

Today's Date: September 12, 2012

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First-to-File and the Speed of Technology Evolution



Written by **Mark Nowotarski**
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On Twitter: **patentbuzz**
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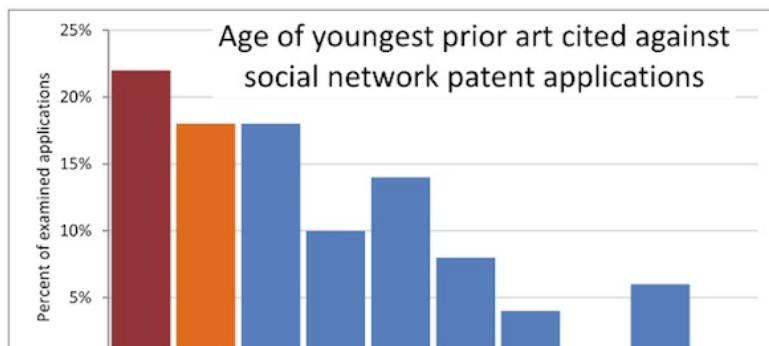
The new first-to-file mantra is "File early," "File often." But I say, "How early?," "How often?" Who needs to be rushing to the patent office as fast as they can, and who needs to be better prepared before they file in the first place.

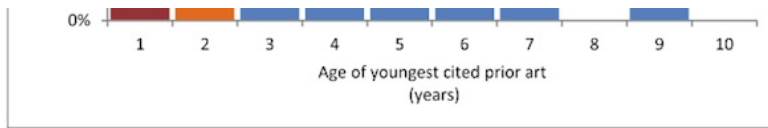
An important consideration is how fast the technology in your field is evolving. A useful measure of how fast technology is evolving is the age of the prior art is that is currently being cited against patent applications in your field. If young art is being cited, your field is moving fast. If old art is being cited, your field is moving slow.

I took a look at several random samples of patent applications currently or recently examined to see how young the prior art was that was being cited against them. These random samples were divided into several fields of technology. There were 50 applications in each sample. The youngest art that was most recently cited against an application's independent claim was identified. This was done by looking at the file wrappers available on the USPTO's public PAIR web site.

I defined the age of a reference as the effective filing date of the application minus the effective filing date of the reference. If a patent application had an effective filing date of January 1, 2008, for example, and the prior art being cited against it had an effective filing date of January 1, 2007, then the art was one year old as of the filing date of the application.

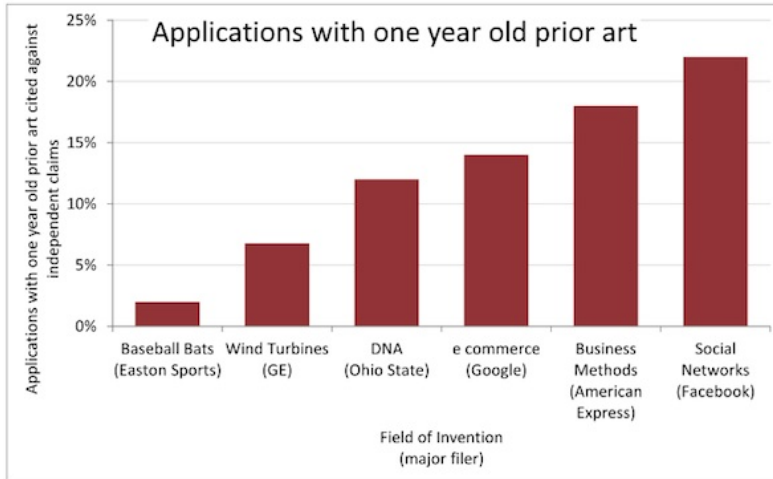
Here's what the prior art age distribution looks like for a random sample of 50 social network patent applications. These applications have the phrase "social network" in them. They generally fall into the classes of computer implemented inventions, such as 455, 705, 707 and 709.





22% of social network patent applications are filed within one year of the youngest prior art cited against them. So speed of filing counts. If these applications had been filed a year earlier, then 22% of them would have avoided the youngest prior art cited against their independent claims. The applicants would have had correspondingly broader claims allowed. They would not have had to argue or amend around this prior art or abandon their applications altogether.

Not all fields of innovation are moving as fast as social networks. Here's how a variety of different fields compare to each other.



This graph shows the percent of applications that had prior art cited against them that was one year old or less. Examples of major filers in the different fields are also shown. These include Easton Sports for baseball bats, GE for wind turbines, Ohio State or DNA, Google for e commerce, American Express for business methods, and Facebook for social networks.

The more slowly evolving fields were Baseball Bats and Wind Turbines. The average age of the youngest art cited against these applications was 10 to 15 years old. Some references were even 100 years old. The maturity of the art suggests that applicants should make sure their inventions are fully developed and their prior art searches are thoroughly performed before they file. There is no point in rushing to the patent office only to have a 100 year old reference shoot you down.

The mid speed fields were DNA and e Commerce. A significant fraction of these applications have one year old art cited against them. Timely filings, therefore, are important. The speed of filing, however, appears to be leading to a fair amount of wasted effort. Applicants are having a tough time getting their claims allowed, especially in the field of e Commerce. Improved preparation before filing may help but it should not come at the expense of timely filings.

The high speed fields were Business Methods and Social Networks. 18% to 22% of these applications had one year old prior art cited against them. They also had a lot of secret prior art cited against them, with 20% to 30% of the youngest citations being unpublished at the time the applications were filed. This suggests that applicants in these fields should file as fast as they can and then continuously keep watch for newly published patents and patent applications that might have been filed before they did. That way, they won't be blindsided when an examiner cites one of these references against them.

First-to-file is coming. Steps can be taken now, however, to get ready. Measuring the age of the prior art currently being cited against patent applications in your field will help you judge just how fast you need to file. Looking at how difficult it is to get patents allowed in your field will help you judge how thoroughly you should prepare before filing. Seeing how much secret, unknowable prior art is ultimately being cited in your field will indicate how important it is to keep watching for newly published prior art that was filed before you did. Balancing all three will be important for your success in the new first-to-file regime.

About the Author

Mark Nowotarski is the President of Markets, Patents & Alliances L.L.C. and is a registered U.S. patent agent specializing in business method patents. He

currently serves clients in the financial services, medical devices, consumer products and manufacturing industries.

Mark is also co-editor of the Insurance IP Bulletin. The Insurance IP Bulletin is dedicated to providing useful information to innovators in the insurance industry regarding the protection of their inventions with patents and ways to effectively promote their innovations.

Mark is a former Associate Director of R&D for Praxair. There he was responsible for the development and successful worldwide introduction of new products into the health care, electronics, and manufacturing industries. He was a leader in the reengineering of Praxair's patent system, and was responsible for technology planning for their home health care division.

Mark is an inventor on 17 US patents. He was appointed Corporate Research Fellow for the commercial impact of his inventions (+\$300 million in sales).

Mark has a Master's degree in Mechanical Engineering from Stanford and a Bachelor's degree with honors in Aerospace, Mechanical Sciences and Engineering Physics from Princeton. His academic awards include the Sigma Xi award for most outstanding Mechanical Engineering research at Princeton and the Union Carbide Award for Academic Excellence and Leadership in Mechanical Engineering, also at Princeton.

8 comments

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1. PS DIP [October 13th, 2011 9:16 am](#)

Mark,

There are a number of reasons why recent publications are preferentially cited by examiners that are difficult to control for. Here are a couple that come to mind:

1) When an examiner performs a search on their in-house engine (EAST), the PG-Pubs are preferentially displayed first in descending order of publication (newest to oldest). Therefore, recent publications will be reviewed first before less recent publications. An examiner is strongly encouraged to stop searching when a reference which may be used to form a rejection is identified.

2) The more mature arts are populated by more experienced examiners. In my experience, those examiners are more likely to dig down through the art and not settle for the 'first' reference which lets them reject. They are also more likely to utilize a 'favorite' reference that they know well to put forth a specific rejection.

2. [Mark Nowotarski October 13th, 2011 10:47 am](#)

PS DIP

Very interesting. Thank you for the insight. That's consistent with the fact that the baseball bat patent applications were all examined by the same examiner who appears to be quite experienced. His oldest reference was from 1905.

3. Stan E. Delo [October 13th, 2011 11:52 am](#)

Mark-

Thanks for this article, the topic of which helps to apply some reason to patent filing strategies, which we all need to start thinking about very soon. It is especially useful for me, because I recently filed an application for a new type of wind turbine. Since I didn't want to waste time and money, I spent a fair amount of time making Very certain that they worked as advertised, and since I was a bit skeptical that it was really new, I spent a Lot of time searching the prior art six ways from Sunday. My experience was almost exactly like you describe for the lower range, where I found pockets of time periods with lots of art, in my case the mid 30's, late forties, the mid sixties, and a growing trend in the last 10 or 15 years, which is certainly not a surprise for me at least.

The most recent and closest was from 5 and 7 years ago, (same inventor) which was easy to avoid and my claims look very broad, at least before the examiner works them over. Thanks to PS for the tip about publications and examination, which is very good to know about. I think I will go back and refresh my search again, to see if anything surfaces before I get a FOA possibly 3 or 4 months from now. Now that I have identified all the relevant classifications, it will be very easy to go back and look at the last year or two to see if anything new has surfaced. I will be able to spot them with just a glance at the figures, as I know what all the older stuff looks like, which is a great benefit of doing my own initial search, which I had checked by a very experienced patent agent. He has over a 90% success rate, which I found pretty amazing, as he is known for getting every bit of scope out of examiners that is practically possible, according to referrals by other clients. We can make an appropriate plan B if I find something that might poke a stick in my spokes.

Cheers,
Stan~

4. [Mark Nowotarski October 13th, 2011 12:06 pm](#)

Stan,

Great feedback. I'm glad this is consistent with what you found. You might want to give the European patent art a good thorough search, including national filings (e.g. GB, DE). Examiners were citing a lot of that against wind turbine inventions.

5. Stan E. Delo [October 13th, 2011 12:21 pm](#)

Good point Mark-

I chased down quite a few foreign references at the time, but perhaps it is a good time to revisit that whole area. The Europeans have been technically very advanced compared to the US in the past, but the US is catching up pretty quickly. If the US were to have consistent energy policies it would help a lot, as larger manufacturers are never too sure what their bottom line might look like 2 years from now. Not such a big deal for me, as I am working in the Small Wind Turbine (SWT) field so far.

6. [Mark Nowotarski October 13th, 2011 12:59 pm](#)

Stan,

Sounds like fun. I've got a friend that has a small wind farm if you need an out of the way place to test things out. You can contact me through my web site for more info.

7. [Mark Nowotarski October 14th, 2011 9:22 am](#)

I'd like to pose a question to our readers.

Does the speed of evolution in the social networking graph make sense? The average age of the prior art is about 3 years old. Is that how fast significant improvements are being made in social networking technology?

8. [A Special Thank You to Our Guest Contributors! | IPWatchdog.com | Patents & Patent Law December 2nd, 2011 5:53 pm](#)

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