What is My Competitor Really Up To?

Evalueserve research, using multiple patent databases to collect competitive intelligence, leads to some very interesting revelations

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Executive Summary

Ever wondered what Google has been up to lately? How about Yahoo!, Microsoft, IBM or other high tech companies? Many professionals, companies and organisations frequently ask similar questions about their key competitors. However, since this information is proprietary and highly confidential, there is almost no likelihood of getting these answers directly from the companies.

Since companies, especially those in the technology sector, are constantly innovating and creating barriers for their competitors, they are also continuously filing patent applications and getting many – if not most – of these granted. Hence, searching through databases such as those provided by the United States Patent and Trademark Office (USPTO), which contain granted patents and recently published patent applications, is one way of gaining an insight into the strategic direction of these companies.

In this article, Evalueserve research shows that traditional searching techniques that only use databases such as the USPTO database, which comprises granted patents and published applications, for analysing a company’s patent portfolio are usually not sufficient. Evalueserve suggests the following complementary techniques:

- One technique is searching through patent-assignment databases, some of which are freely available and others provided by Intellectual Property (IP) database vendors as licenses. For example, a complementary search within the USPTO patent assignment database can yield some of the missing ownership information, especially if the granted patents and published applications were filed by one entity and later acquired by another.

- Another technique is checking accuracy by using complementary databases, e.g., correlating Patent Cooperation Treaty (PCT) filing information with USPTO filing information.

- Yet another technique is performing inventor-based searches along with assignee-based searches to get better results. This technique really works well because there are many published applications for which ownership information may not have been recorded earlier.

Finally, this article presents two case studies that use the complementary techniques mentioned above, as well as some of Evalueserve’s findings about Google and Yahoo!, which may surprise you.

Introduction

Given the importance of patents and their relation to innovation, growth, and even the market capitalisation of the companies that own them, information regarding competitors, those who want to acquire or be acquired by others, regulators, economists, venture capitalists, private equity funds, tax and fiscal authorities, universities, and governmental and quasi-governmental organisations is being increasingly used by organisations for many purposes, including the following:

- Collecting intelligence and keeping tabs on present and potential competitors
- Keeping pace with ‘hot and fashionable’ technology areas, ensuring that companies are not suddenly blind-sided by their competitors (Such sleuthing helps them to understand ‘white spaces’ as well as ‘freedom-to-operate’ regimes and boundaries. This is especially relevant for those seeking to invest in new technologies or looking to diversify into new products or services.)
- Monitoring innovation and the growth of specific industrial sectors and verticals enabling organisations to obtain valuable insights into technology growth trends
- Marketing, branding, promoting and benchmarking against others, and also assisting them internally to allocate appropriate and justifiable resources for their internal research and development (R&D) initiatives (Where organisations have invested large amounts of resources in certain initiatives and technologies, such competitive intelligence can also help them to ascertain the risk and return of such investments.)
- Helping organisations to either acquire companies or the IP of other companies, individuals or organisations, help them to be acquired by others or even to sell their IP to others
- Potentially investing in strongly innovating organisations or individuals, enabling organisations to perform more rigorous due diligence for investment and licensing purposes
However, for the following two reasons, the number of patent applications – rather than the number of granted patents – seems to be a better yardstick for performing such research and collecting competitive intelligence:

- Since patent filing and prosecution is fairly expensive, the act of filing a patent application indicates a company’s desire to obtain a patent (because of its perceived utility), and is therefore a better measure of patenting intensity.
- Since companies are under increasing pressure from competitors, investors and other stakeholders, many – especially those in high-tech areas – are enhancing their intellectual property portfolio by filing patent applications more aggressively and also acquiring the patent portfolios of other companies. These companies then actively make use of such patents to protect their intellectual assets and gain a competitive advantage while potentially growing their price-earning multiples.

- Since the patent application pendency (the time lag between patent filing and granting) of most patent offices around the world has gone up significantly, the number of granted patents gives a distorted and often outdated view of the R&D the company may be engaged in at that point of time and also the innovation that is being generated by them. For example, patent application pendency with the USPTO has gone up from approximately 25 months in 1999 to approximately 31 months in 2006, and for applications filed in the field of computer architecture, software, information security and business methods, it has gone up from approximately 32 months in 1999 to approximately 44 months in 2006 [Reference 1]. Clearly, a span of three years is almost a lifetime in most of the high-tech industry, especially in the information technology, software, hardware and related industries. (YouTube was created during the last three years – in February 2005 – and was acquired by Google in October 2006.) [References 2 and 3] Indian firms’ establishment of dedicated Offshore Development Centres (ODCs) providing services to companies worldwide.

Assignee-based Searches in Patent Databases

Ownership of a patent provides the patent owner with certain rights associated with the invention claimed in the patent. These rights may include the right to exclude others from making, using, offering for sale, selling or importing into that country the product (or service) that incorporates the invention claimed in the patent. The ownership of a patent or patent application initially lies with the inventors, but they can assign ownership rights to one or more entities or organisations known as ‘assignees’.

Typically, an assignee is an organisation that may have employed the inventors – or at least compensated them in some manner – when the invention was conceived and reduced to practice. In most countries and jurisdictions, only the inventors can apply for a patent, and an entity that makes a financial contribution or pays wages to the inventors cannot be named as a co-inventor in the patent application. Finally, in many patent offices, e.g., the USPTO, it is not mandatory for an applicant to disclose ownership information at the time of filing a patent application, and the details pertaining to the ownership of the patent application (and the subsequently granted patent) can be conveyed at a later date by various means, e.g., through the Electronic Patent Assignment System (EPAS) [References 7 and 8]. If the assignee information is not provided, the patent application gets published after 18 months without this information, unless the owner has filed a non-publication request at the time of filing. Consequently, to search for assignees, most people conduct patent prior art searches by using keywords on free and paid databases such as the USPTO database of granted patents and published applications, Freepatentsonline, Espacenet, Patentmonkey, Delphion and Micropat. For example, the USPTO ‘Patent Full Text and Image Database’ provides both quick and advanced search features to display published patent applications and granted patents with respect to the entered keywords. However, searching in such databases for granted patents and published patent applications, using filters based on ownership or assignment information, often yields an incomplete list of patent prior art because of the following reasons:

- The company may have acquired patent rights through acquisitions. Therefore, these patents may not have been included in the database.
- Patent applications assigned to other companies, e.g., subsidiaries, affiliates and holding companies, may not be reflected in the sorted list.
The assignment information was filed later or the name of the company was spelt incorrectly.

Evalueserve research shows that in extreme cases it may not be possible to uncover 80 percent or more of a company’s patent portfolio through a conventional assignee-based search of these databases. Given below are three complementary techniques that can be used – individually or together – along with those described above:

The USPTO Patent Assignment database [Reference 9] contains all recorded patent assignment information from August 1980 onwards. Furthermore, the ‘Patent Assignment Query Menu’ in the database enables patent searching by using various fields including the Assignee, Assignor, publication number and patent number. However, this database does not enable a keyword-based search within the abstract or the full text of the patent application. Hence, the conventional USPTO database can be used for the prior art search, in conjunction with the Patent Assignment database, to obtain a more complete patent portfolio of an entity or organisation. Since the Patent Assignment database can also uncover patent applications and granted patents that were acquired or bought by the company (as long as the ownership of these have been recorded with the USPTO), a keyword-based search in the USPTO conventional database, as well as that of the Patent Assignment database, can be used to obtain better and more complete results, especially with respect to the chain of past ownership information for each of the patents in the portfolio. Finally, the ability to search patents in an expanded corporate patent family is only offered by a handful of databases. An example of such a tool is the Thomson Delphion patent database, which offers a ‘Corporate Tree’ tool [Reference 10] to search patents by using the names of subsidiaries, as well as that of merged and acquired companies.

Another technique is checking accuracy by using complementary databases, e.g., correlating PCT filing information with USPTO filing information.

Yet another technique is performing inventor-based searches along with assignee-based searches to get better results. This works well because there are many published applications for which assignment information may not have been recorded.

First Case Study: Prior Art Search with Respect to Web 2.0 Technologies

Web 2.0 technologies [Reference 11] broadly refer to the technologies used by interactive websites and web-based applications that enable users to collaborate and share information and data. Popular examples of Web 2.0-based applications include web-logs (or ‘blogs’), Wikipedia, Adsense, Flickr, and social networking tools such as Orkut. A broad keyword-based search was conducted by using the Delphion patent database for granted patents and patent applications filed at the USPTO, the European Patent Office (EPO), the Japanese Patent Office (JPO) and the World-wide Intellectual Property Office (WIPO), and published during the period January 2001 to May 2007 (although clearly most of these applications were probably filed after 2003, since these technologies became prevalent only after 2001).

Evalueserve shortlisted the companies with the highest patenting intensity, and eliminated the patents and applications of the companies that were not relevant to this area, to arrive at a final list, which was analysed further. Not surprisingly, Evalueserve’s analysis showed that Microsoft, Yahoo!, Google and IBM were the most active filers. Figure 1 shows a jurisdiction-wise break-up of the patents of these four players (on the basis of patents and patent applications filed at the USPTO and EPO, and PCT applications).

The search strategy given above concludes that only 13 percent of Google’s total filings are at the USPTO, whereas 78 percent of its filings are PCT applications. This result seems to stand out since more than 50 percent of the filings of Microsoft, IBM and Yahoo! are also at the USPTO. However, a closer examination reveals that around 84 percent of the US patent applications filed by Google in the Web 2.0 space did not have Google’s name printed on the published patent application, since this information was not provided to the USPTO at the time of filing.
Typically, PCT patent applications are filed within a year of the corresponding US patent filings, and according to PCT rules, assignee information needs to be provided at the time of filing the PCT application. Furthermore, published PCT applications include information on the priority dates and publication numbers of earlier patent filings from which the priority is claimed. Consequently, on extracting the corresponding US patent family members from Google's PCT filings, a revised and corrected estimate shows that 50 percent of Google's filings were at the USPTO. Figure 2 shows a revised and corrected jurisdiction-wise analysis of Google's patents and patent applications, after taking into account the discrepancy mentioned above. Therefore, correlating PCT filing information with USPTO filing information yielded more accurate results for formulating a competitive intelligence report.
Second Case Study: Patents and patent applications filed by Google and Yahoo!

The objective of this case study was to discern the usefulness of the USPTO Patent Assignment database while performing an assignee-based search for a competitive intelligence report. Evalueserve conducted the search by using the USPTO patent database as well as the USPTO Patent Assignment database for patents and patent applications filed by Google and Yahoo!, which were published before August 22, 2007. Table 1 shows the search results obtained from the Patent Assignment database, in addition to those found in the USPTO patent database. It is interesting to note that a traditional USPTO patent database misses out on more than 88 percent of Google’s US patent portfolio.

Table 1: Patents and patent applications filed by Google and Yahoo!

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The additional list of patents obtained by a search on the Patent Assignment database could result from the following:

1. The assignment information was recorded in the USPTO Patent Assignment database after filing the patent application.
2. Additional patents or publications were added to the portfolio as a result of acquisitions.

Further analysis of the additional search results reported by the Patent Assignment database can provide some very interesting insights. For example, some of the patents and patent applications filed by Google in the area of mobile telephony are a strong indicator that rumours about the ‘Google Phone’ may not be unfounded after all. Some patents owned by Google in this area include:

1. US Patent number 6785566, titled ‘Cellular Telephone Case’
2. US Patent number 6,982,945, titled ‘Baseband Direct Sequence Spread Spectrum Transceiver’
6. US Patent Application number US20060004627, titled ‘Advertisements for Devices with Call Functionality Such as Mobile Phones’
8. US Patent Application number US20070066364, titled ‘Customized Data Retrieval Applications for Mobile Devices Providing Interpretation of Markup Language Data’

In the list given above, except for US Patent number 6,982,945, none of the patents were obtained by assignee-based searches conducted on conventional patent databases, and a search on the USPTO Patent Assignment database was required to ferret out this list.
The Patent Assignment database also enables an interested inquirer to stumble on quite a few of Google’s other pursuits. For example, Google has filed patent applications in the following areas, which may provide us with a tantalising glimpse of things to come:

1. A receiver circuit that can enhance the performance of an audio/video receiver such as digital TV (Google ads broadcast directly to TVs?)
2. A method and system for enhancing video games and video game systems by providing advertisements, prizes and other benefits to gamers (Google ads embedded in video games?)
3. A visual mobile search system that utilises images captured by mobile phones with cameras in many interesting ways (image recognition, bar code reading and automatic payment processing at Google servers – the future Google supermart?)

In a similar manner, Evalueserve uncovered information about potential products from Yahoo!, Inc. by using the Patent Assignment database. For example, some of the recently published patent applications filed by Yahoo! mention the concept of Television 2.0, which takes television viewing to a new level, adding interactivity and personalisation that is similar to Web 2.0. Hence, the age-old TV set may become an online social network, providing a shared viewing experience with instant messaging between multiple users watching the same TV show. In addition, users may be able to rate and recommend TV shows, share photos, play games and access online web applications.

Conclusion

Evalueserve research shows that techniques using traditional databases to analyse a company’s patent portfolio have several drawbacks, and in some instances can severely restrict the usefulness of a competitive intelligence report. When searching for US patents and patent applications, the search strategy should include an additional search through the USPTO Patent Assignment database. Patent applications with missing assignee information can be uncovered in this manner. In addition, patents and patent applications filed by an entity, and acquired by a company, can be discovered if the new ownership has been recorded in the USPTO Patent Assignment database. While doing this, it is however important to perform some accuracy checks by using complementary analyses. For example, it is useful to correlate PCT filing information with USPTO filing information. Performing an inventor-based search can also provide better quality results, when conducted with an assignee-based search, especially when there are a large number of published patent applications whose assignment recording has not been made.

Anyone who is interested in performing a ‘real’ analysis of a patent portfolio can benefit immensely by creatively using the techniques described above.

References

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- Assignments on the Web http://assignments.uspto.gov/assignments/q
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About Evalueserve

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EVS Contact

EVS Media Relations
Tel: +91 124 4154000
pr@evalueserve.com