Data

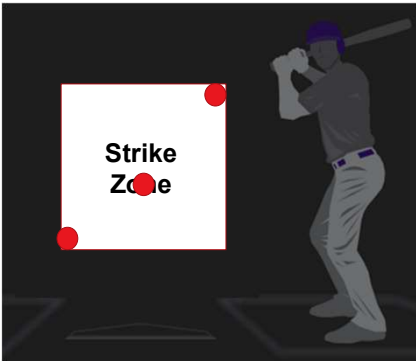
“Increasingly, CEOs are expanding their exposure to gather new experiences that can help them make more-informed decisions.”



Source: "Using Analytics to Pursue New Patents," Deepak Syal, Forbes (Aug. 27, 2021)

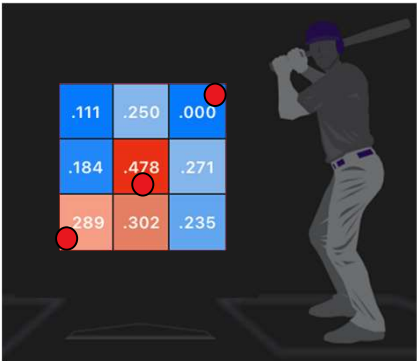
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| | | |
|------|------|------|
| .111 | .250 | .000 |
| .184 | .478 | .271 |
| .289 | .302 | .235 |

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Article

Goal Side Selection of Penalty Shots in Soccer: A Laboratory Study and Analyses of Men's World Cup Shoot-Outs

Perceptual and Motor Skills
0(0) 1-25
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SAGE

Mauro R. Pereira¹ and
Geoffrey R. Patching¹

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Technology

One of the Biggest Challenges Facing Firms and Practitioners

What is the biggest challenge facing your law firm

We posed this one question to ABA TECHSHOW® attendees, and 89 answered. Some selected more than one answer.

| Challenge | Count |
|---|-------|
| Keeping pace with technology | 33 |
| Economic pressures on firm (clients expect more for less) | 31 |
| Retaining clients and attracting new clients | 19 |
| File-sharing security | 17 |
| Other | 11 |
| Increasing collections | 7 |

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ABA Model Rule of Professional Conduct 1.1

Competence

“A lawyer shall provide competent representation to a client. Competent representation requires the legal knowledge, skill, thoroughness and preparation reasonably necessary for the representation.”

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ABA Model Rule of Professional Conduct 1.1

Commentary 8 to Rule 1.1 (with emphasis added)

“To maintain the requisite knowledge and skill, a lawyer should keep abreast of changes and the law and its practice, including the benefits and risks associated with relevant technology.”

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States with a Duty of Tech Competence = 40

as of February 16, 2023

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ABA Model Rule of Professional Conduct 1.1

Example: Video-Conferencing Technology

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ABA Model Rule of Professional Conduct 1.1

Article in *The Business Lawyer* (Winter 2019-20) – written by a former Chief Justice of the Supreme Court of DE

Protection of Client Confidential Information from Cyberattacks Is a Compelling Business and Ethical Priority for Inside and Outside Corporate Counsel

By E. Norman Veasey*

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ABA Model Rule of Professional Conduct 1.1

Hur v. Lloyd & Williams, LLC, 2023 Wash. App. LEXIS 166, *12 n6 (Wash. Ct. App. Jan. 31, 2023)

⁶ We do not mean to excuse counsel's lack of familiarity with metadata. The Rules of Professional Conduct require competent representation, including "the legal knowledge, skill, thoroughness and preparation reasonably necessary for the representation." RPC 1.1. To the extent a lawyer uses computer technology in communications, document management, or the exchange of electronic discovery, competent representation requires an understanding of metadata. See WSBA Advisory Op. 2216.

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ABA Model Rule of Professional Conduct 1.1

Potential Violation in Recent High-Profile Lawsuit

"[P]roducing an entire cellphone in discovery because you do not understand how to segregate Dropbox links, perform keyword searches or apply redactions is a clear Rule 1.1 violation."



Source: "Ethical Lessons from the Alex Jones Discovery Debate," Law360, Hilary Gerzhey, Julianne Pasichow and Grace Wynn (Aug. 5, 2022)

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ABA Model Rule of Professional Conduct 1.1

James v. Nat'l Fin. LLC, 2014 Del. Ch. LEXIS 254 (Del. Ch. Ct. Dec. 5, 2014)

HN9 Professed technological incompetence is not an excuse for discovery misconduct. Effective March 1, 2013, the Delaware Supreme Court amended Comment 8 to **Rule 1.1 of the Delaware Lawyers' Rules of Professional Conduct**, which addresses ["36] competence, to include maintaining technological competence. The new comment states that "a lawyer should keep abreast of changes in the law and its practice, including the benefits and risks associated with relevant technology . . ."⁵ This language finds parallels in the Pennsylvania Rules of Professional Conduct, where National's counsel is admitted to practice, and the Model Rules of Professional Conduct. Compare *id.* with Pa. Rules of Prof'l Conduct R. 1.1 cmt. 8 and Model Rules of Prof'l Conduct R. 1.1 cmt. 8. **"[D]eliberate ignorance of technology is inexcusable.** . . . [I]f a lawyer cannot master the technology suitable for that lawyer's practice, the lawyer should either hire tech-savvy lawyers tasked with responsibility to keep current, or hire an outside technology consultant who understands the practice of law and associated ethical constraints." Judith L. Maute, *Facing 21st Century Realities*, 32 *Miss. C. L. Rev.* 345, 369 (2013). Legal publications in Delaware and Pennsylvania have

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ABA Model Rule of Professional Conduct 1.1

Attorneys Needn't Be Technologists, But Must Be Prudent

"This doesn't mean that lawyers need to become technologists, but they do need to be aware of when bringing in one is prudent," [Andy] Reisman [CEO of ELIJAH] says. 'Engaging an e-discovery or digital forensics expert can help ensure that ESI productions go smoothly. Clients who aren't willing to pay for that expertise, in essence, are asking outside counsel take on that cost in the form of increased risk.'"



Source: "Alex Jones case shows inadvertent disclosure of electronically stored information is a real risk," ABA Journal, David L. Hudson, Jr. (Oct. 27, 2022)

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ABA Model Rule of Professional Conduct 1.1

Does Commentary 8 to Rule 1.1 Apply to Analytics Platforms?

"Bar authorities are likely to expect similar competence for other uses of big data analytics."



Source: "How Big Data Analytics Is Changing Legal Ethics," Renee Krake Jackson, Bloomberg Law (Aug. 9, 2016)


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ABA Model Rule of Professional Conduct 1.1
Does Commentary 8 to Rule 1.1 Apply to Analytics Platforms?

“I can see [Comment 8] being extended to include an obligation to communicate with clients about whether their case could be improved by using predictive analytics[.]”



Source: “The Ethics of Legal Analytics,” law.com (from ALM), Renee Knake Jackson (March 22, 2018) (found at <https://www.law.com/2018/03/22/the-ethics-of-legal-analytics/>)

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Analytics for the Legal Practitioner
Putting It Into Practice

San Francisco Chronicle

Intellectual property lawyer **Huong Nguyen** walked into a federal courtroom

“The time is coming when it’s going to be universal,” said **Kirk Jenkins**, a Chicago lawyer who chairs Sedgwick LLP’s appellate practice. “Everyone is going to need a familiarity with these tools.”

better than losing.

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Analytics for the Patent Practitioner
Using Analytics to Gain Insights into Patent Data

“[W]e’re all struggling with [patent] data overload. There’s so much out there, how do we get insights through all this noise?”




Source: “The Secret Weapon: Leveraging Patent Agents to Gain a Competitive Edge,” The Geek in Review, TGR Ep. 186 (January 25, 2023) (quote from Shayne Phillips)

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Analytics for the Patent Practitioner
What is it?

“The primary role of an analytics platform is to gather information from various sources and distill them into actionable intelligence.”



Source: “Using Analytics to Pursue New Patents,” Deepak Syal, Forbes (Aug. 27, 2021)

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Patent Analytics Platforms
Some of the Options

- ✓ Assessing Strengths / Weaknesses of One’s Own Patent Portfolio
- ✓ Evaluating the Competition’s Patent Portfolio
- ✓ Targeting Other Corporations for Partnership / Merger / Acquisition
- ✓ Identifying Disruptive Innovations and Trends
- ✓ Identifying New Entrants into a Tech Area
- ✓ Recognizing Opportunities for R&D Expense
- ✓ Strategizing to Complete a Successful Patent Prosecution
- ✓ Reviewing Performance of an Attorney

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Patent Analytics Platforms
Some of the Providers



PatSnap’s Analytics platform allows you to perform highly targeted global searches that generate reliable detailed innovation intelligence. With a connected view of 126 jurisdictions, 140 million patents, and 250+ million innovation datapoints worldwide, you will be able to make decisions with all of the information you need, thereby mitigating risk.

Patent Analytics for Prosecution Strategy

The Interactive Dashboard Report gives you access to pages of detailed prosecution analytics on thousands of companies and law firms obtaining patents in the U.S.

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Patent Analytics Platforms
Some of the Options

- ✓ **Assessing Strengths / Weaknesses of One's Own Patent Portfolio**
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Patent Analytics Platforms
Assessing Strengths / Weaknesses of One's Own Patent Portfolio

Example:

Sustainable Development Goals

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United Nations Sustainable Development Goals
Background

Adopted in 2015, the UN SDGs "provide a powerful aspiration for improving our world – laying out where we collectively need to go and how to get there."



Source: <https://www.unglobalcompact.org/sgd/about>

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United Nations Sustainable Development Goals



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United Nations Sustainable Development Goals
Background

"Business is a vital partner in achieving the Sustainable Development Goals. Companies can contribute through their core activities, and we ask companies everywhere to assess their impact, set ambitious goals and communicate transparently about the results."

"In making sure that the SDGs are all implemented in its entirety, it's important that we need to have various systematic and scientific checking and assessment of the situation and (...) information and data can play a very important role. Without knowing how much we are making progress you will not be able to know where we are going."



Ban Ki-moon, United Nations Secretary-General (2007-2016)

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Patent Analytics Platforms – To Assess Strengths/Weakness of a Portfolio
Example: Sun Life Financial Inc. Form 40-F Disclosure to the S.E.C. (for the Fiscal Year ended Dec. 31, 2022)

3. Sustainability Plan

Our sustainability commitment is guided by the United Nations Sustainable Development Goals (SDGs). We focus primarily on supporting the five SDGs where we believe we can have the greatest impact. These are #3 Good health well-being, #5 Gender equality, #7 Affordable and clean energy, #8 Decent work and economic growth and #13 Climate action.

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United Nations Sustainable Development Goals

Background

"Business is a vital partner in achieving the Sustainable Development Goals. Companies can contribute through their core activities, and we ask companies everywhere to assess their impact, set ambitious goals and communicate transparently about the results."

"In making sure that the SDGs are all implemented in its entirety, it's important that we need to have various systematic and scientific checking and assessment of the situation and (...) **information and data can play a very important role. Without knowing how much we are making progress you will not be able to know where we are going.**"



Ban Ki-moon, United Nations Secretary-General (2007-2016)

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Patent Analytics Platforms – To Assess Strengths/Weakness of a Portfolio

Example: SDG Quantification

"Enabling technology is critical to tracking our progress against each of the SDGs[.]"



Source: <https://kennedyslaw.com/media/6738/kennedys-sustainability-report-2021.pdf>

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United Nations Sustainable Development Goals

Why Do Corporations Promote Sustainability?

78% of customers are more likely to buy from companies that have aligned themselves with a SDGs agenda.



Source: "Make it your business: Engaging with the Sustainable Development Goals," PwC

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United Nations Sustainable Development Goals

Example: Sun Life Financial Inc.'s Sustainability Report



UN 7 AFFORDABLE AND CLEAN ENERGY

RELEVANT SDG TARGETS

- 7.1** By 2030, ensure universal access to affordable, reliable and modern energy services
- 7.2** By 2030, increase substantially the share of renewable energy in the global energy mix
- 7.3** By 2030, double the global rate of improvement in energy efficiency

SUN LIFE'S CONTRIBUTION

Sustainable investing

- Issuing a \$750 million, 10-year sustainability bond; eligible assets include investments in renewable energy, energy efficiency, green buildings and clean transportation projects
- Investing in renewable energy and energy efficiency projects, with \$12.8 billion invested as of December 31, 2021

Climate and environmental action

- Continuing actions to improve energy conservation and eco-efficiency in our offices. For example, procuring renewable energy and investing in energy audits to identify opportunities to improve energy efficiency.

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Some SDG "Measuring" Platforms

(Not a Comprehensive List)

- LexisNexis® PatentSight® (for corporations with patent portfolios)
 - SDG patent mapping, in combination with the industry-proven and validated patent value indicator Patent Asset Index™, enables a corporation to measure its progress towards SDGs while avoiding "greenwashing"
 - www.patentsight.com/en/
- SDG Monitor
 - "[A] cloud-based tool that helps to pair your sustainability actions with the United Nations Sustainable Development Goals (SDGs) and use the SDG indicators for measurement. With SDG Monitor you can easily follow where your company is making progress and where you are falling behind"
 - www.sdgmonitor.co
- SDG Action Manager (from B Lab)
 - "[A] unique impact management solution can help every business set goals, track progress, and stay motivated on specific actions to support the SDGs"
 - www.bcorporation.net/en-us/programs-and-tools/sdg-action-manager

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Measuring SDGs Through Types of Data

Analysis of Data Types


| Data Type | Forward Looking | Output Metric | Objectively Measurable | Third Party Assessment | Commonly Accepted Definition | Publicly Available Data |
|---|-----------------|---------------|------------------------|------------------------|------------------------------|-------------------------|
| Energy consumption | X | ✓ | ✓ | X | ✓ | X |
| Waste & pollution (CO2...) | X | ✓ | X | X | X | X |
| Water management | X | ✓ | ✓ | X | ✓ | X |
| Employee metrics (wellbeing, diversity,...) | X | ✓ | X | X | X | X |
| Sales | X | ✓ | ✓ | X | ✓ | X |
| R&D Spending | ✓ | X | ✓ | X | X | X |
| Patents | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

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The Benefits of Using Patents for Analytics

Publicly Available and Objective



"In addition to the link between crises and innovation management, prior research has also established a relation between innovation management and patent analytics. To profit from innovation, firms often rely on intellectual property rights like patents to appropriate returns. In industries like pharmaceuticals, this is particularly prevalent. **Patents are publicly available and serve as objective data sources on firms' innovation activities.** Patents offer unique insights into technology and business activities of firms that could not be assessed by external parties otherwise." [Internal Citations Omitted]


Source: "Innovation Management in Crisis: Patent Analytics as a Response to the COVID-19 Pandemic" (Page 225), R&D Management, Carsten C. Guderian, et al., (Dec. 13, 2020)

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Measuring SDGs Through Patent Portfolios

Tracking Objective Data




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Mapping Patent Portfolios to SDGs

Provides Corporations ...



Measurability

Most sustainability metrics include subjective and qualitative sources, such as "expert" interviews, conversely **patent data is factual comparable data source.**



Transparency


Patent data provides a unique objective windows into a company, their investments and developments, free of spin or "greenwashing".

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Measuring SDGs Through Patent Portfolios


Using Patents to Measure SDG Progress -- A Sampling of Corporate Reaction




Intends to use mapping of its patent portfolio to SDGs to implement a "sustainability-related patent KPI for performance monitoring."



"Being able to classify patents by SDG categories is **very useful** to easily promote the strengths of our technology or complement its weaknesses from a different perspective."



"It is not easy for us to create and analyze the search query for 17 [SDG] goals by ourselves, so we feel that it is **very useful** for us to understand our own patent strength and to compare with other companies by providing it as a new function. We immediately compared our company with our competitors."



"Having just **been asked** by top management to check our portfolio in relation to SDGs, this is **very useful**. The objective criteria of SDGs is very important because we tend to create results that fit our own good image."

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Measuring SDGs Through Patent Portfolios


Using Patents to Measure SDG Progress -- A Sampling of Corporate Reaction



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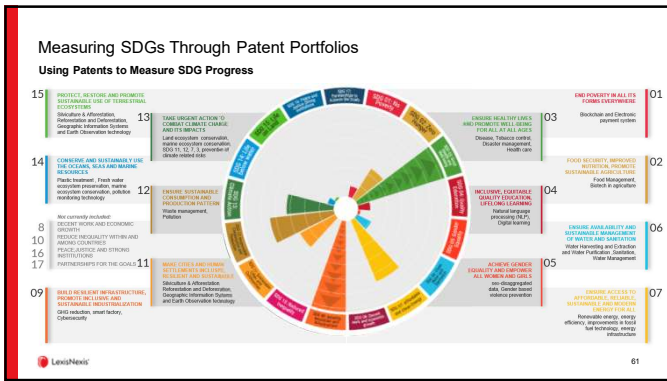
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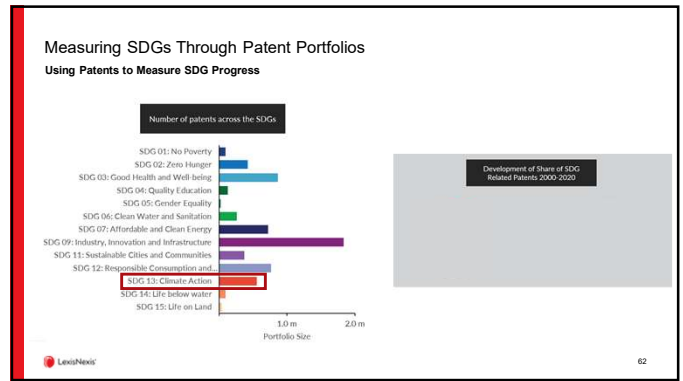
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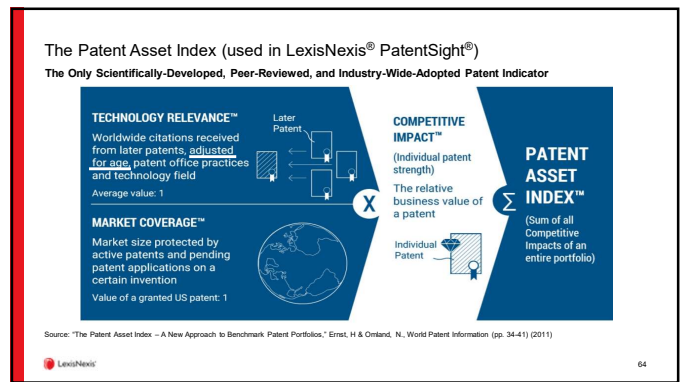
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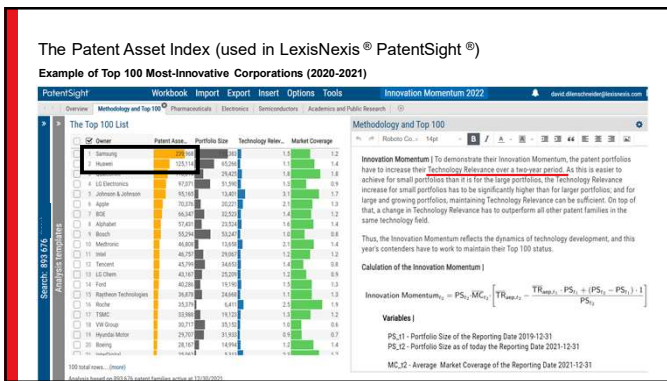
62



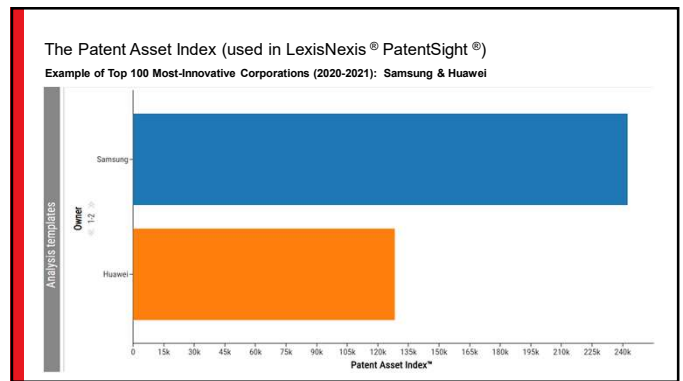
63



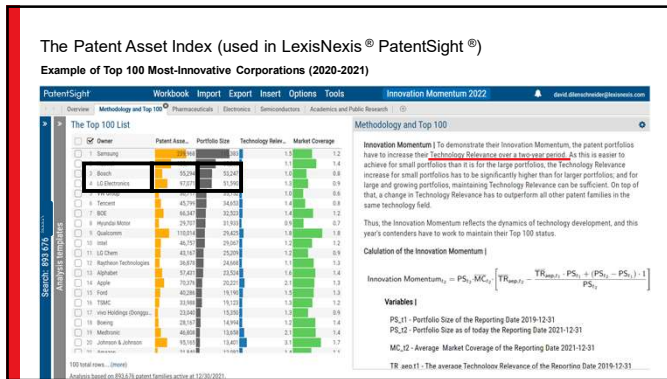
64



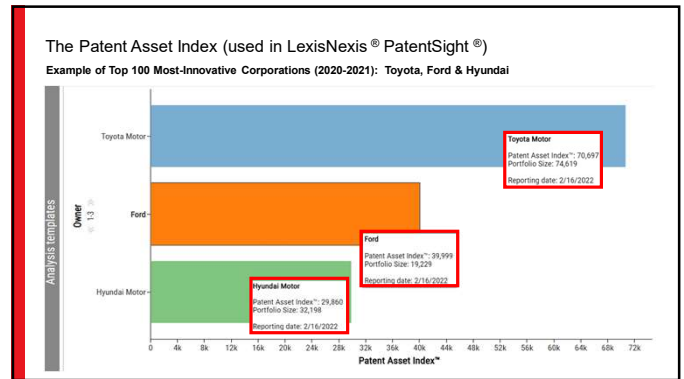
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- Patent Analytics Platforms
- Some of the Options
- ✓ Assessing Strengths / Weaknesses of One's Own Patent Portfolio
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 - ✓ Reviewing Performance of an Attorney

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Disruptive Innovation (or Tech)

What is it?

“Disruptive innovation refers to the innovation that transforms expensive or highly sophisticated products or services — previously accessible to a high-end or more-skilled segment of consumers — to those that are more affordable and accessible to a broader population. This transformation disrupts the market by displacing long-standing, established competitors.”

Source: Investopedia (www.investopedia.com/terms/d/disruptive-innovation.asp)

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Identifying “Disruptive” Tech Through Patent Portfolios

Using Patents to Identify / Predict Technology Is Over a Decade Old

“In 2003, [Chris Magee, a professor of the practice of engineering systems] began determining the improvement rates of various technologies. At the time, he was curious how technologies were developing relative to Moore’s Law — an observation pertaining originally to computers, in which transistors on a computer chip double every two years.”

Source: “Patents Forecast Technological Change,” MIT News Office (April 15, 2015)

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Identifying “Disruptive” Tech Through Patent Portfolios

Using Patents to Identify / Predict Technology Is Over a Decade Old

“Magee initially approached the problem on a case-by-case basis, determining which metrics best represent productivity for a given domain. He then compiled data for each metric, such as the price and speed of manufacturing a product, and used the data to calculate the overall rate of improvement.”

Source: “Patents Forecast Technological Change,” MIT News Office (April 15, 2015)


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Identifying "Disruptive" Tech Through Patent Portfolios
Using Patents to Identify / Predict Technology Is Over a Decade Old

"In 2010, he realized that one of the most comprehensive resources on technology lay in the U.S. patent record."

For several years, he and his group identified the most relevant patents in a technological domain, by literally reading through thousands of patents — an incredibly time-intensive process."

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Identifying "Disruptive" Tech Through Patent Portfolios
Using Patents to Identify / Predict Technology Is Over a Decade Old

"In 2012, Magee . . . came up with a more efficient, repeatable method for identifying relevant patent sets, by looking at the overlap between the U.S. and international patent-classification systems."

The team found that . . . they could repeatedly identify the same set of patents that best represent a technology, within a matter of hours, rather than months."

Source: "Patents Forecast Technological Change," MIT News Office (April 15, 2015)



Massachusetts
Institute of
Technology

Levi'sNexus


75

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Massachusetts
Institute of
Technology

Levi'sNexus


76

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Massachusetts
Institute of
Technology


Levi'sNexus

77

Identifying "Disruptive" Tech Through Patent Portfolios
Using Patents to Identify / Predict Technology Is Over a Decade Old

"Once [key technologies] were identified, the researchers analyzed certain metrics across patents in each domain, and found that some were more likely to predict a technology's improvement rate than others. In particular – forward citations . . . is a good predictor, as is the date of a patent's publication."

Source: "Patents Forecast Technological Change," MIT News Office (April 15, 2015)




Massachusetts
Institute of
Technology

Levi'sNexus

78

Identifying "Disruptive" Tech Through Patent Portfolios
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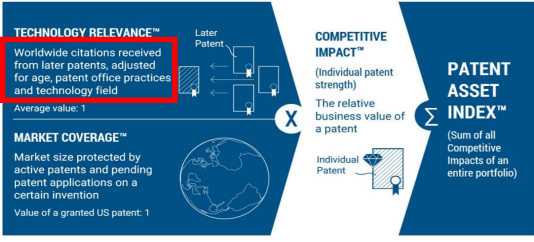


Source: "Patents Forecast Technological Change," MIT News Office (April 15, 2015)

LexisNexis 79

79

The Patent Asset Index (used in LexisNexis® PatentSight®)
The Only Scientifically-Developed, Peer-Reviewed, and Industry-Wide-Adopted Patent Indicator



TECHNOLOGY RELEVANCE™
Worldwide citations received from later patents, adjusted for age, patent office practices and technology field
Average value: 1

MARKET COVERAGE™
Market size protected by active patents and pending patent applications on a certain invention
Value of a granted US patent: 1

COMPETITIVE IMPACT™
(Individual patent strength)
The relative business value of a patent
Individual Patent

PATENT ASSET INDEX™
(Sum of all Competitive Impacts of an entire portfolio)

Source: "The Patent Asset Index – A New Approach to Benchmark Patent Portfolios," Ernst, H & Omland, N., World Patent Information (pp. 34-41) (2011)

LexisNexis 80

80

Identifying "Disruptive" Tech Through Patent Portfolios
Patents Are Predictive of Frontier (aka Disruptive Innovation)

"Patents, even if never licensed, used, or enforced, send important signals to the outside world.

[They] help investors and researchers ascertain the frontier of a given field."




Source: "The Predictive Power of Patents," Sabrina Safran, Univ. of Illinois Journal of Law, Technology and Policy, Vol. 2021, pp. 35-74 (May 1, 2021)

LexisNexis 81

81

Identifying "Disruptive" Tech Through Patent Portfolios
Patents Are Predictive of Frontier (aka Disruptive Innovation)

"I call [patent data] a window into the soul of a company in some fashion with their R&D teams and with what they're thinking[.]"



Source: "The Secret Weapon: Leveraging Patent Agents to Gain a Competitive Edge," The Geek in Review, TGR Ep. 186 (January 25, 2023) (quote from Shayne Phillips)

LexisNexis 82

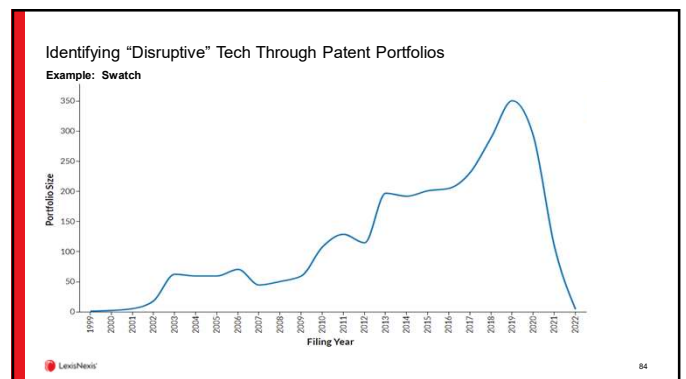
82

Identifying "Disruptive" Tech Through Patent Portfolios
Example: Swatch

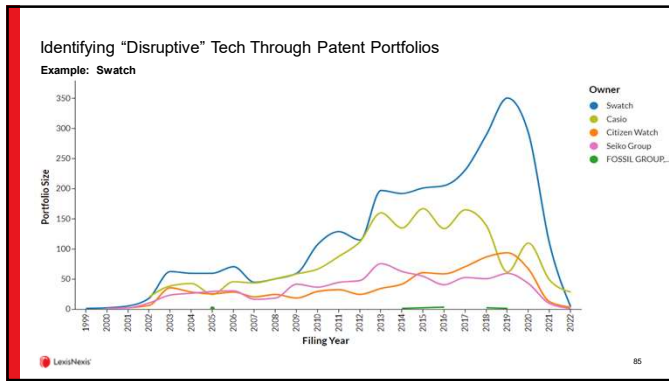


LexisNexis 83

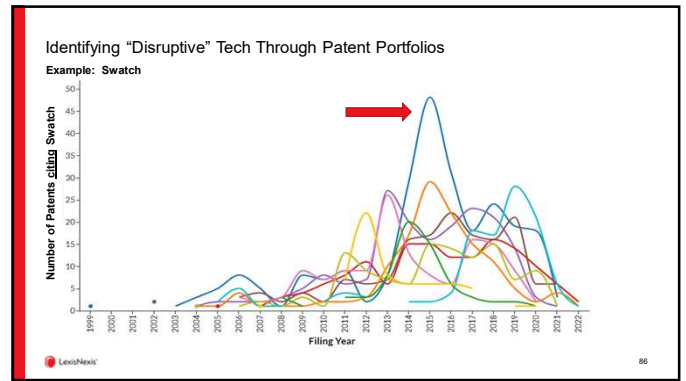
83



84



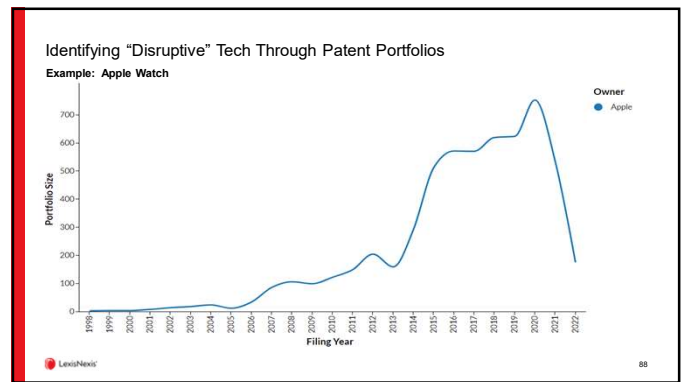
85



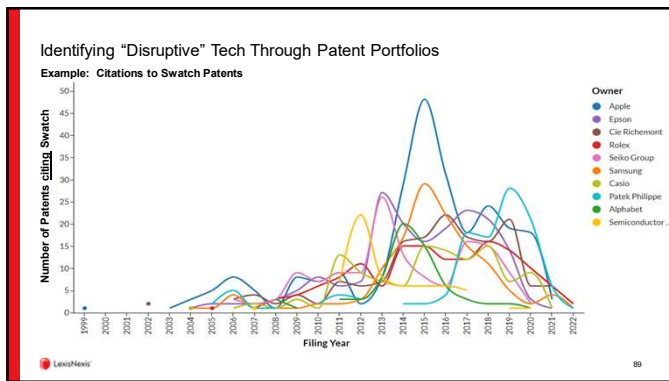
86



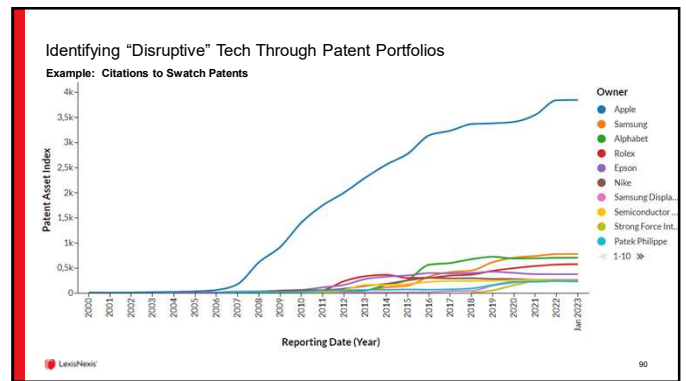
87



88



89



90

Patent Analytics Platforms
Some of the Options


- ✓ Assessing Strengths / Weaknesses of One's Own Patent Portfolio
- ✓ Evaluating the Competition's Patent Portfolio
- ✓ Targeting Other Corporations for Partnership / Merger / Acquisition
- ✓ Identifying Disruptive Innovations and Trends
- ✓ Identifying New Entrants into a Tech Area
- ✓ Recognizing Opportunities for R&D Expense
- ✓ **Strategizing to Complete a Successful Patent Prosecution**
- ✓ Reviewing Performance of an Attorney

LexisNexis 91

91

Analytics for the Patent Practitioner
Patent Prosecution

"Many companies begin the patent process by trying to understand the chances of a patent getting granted."



Source: "Using Analytics to Pursue New Patents," Deepak Syal, Forbes (Aug. 27, 2021)

LexisNexis 92

92

Patent Analytics Platforms
Strategizing to Complete a Successful Patent Prosecution

Example:

Patent Examiner Analytics

LexisNexis 93

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Patent Examiner Analytics
2021 Webinar Poll: "How Often Do You Look at Patent Examiner Analytics?"


| | |
|----|--------------------|
| 44 | "Never" |
| 33 | "Only When Stuck" |
| 18 | "Most of the Time" |
| 5 | "Always" |

LexisNexis 94

94

Patent Analytics Platforms
Measuring Examiner Behavior: Examiner Allowance Rate

"[T]his study finds that the likelihood of obtaining a patent will rely on large part on the examiner attached to the application."



Stanford Technology Law Review


Source: "Luck / Unluck of the Draw: An Empirical Study of Examiner Allowance Rates," Shire Sean Tu, Stanford Technology Law Review (2012)

LexisNexis 95

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Patent Analytics Platforms
Measuring Examiner Behavior: Examiner Allowance Rate

"In the examiner lottery, there is a low probability that an applicant will receive a high allowance rate primary examiner, where the applicant will most likely will receive a patent in a short period of time and with few to no claim amendments."



Stanford Technology Law Review

Source: "Luck / Unluck of the Draw: An Empirical Study of Examiner Allowance Rates," Shire Sean Tu, Stanford Technology Law Review (2012)


LexisNexis 96

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Analytics for the Patent Practitioner
Patent Prosecution

“When using a patent analytics platform, pay attention to the following data to determine the likelihood of getting a patent:

- Success Rate of the Patent Prosecutor
- Allowance Rate of the Patent Examiner
- Allowance Rate of the Art Unit.”



Source: “Using Analytics to Pursue New Patents,” Deepak Syal, Forbes (Aug. 27, 2021)


LexisNexis 97

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Analytics for the Patent Practitioner
Patent Prosecution

“When using a patent analytics platform, pay attention to the following data to determine the likelihood of getting a patent:

- Success Rate of the Patent Prosecutor
- Allowance Rate of the Patent Examiner
- Allowance Rate of the Art Unit.”



Source: “Using Analytics to Pursue New Patents,” Deepak Syal, Forbes (Aug. 27, 2021)

LexisNexis 98

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Patent Analytics Platforms
Measuring Examiner Behavior: Allowance Rate


$$\frac{\text{Examiner Allowance Rate}}{\text{Patents Granted}} \\ \text{(Patents Granted + Patents Abandoned)}$$

LexisNexis 99

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Patent Analytics Platforms
Measuring Examiner Behavior: Allowance Rate

“The current metric for examiner prosecution activity is allowance rate, which is calculated by dividing the total number of allowances by the sum of the allowances and abandonments (allowance rate = total allowance / (total allowances + total abandonments)). **Importantly, however, allowance rates do not consider an examiner's pending docket. Specifically, allowance rates do not fully capture if the examiner is simply writing office actions thereby prolonging prosecution or allowing cases.**”



Source: “Office Actions per Grant Ratio (OGR): A New Metric for Patent Examiner Activity,” Shire Sean Tu, Journal of Patent and Trademark Office Society (Jan. 1, 2018)

LexisNexis 100

100

Patent Analytics Platforms
Measuring Examiner Behavior: Allowance Rate

$$\frac{\text{Allowance Rate}}{\text{Patents Granted}} \\ \text{(Patents Granted + Patents Abandoned)}$$

Doesn't Account for Pending Applications
Penalizes Examiner for Abandonments (which are out of his/her control)
Very Limited Utility for New Examiners

LexisNexis 101

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Patent Analytics Platforms
Measuring Examiner Behavior: Examiner Time Allocation (“ETA”)

$$\frac{\text{Examiner Time Allocation*}}{\text{Total Office Actions}} \\ \text{Total Allowances}$$

Accounts for Pending Portfolios
Doesn't Directly Penalize Examiner for Abandonments
Helpful for Evaluation of New Examiners

LexisNexis * Also includes factors in the LexisNexis proprietary algorithm, such as: pending cases, examiner tenure and more 102

102

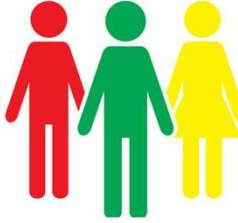
Patent Analytics Platforms

Measuring Examiner Behavior: Examiner Time Allocation ("ETA")

Red = ETA of 6+, indicating a high likelihood of long prosecution length. The examiner may have less experience, grant less than 15 applications per year on average, or have a high backlog of pending cases.

Yellow = ETA of 2.6-5.9, indicating mediocre prosecution length. The examiner has average experience and grants between 15-150 applications per year, on average.

Green = ETA of .1-2.5, indicating high likelihood of a short prosecution length. The examiner has lots of experience and grants over 150 applications per year, on average.



LexisNexis 103

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Patent Analytics Platforms

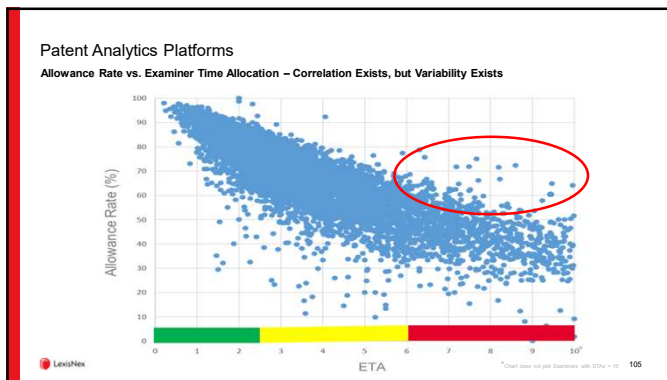
Measuring Examiner Behavior: Examiner Time Allocation ("ETA") – Green vs. Red

| METRIC | GREEN V. RED |
|---|---------------------|
| Allowance Rate | Green is 2x Higher |
| Office Actions to Disposal | Red is 2x Higher |
| Time to Disposal | Red is 2x Higher |
| At least One Final Office Action | Red is 2x Higher |
| Two or More Final Office Actions | Red is 4x Higher |
| Interviews | Red is 2x Higher |
| Allowance Rate in response to After Final Amendment | Green is 3x Higher |
| At least one RCE | Red is 2x Higher |
| Allowance Rate in response to RCE | Green is 4x Higher |
| Time to Next Action After RCE | Red is 50% Higher |
| Appeals | Red is 3x Higher |
| Win Rate of Appeal | Green is 15% Higher |

Source: "Impact of USPTO Examiners on Prosecution Outcomes" (found at <https://www.youtube.com/watch?v=sy8thw011ys>) (August 11, 2020)

LexisNexis 104

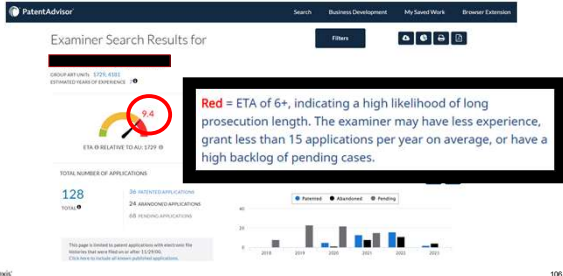
104



105

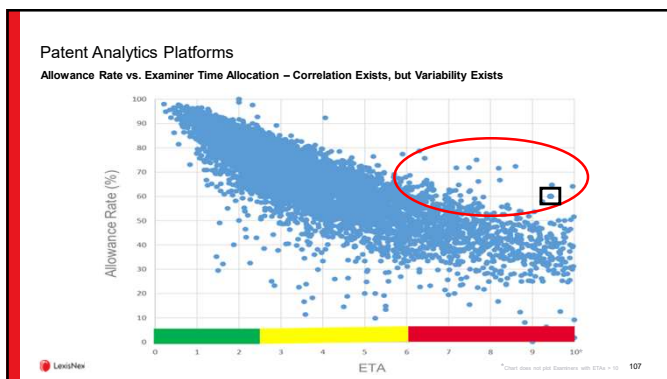
Patent Analytics Platforms

Measuring Examiner Behavior: Examiner Time Allocation ("ETA")



LexisNexis 106

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Patent Analytics Platforms

Measuring Examiner Behavior: Allowance Rate

"Even if a patent issues from an application that has been in prosecution for a decade, much of the damage may have already been done. Specifically, applicants who prosecute patents for long periods of time may be irreparably harmed because of: (1) the inability to get funding (due to a lack of a robust patent portfolio), (2) the inability to exclude competitors to enter the field (competitors may discount those applications locked in prosecution for long periods of time or have a longer time to develop design-arounds), (3) the inability to capture royalties for most of the patent life and (4) the actual cost to prosecute patents for such a long duration of time."



Stanford Technology Law Review

Source: "Luck / Unluck of the Draw: An Empirical Study of Examiner Allowance Rates," Shree Sean Tu, Stanford Technology Law Review (2012)


LexisNexis 108

108

Patent Analytics Platforms
Measuring Examiner Behavior: Allowance Rate

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Source: "Luck / Unluck of the Draw: An Empirical Study of Examiner Allowance Rates," Shire Sean Tu, Stanford Technology Law Review (2012)



Stanford Technology
Law Review


LexisNexis 109

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Stanford Technology
Law Review


LexisNexis 110

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Source: "Luck / Unluck of the Draw: An Empirical Study of Examiner Allowance Rates," Shire Sean Tu, Stanford Technology Law Review (2012)




Stanford Technology
Law Review

LexisNexis 111

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Patent Analytics Platforms
Things to Look For . . .



LexisNexis 112

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Patent Analytics Platforms
Remember to Consider: Four Things

1. More Data Is Better
2. Data Needs To Be "Clean"
3. Seemingly "Identical" or Mis-Matched Data Must Be Disambiguated
4. Visual Display Should Be Easy

LexisNexis 113

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LexisNexis 114

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Patent Analytics Platforms
More Data Is Better

“There are many tools that can provide you with analytical data. If you are considering using a tool to take the raw data and turn it into useful information for IP decision-making, there are some things you should consider. Look for a tool that has access to a huge data set. The more data a tool has access to, the stronger insight it can provide. Additionally, I suggest looking for a tool that provides the patent analytics information in an easy-to-digest format.”




Source: "Using Analytics to Pursue New Patents," Deepak Syal, Forbes (Aug. 27, 2021)

LexisNexis 115

115

Patent Analytics Platforms
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LexisNexis 116

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Patent Analytics Platforms
More Data Is Better – A “Huge” Data Set Considerations

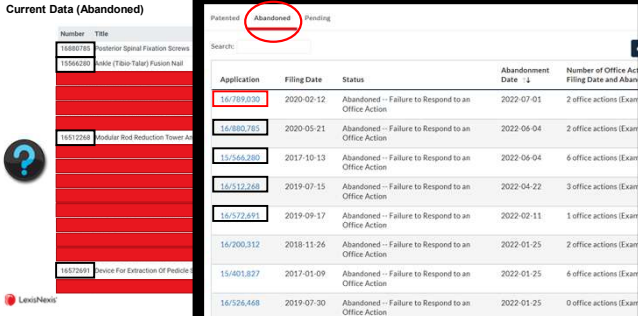
1. Depth of Coverage
2. Breadth of Coverage



LexisNexis 117

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Patent Analytics Platforms
Current Data (Abandoned)



| Application | Filing Date | Status | Abandonment Date | Number of Office Actions |
|-------------|-------------|--|------------------|--------------------------|
| 16/789,030 | 2020-02-12 | Abandoned – Failure to Respond to an Office Action | 2022-07-01 | 2 office actions (Exam) |
| 16/880,783 | 2020-05-21 | Abandoned – Failure to Respond to an Office Action | 2022-06-04 | 2 office actions (Exam) |
| 15/564,987 | 2017-10-13 | Abandoned – Failure to Respond to an Office Action | 2022-06-04 | 6 office actions (Exam) |
| 16/512,248 | 2019-07-15 | Abandoned – Failure to Respond to an Office Action | 2022-04-22 | 3 office actions (Exam) |
| 16/572,491 | 2019-09-17 | Abandoned – Failure to Respond to an Office Action | 2022-02-11 | 1 office actions (Exam) |
| 16/200,312 | 2018-11-26 | Abandoned – Failure to Respond to an Office Action | 2022-01-25 | 2 office actions (Exam) |
| 15/401,827 | 2017-01-09 | Abandoned – Failure to Respond to an Office Action | 2022-01-25 | 4 office actions (Exam) |
| 16/526,468 | 2019-07-30 | Abandoned – Failure to Respond to an Office Action | 2022-01-25 | 0 office actions (Exam) |

LexisNexis 118

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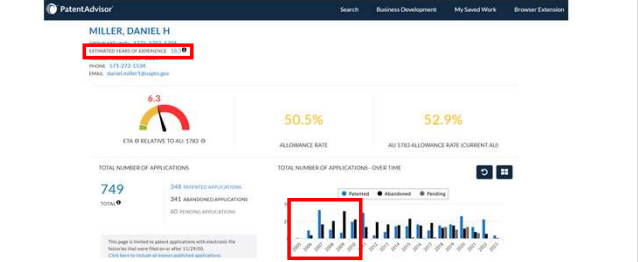
Patent Analytics Platforms
Example: Examiner Daniel H. Miller

Our current dataset is all utility patent applications filed in 2010 or later. This gives us plenty of data for computing 3-year grant rates but also allows us to focus on more recent data in case an examiner's behavior changes over time.

LexisNexis 119

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Patent Analytics Platforms
Example: Examiner Daniel H. Miller



PatentAdvisor Search Business Development My Saved Work Browse Examiner

MILLER, DANIEL H

17 YEARS OF EXPERIENCE 17.0

AVG. # OF OFFICE ACTIONS PER APPLICATION 6.3

ALLOWANCE RATE 50.5%

AUSTRALIAN ALLOWANCE RATE CURRENT AGE 52.9%

TOTAL NUMBER OF APPLICATIONS: 749

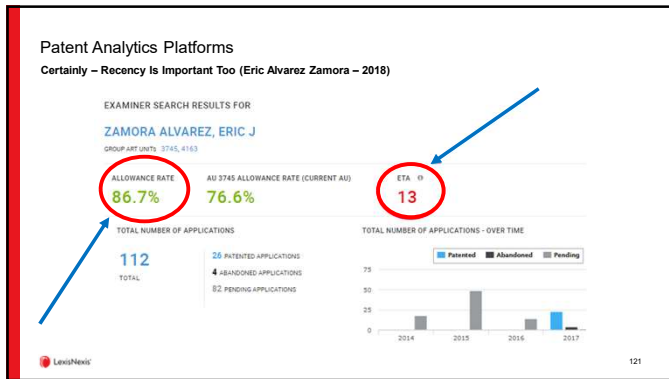
343 ABANDONED APPLICATIONS

341 ABANDONED APPLICATIONS

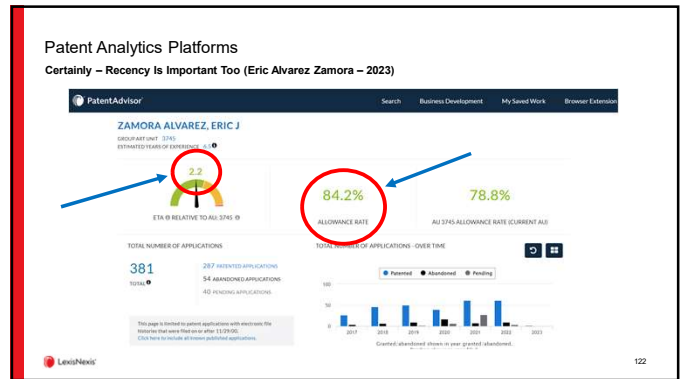
60 PENDING APPLICATIONS

LexisNexis 120

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- Patent Analytics Platforms
Remember to Consider: Four Things
1. More Data Is Better
 2. Data Needs To Be "Clean"
 3. Seemingly "Identical" or Mis-Matched Data Must Be Disambiguated
 4. Visual Display Should Be Easy

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Analytics
"Dirty" Data – The Problem

"To begin with, all data analytics processes start with a basic truism: Garbage in, garbage out. If the data being analyzed is not accurate and representative of the world, then it's not useful."

Source: "Data Analytics: Garbage In, Garbage Out," Thornton McEnery, Deabreker (Jan. 14, 2019)

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Analytics
Un-Disambiguated Data – The Problem

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| | | | | |
|-----------------|-------------|---|---------------------|------------------|
| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 09/873,063 | 05/31/2004 | Michal Bujak | 003399-P048 | 4007 |
| 26259 | 12/17/2004 | BLAKELY SOKOLOFF TAYLOR & ZAFMAN/PDC 12400 WILSHIRE BOULEVARD SEVENTH FLOOR | | |
| | | EXAMINER NGUYEN BA, PAUL H | | |
| | | ART UNIT PAPER NUMBER | | |

| | |
|-----------------|--------------|
| Application No. | Applicant(s) |
| 09/873,063 | BUJAK ET AL. |
| Examiner | Art Unit |
| Paul Nguyen-Ba | 2176 |

Office Action Summary

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Analytics
Cleaned ("Harmonized") Data

PatentAdvisor

| Last Name | First Name | Also Known As | Options |
|-----------|------------|---|--------------|
| NGUYEN-BA | PAUL H. | NGUYEN BA, PAUL H | ⌵ STATISTICS |
| NGUYEN-BA | PAUL H | NGUYEN BA, PAUL H | ⌵ STATISTICS |
| NGUYEN BA | PAUL H | NGUYEN-BA, PAUL H NGUYEN BA, PAUL H. | ⌵ STATISTICS |

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Analytics
Types of "Harmonization" Work

- ✓ Identifying Variations & Misspellings (e.g. Patent Examiners)
- ✓ Ensuring Accurate Corporate Structures (e.g. Parent – Subsidiary)
- ✓ Tracking Historical Company Name Changes
- ✓ Assigning "Ultimate Owner" (e.g. When a Merger/Acquisition Occurs)
- ✓ Recognizing Homonyms (i.e. Similar Names Used by Distinct Entities)
- ✓ Monitoring Transactions Involving Patents (e.g. Sales, Assignments)

Levi'sNevis 127

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Patent Analytics Platforms
"Harmonization" Work

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Patent Analytics Platforms
"Harmonization" Work

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Analytics
Data Quality is NOT a One-Time Thing

PatentSight Data Quality

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Patent Analytics Platforms
Remember to Consider: Four Things

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Patent Analytics Platforms
The Need for "Disambiguated" Data – Example: Baseball Pitcher ("Brady Feigl")

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Patent Analytics Platforms

The Need for "Clean" Data – Example: Examiner Daniel Miller

| | | |
|-------------------------|-------------------------------|-----------------------------------|
| Office Action Summary | Application No. 151031-477 | Applicant(s) Schneider; Bageby |
| | Examiner DANIEL MILLER | Art Unit 3786 |
| AIA (RTF) Status Yes | | |

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING

Miller Dan|

- Miller Daniel H (1783)
- Miller Daniel E (2148)
- Miller Daniel R (2863)
- Miller Daniel A (3786)

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Patent Analytics Platforms

Un-Disambiguated Data – The Problem

| | | |
|-----------------------|-------------------------------|--------------------------------|
| Office Action Summary | Application No. 13495,957 | Applicant(s) BULLOCH ET AL. |
| | Examiner LYNNISY SCHNEIDER | Art Unit 3733 |

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS OR THIRTY (30) DAYS

Schneider|

- Schneider Andrew J (3669)
- Schneider Brendan K (3644)
- Schneider Joshua D (3629)
- Schneider Craig M (3753)

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Patent Analytics Platforms

Un-Disambiguated Data – The Problem

SEARCH FOR SCHNEIDER

| Last Name | First Name | Also Known As | Options |
|-----------|----------------|--------------------|---------------|
| SCHNEIDER | THOMAS FRANK | - | 40 STATISTICS |
| SCHNEIDER | THOMAS F | - | 40 STATISTICS |
| SCHNEIDER | BRENDAN KROGER | - | 40 STATISTICS |
| SCHNEIDER | BRENDAN KROGER | - | 40 STATISTICS |
| SCHNEIDER | ANDREW JAMES | - | 40 STATISTICS |
| SCHNEIDER | ANDREW J | - | 40 STATISTICS |
| SCHNEIDER | BRULA LYNN | - | 40 STATISTICS |
| SCHNEIDER | LYNNISY M | SUMMITT, LYNNISY M | 40 STATISTICS |
| SCHNEIDER | JOSHUA D | - | 40 STATISTICS |
| SCHNEIDER | CRAG M | - | 40 STATISTICS |

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Patent Analytics Platforms

Un-Disambiguated Data – The Problem

PatentAdvisor

SUMMITT, LYNNISY M → SCHNEIDER, LYNNISY M

DEPARTMENT: 3713.3713
ESTIMATED YEARS OF EXPERIENCE: 17.1
MEMBER SINCE: 04/2019
PHONE: 571-228-1058

ETA (9) RELATIVE TO AU-3773 (9)

ALLOWANCE RATE: 69.3% (AU 3773 ALLOWANCE RATE CURRENT AU)

TOTAL NUMBER OF APPLICATIONS: 691 (448 AWARDED APPLICATIONS, 197 ABANDONED APPLICATIONS, 50 PENDING APPLICATIONS)

TOTAL NUMBER OF APPLICATIONS - OVER TIME

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Patent Analytics Platforms

Remember to Consider: Four Things


1. More Data Is Better
2. Data Needs To Be "Clean"
3. Seemingly "Identical" or Mis-Matched Data Must Be Disambiguated
4. Visual Display Should Be Easy

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Patent Analytics Platforms

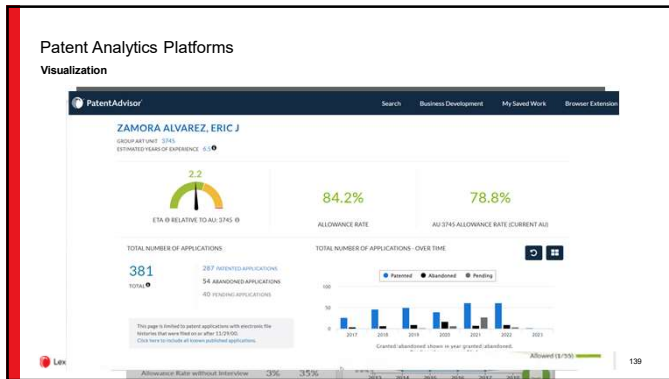
Visualization

"There are many tools that can provide you with analytical data. If you are considering using a tool to take the raw data and turn it into useful information for IP decision-making, there are some things you should consider. Look for a tool that has access to a huge data set. The more data a tool has access to, the stronger insight it can provide. Additionally, I suggest looking for a tool that provides the patent analytics information in an easy-to-digest format."



Source: "Using Analytics to Pursue New Patents," Deepak Syal, Forbes (Aug. 27, 2021)

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What Do Patent Practitioners Need?
Effectiveness and Efficiency Together = Value

Practitioners must be both **EFFECTIVE** *and* **EFFICIENT** to provide the greatest **VALUE** to their clients

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What Do Patent Practitioners Need?
Effectiveness and Efficiency Together = Value

“[W]ith [a] limited patent-procurement budget, you need to be efficient and really cost-effective as possible. That’s really, I think, important[.]”

Source: “Impact of USPTO Examiners on Prosecution Outcomes” (found at: <https://www.youtube.com/watch?v=ey5jsh011ys>), Michael Sartori, Baker Botts (August 11, 2020)

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What Do Patent Practitioners Need?
Analytics (to be Effective and Efficient)

HBW Haynes Beffel & Wolfeld LLP
Intellectual Property Law

We use Innography to better understand the patent landscape in specific technology fields, including information regarding the quantity and nature of competitors’ filings, as well as for patent litigation matters involving patents in the specific area of technology.

PatentAdvisor enables us to leverage publicly available patent information while saving our clients both time and money throughout the patent prosecution process.

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What Do Patent Practitioners Need?
Analytics (to be Effective and Efficient)

“Today, technology isn’t simply meant to improve efficiencies in business operations and the practice of law; it’s intended to drive the more effective delivery of legal services while increasing access and responding to the risks of managing client relationships in an online environment.”

Source: “Innovation Trends Report 2022” (Page 27: Technology Competency), American Bar Association Center of Innovation, Kimberly Yvette Bennett, (2022)

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What Do Patent Practitioners Need?
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Source: “Innovation Trends Report 2022” (Page 27: Technology Competency), American Bar Association Center of Innovation, Kimberly Yvette Bennett, (2022)

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Analytics for the Patent Practitioner

The Value

“As with many industries, Shayne recognizes that there is a giant role that technology and AI tools will play in the immediate future of the profession. **With millions upon millions of patents to parse through, there is definitely value in leveraging the technology to enhance the role she plays in finding the hidden jewels that are buried in patent information.**”



Source: “The Secret Weapon: Leveraging Patent Agents to Gain a Competitive Edge,” The Geek in Review, TGR Ep. 186 (January 25, 2023) (Podcast Summary)

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Thank You

David V. Dilenschneider, Esq.

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