



Making better, faster portfolio management decisions  
with big data insight

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Doris Spielthener

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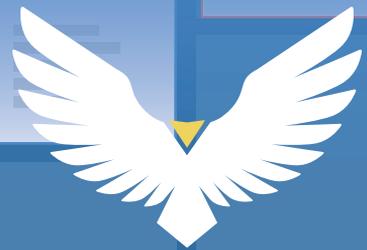
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# Making better, faster portfolio management decisions with big data insight

By Doris Spielthener, Practice Insight GmbH

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Data has always been big in the patent world; but like other industries, the IP industry is also witnessing unprecedented data growth. Although the sheer volume of big data can be daunting, the size alone does not always provide relevant and informative insight. So how can enterprises use big data to make better, faster decisions, while being more proactive, gaining competitive advantage and lowering business risks?

IP big data can offer business insights that are not readily available in other industries. Since no single organisation – not even a national patent office – is suited to create or provide access to IP big data, the role of private market service providers cannot be underestimated.

The realm of IP big data explores data points that are:

- exclusively known to an enterprise (eg, R&D data points and associated costs, decisions on what to patent, value of patents to self versus assumed value to others);
- publicly available data from patent offices and financial markets; and
- metadata and insight created by data service providers.

The most effective way to access coherent, actionable big data is through an IP database or data analytics service provider, which can obtain data from global patent offices (including data that is not always readily available), work on closing data gaps and introduce relevant non-IP data. Most importantly, these service providers generate metadata or analytics to provide useful insight into a wide variety of enterprises, non-practising entities (NPEs), IP law firms and patent offices.

Three requirements must be met in order to turn disparate IP data points into actionable business intelligence:

- Clean up data from different jurisdictions to create one coherent, normalised data set, where all countries can be searched under the same parameters. For instance, the Japanese and Chinese patent offices may have their own distinct ways of storing IP data (perhaps using different numbering formats and other techniques created in a pre-digital world), making information retrieval difficult. Further work is required to close actual gaps in the data (eg, finding the patent owner's organisation where the applicant and patent office provide only the inventor's name).
- Embed non-IP data that can be useful to IP data interpretation (eg, commercial information about revenue by product, licensing deals, organisation size or R&D spend). Further insight is provided through affiliated information (eg, the acting IP law firm and agents for patent prosecution or litigation).
- Create meta-data insight (eg, approximating the value of a patent, similarity scoring between two patents and case flow between enterprises and IP law firms or international case flow trends between IP law firms).

Many enterprises subscribe to several database or IP analytics products to address these data gaps and obtain the full picture or different perspectives. This is not cost effective and does not always guarantee access to the most crucial big data insight. When forced to choose just one tool due to budgetary constraints, IP professionals must often compromise and select a tool that provides

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*“To maintain a global database built on patent or company information, data must be obtained on a regular basis from various patent offices and other organisations”*

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some insight on most issues, but falls short on providing valuable, on-target insight for the most pertinent management issues.

In many instances IP professionals must also revert to in-house spreadsheets, which is no way to tackle IP big data. Such setbacks are the enemy of fast decision making and come at a high cost.



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Doris Spielthener is the general manager of Practice Insight and former chief executive officer and co-founder of Ambergite, the artificial intelligence patent search engine. She is a former PwC Consulting data analytics lead and an entrepreneur who has co-founded and scaled data analytics start-ups across Europe, the United States and Australia.

She is a published thought leader and invited speaker on innovation, intellectual property, open data and data analytics. She holds several granted US, Japanese and Australian patents for data analytics and visualisation techniques which are commercially applied by Fortune 500 companies and government organisations worldwide.

Practice Insight is a software provider that helps law firms and industry to grow business from IP big data insights.

Many costs and risks are associated with the mismanagement of IP data and trying to obtain business insight for management in an unsuitable way, including the following:

- Overlooking critical data points – these could be a competitor’s patent applications, similar technology from a new entrant or similarity in adjacent industries, all of which could lead to costly lawsuits or missing out on IP monetisation opportunities.
- Overvaluing or undervaluing intellectual property – inaccurate valuation can lead to bad decision making (eg, overinvesting in low-value patents or underinvesting in high-value patents).
- Expensive hidden costs – all too often, high-value IP professionals who are meant to provide management insights for quick decision making are tasked with low-value activities (eg, extracting, cleaning and matching data). The idea of saving money by not accessing professional data sources and insight may be penny wise, but it is pound foolish. It is better to ensure that high-value professionals are providing meaningful insight and guidance to management, rather than wrapped up in low-value work.
- Missed growth opportunities – by not using the latest IP big data insight tools, enterprises may be missing out on IP data that is available and amalgamated through machine learning and artificial intelligence, which facilitates more forward-looking and strategic insights for management.

Product companies, IP law firms and NPEs are operating in an increasingly competitive and restrictive legislative environment. Accessing insightful IP big data quickly and easily is crucial to retaining a competitive edge.

New entrants into the IP data analytics market are deploying big data and machine-learning algorithms to close the gaps in big data. They have developed exciting new products that deliver new and instantaneous business

intelligence in an actionable, easy-to-understand format.

Keeping up to date with big data trends facilitates quick and easy access to insightful IP data, which in turn allows enterprises to optimise their IP portfolios and obtain competitive intelligence. The following examples illustrate some of the benefits:

- New data processing techniques for automated data retrieval identification and real-time resolution of data gaps or errors ensures quicker access to high-quality data. To maintain a global database built on patent or company information, data must be obtained on a regular basis from various patent offices and other organisations. Previously, enterprises had to download a large file from each organisation (on a daily, weekly or monthly basis) to local or cloud servers, where it had to be parsed to feed into the enterprise's own database and then cleaned for data errors or missing variables (often manually). Today, data pipelines to each organisation can be laid, which can regularly and automatically check for new files. While obtaining and transporting the information through the pipeline, an automated program can check each data point, scanning it for errors and – where applicable – resolving these errors immediately. Management can then be automatically alerted to any unresolved data gaps and updated on the completion status of each data point pipeline.
- New data storage and query technologies can provide answers quickly. Technologies such as BigTable offer a distributed storage system for billions of related data points that power

the likes of Google and Facebook. This means that information can be organised much more organically and queries need not be as precise.

- Machine learning, artificial intelligence and other big data analytics approaches can provide predictive insights, targeted alerts and guidance on decision making. Even data aficionados understand that their love of data is not contagious, unless it provides decision makers and professionals with a dashboard or tools that they can easily drive themselves. As such, the trend most visible to the user in comparison with the points above is the application of analytics techniques – automated, real-time, self-improving and predictive – that provide answers which the service providers assume the IP professional might need. Technology has advanced far, but not so far that it does not need domain experts to carve out the data insights that will help IP professionals to grow value from their IP assets.

Contemporary big data analytics tools are designed for time-poor decision makers: the attorney, the business development manager, the licensing manager and the litigator. As is the case with many technologies, big data analytics tools allow enterprises to do better, faster things, while reducing the level of expertise or skill required by the individual user. The latest big data analytics tools have removed all of the technical and unreliable processes from the equation to leave users with simple, clean, clear business intelligence that can be implemented right away. For more information visit [www.practiceinsight.io](http://www.practiceinsight.io). **iam**



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