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Re-inventing the Innovation Process

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The United States
Patent Utility™



Moderator I'm joined by Jay Walker, who is the founder of Priceline.com and is a prolific inventor, in fact the eleventh most patented inventor living today. Also joining us is Jon Ellenthal who is the CEO of The US Patent Utility. The topic of today's discuss is – Re-inventing the Innovation Process. Before we get going, I will turn it to Jay first to give us some initial thoughts.

Jay Walker Because of the sheer speed of the marketplace, companies have realized that no matter how big their R&D budget is, it's nowhere big enough. Therefore, they're going to have to figure out how to blend internal innovation with external innovation. The world is rapidly moving in that direction while at the same time the licensing regimen of bringing outside innovation in is really nowhere nearly up to the task.

Now big companies with their teams of lawyers and licensing agents can do things that small- and medium-sized companies can't. So I think we are going to face in some sense a crisis as companies, especially in the small- and medium-sized-enterprise market look for outside innovation, most of them are trying to figure out how they reinvent the innovation process.

We spend a lot of time working on this at The US Patent Utility because it's one of the core areas that we have focused on reinventing, which is really the business process of how you reach outside for innovation. We've spent several years working and developing software that approaches that problem differently and thinks about that problem differently. I can only tell you that that is one tough problem.

Moderator Jon, do you have any thoughts on that?

Jon Ellenthal We came across something a few months ago that I think sums up the competitive realty for all companies very well. Bill Joy was one of the co-founders of Sun Microsystems, and he had a set of principles which are now referred to as Joy's law, which basically say that no matter how smart you are, the smartest people work for somebody else. He went on to make the point that no company can solve for all of its customers needs by relying solely on it's own employees and resources. It's always been a good idea to look outside of the firm for knowledge experience and talent that could help solve an internal problem faster, and they've always been crude tools to do so. The good news is that the tools that are now available to quickly make sense of giant piles of information and tease out the useful commercial components are now available to let any company efficiently access external knowledge and expertise that could help to solve an internal problem faster. In our view in today's economy, it is a competitive necessity for any and every company, small, medium, large to be very efficient at figuring out what outside of the firm could help to solve a problem inside of the firm faster, better, and cheaper than the competitors can do it.

Jay Yes. As you were talking, a couple of thoughts popped into my mind. One is transaction costs because I think that that is, at the hub, a real significant problem in the private sector because you have some of



these innovations that people would like to use which are worth something. They're not maybe a million-dollar innovation, but they're nice. They should be rewarded with a payment, and they're worth something, but if the transaction costs are so high to acquire the right or to even start the process to find out who really owns it and get in touch with that person, people will make different choices. I think that having a licensing regimen that reduces transaction cost is absolutely essentially--and you will see a lot more people want to do that. Because I fundamentally don't think people want to infringe.

Jon I think you're right. One of the developments that we created at The Utility was the notion of a no-fault license. This was a license that was bought in bundles, so that a company could list its non-core patents in our catalog, much like the ASCAP catalog. Once somebody became a member of The Utility, they could, as part of their membership, get a bundled of licenses embedded in the cost of their membership. We would then distribute a portion of the membership fee back to the owners of those patents. The beauty of those kinds of system is that, if you can unlock a large volume of low-price licenses, you are at least creating some commercial value, in many cases at least enough to pay maintenance fees if not a little bit more. That is more than the cost of maintaining the patent let alone not having to abandon it. However, that idea of a no-fault license is really just one of what needs to be several concept to reduce transaction cost.

If you look at Toyota with its Kaizen (change for better) manufacturing improvement process. I believe that Toyota solicits and receives from the employee who work on or near the manufacturing lines, some are on the order of 100,000 suggestions a year on how to improve the assembly line's efficiency, quality, and cost structure. Even if they only implement, let's just say, 5,000 of those--and they give awards and other things for it--you can see the cumulative compound value of thousands of small inventions. It's the same with the U.S. economy. There were hundreds of thousands of new patents every year, and they cumulatively raised the bar for the next generation of inventors who read those patents and improved them, who cumulatively raised the bar etcetera. This idea of enormously broad, low-cost, and yet at the same time, cumulative improvements has been the backbone of major systems that have proven high robust and effective.

One of the ways in which we look at the patent database, which I think is a little different than most is that, in addition to the property rights that are contained in the patent, we look at the patent as an advertisement for a much deeper set of capabilities and expertise by the patentees, both the inventors and the company that owns the patent. Very often the patents is an indicator of the resources are expertise that you're going to need to solve the problem even if the specific claim language doesn't speak to a solution, so when you consider that only a tiny portion of what the inventor or the inventor organization knows about a particular topic is contained in the claim language, we can then use patent analytics or the metadata around patents to find resources out there by looking at the patent system smart that can really help a company innovate better.



Moderator

Yes. That was the other thing that came to mind back when you were talking. So many of these companies, and maybe it's a function of any-sized company, but I think you see it probably a lot more with larger companies. They get so focused on an area, and they're working to improve what they've got because they're making a lot of money on a certain product or service, and they start to focus on that. Any time you start to really focus on something, you start to lose perspective.

Innovators look at problems very differently, and they look at them in a way that doesn't get married to any particular solution, but they think about what needs to be done, and then they break through barriers. That to me is one of the most important things about working with an innovator or acquiring rights from an innovator because like you say, the best stuff that they know is not in there. That's not to say that anybody was playing fast and loose with the rules. But you follow patent application, and normally you continue to work on the innovation. You get all kind of great additional information that you may not ever wind up putting into a patent application because there's no duty to update with newer-better information that you have. Maybe to you it seems like it's such a small incremental improvement that it wouldn't support its own patent application, so you then hold that as a trade secret. Patents and trade secrets are incredibly symbiotic.

Jon

Yes. They are symbiotic. What's contained in the patent is very limited. There are obviously benefits of specialization, but I agree with you that most breakthroughs don't come from deep within inside of a specialty and more often come from connecting things across specialties or between specialties.

We agree that there's tremendous benefit when you're innovating to look outside of your known discipline, which is really a place where the patent database can be enormously helpful. We all have go-to networks when we need to call somebody and try to solve a problem, but a lot of those resources are within our industry, and we have very limited visibility into other industries that might be doing things that could be helpful to solving a problem that you're having. Steve Job's definition of creativity was basically connecting two things that hadn't been connected before and synthesizing that connection into something new. He organized his management team to modeled a little bit on a liberal arts framework because he very much wanted people from different disciplines banging into each other because he believed that that would create an environment for better creativity.

Moderator

Jay, any thoughts on that?

Jay

I think again, my biggest thought would be in agreement with Jon, which is that, when you view patents as instruments and as answers to problems--which is a perfectly valid way to view a patent. It's an instrument and it's an answer--you see a tiny fraction of what is really there. If you view the patent as an advertisement of the capabilities of an inventor or of the priorities of an organization or a department within an organization, you see a much different picture. The patent may be five or ten years old, and may not have an invention that's currently practical for what you're doing, but you can be sure that that inventors, assuming they haven't retired, is now five or ten years older and smarter.



You can be sure that the organization that funded that R&D and paid the legal cost to own that invention, is probably still in that field funding new R&D and doing new areas of inventing that were directly related to this area five and ten years ago. So there's a real logic of looking at the patent database both active and expired as sort of an incredibly super-big Yellow Pages.

If you use semantic search tools which is sort of what we use at The Utility when we go through that database to describe problems, not just as keyword matched, but instead as concepts, you'll often turn up in the database, especially outside of the fields you're expecting.

You'll turn up inventors and organizations you didn't expect that are working on similar, if not almost identical, types of problems on which you are now working today that if you contacted those organizations or inventors, I think in many cases, you'd be amazed at how helpful they may turn out to be as commercial partners, as opposed to a licensing source for the particular 649 patent. I think there's a very significant opportunity for firms, whether they're the law firms or the manufacturers, to rethink the patent database as something much richer, much more useful, and in many ways much more surprising than most people think of it today.

Jon When you look at the U.S. Patent Database as the largest collection of technical knowledge and technology experts in the world, which it is by far--and with the right tools the one's that Jay described--there's a tremendous opportunity to unlock commercial and competitive benefits for any firm. That was really a big part of our motivation behind building The United States Patent Utility was to create a simple and affordable set of tools and services that would allow any company to benefit from the competitive and problem-solving capacity inside of the U.S. patent database.

I've even seen numbers. You probably have seen better numbers where I think it was the European Patent Organization said that 80 percent of the world's technical knowledge is contained only in patent documents. If that's even partially true, it gives you an appreciation of the quality and sophistication and size of the technical database that is the U.S. Patent Database. It gives you an understanding of just how valuable the metadata in that patent database can be for companies that are trying to solve problems faster than they're competitors and get early warnings into what competitor might be working on.

Moderator I know. I think that's right. One of the metrics that goes into determining inventiveness is the amount of patent applications you are filing for. Now that's not an absolute measure, but it sure does give you an idea because getting a patent or at least filing a patent is not a cheap endeavor. It's not something that you typically do when you don't think you have something that is unique and useful.

The story that I always tell about the patent database is, when I was in law school there was somebody with whom I was friends with. He had come over from China. He had come over from his



company, and they wanted to learn U.S. IP law. He was talking to me, and he said that one of the things that they were looking to do was to license U.S. technologies and license patents. I looked at him and I said well, why don't you just take them because they're not protected in China, and they're published. He said, yes, but we know what's in the application, but what we don't know is what's not there. They were actively looking to find those relationships knowing that the best information is going to be in somebody's head somewhere or kept as a trade secret. They wanted to have those people go over to China and show them that. They were willing to pay for that.

Jon Exactly! What we've tried to do is, we've created the first tools that help you understand what might be in someone else's head by taking a fresh look at the commercial value of the patent database.

Moderator Tell me a little bit about your semantic search. I suspect that it's a bit more sophisticated than your average search.

Jay Yes. We've spent millions of dollars both directly and indirectly on the semantic-search engine. Semantic search for those who are not terribly familiar with the term basically says that the search instead of using keywords, uses keywords if necessary, but abstracts those words into concepts. As an example, IBM's Watson software, which played Jeopardy. The Jeopardy game is really all about puns, and clever double entendres where the answers appear in sort of a sophisticated, manipulated format. The player must come up with the relevant question. For the fact that software can interpret puns and double entendres, shows you the power of semantic search.

The semantic search is a kind of software, which linguistically attempts to interpret meanings and concepts of equivalency, so one person's zipper is somebody else's interlocking fastener or is some other term of art that just says some sort of connection technology. There's a million ways to say the word zipper, but all of it is a connecting concept or connecting technology. We've recognized that most complicated problems are not described in a keyword or in even two keywords. If you're looking for a coating technology that's non-carbon based, that has a five to ten year minimum, useful life that has no toxic byproducts that works in a temperature range of 8 degrees to 130 degrees and doesn't break down in organic-solvent environments, well, that's a complicated question. No keyword search in Google is going to even approximate finding a relevant patent for that. On the other hand semantic search takes all of those terms, pulls them together. It might even pull together other elements of the kind of product in which that coating technology is being used, and then search 200 million pages of U.S. patent specifications in an effort to find that there are things across all different fields that look like it's relevant to that. That's still doesn't replace the need for humans, preferably analysts, to read those results and sort them, and maybe do two or three passes through before what comes out of the other side is a set of relevancy scores across an entire potential universe of relevant technologies. That's what semantic search does that's very, very different than keyword search.



Jon Just to put a fine point on it. Semantic search gets at the meaning and context of what's being said as opposed to keyword search where the word in the search inquiry is also in the search result for it to surface. I came across a fun stat acknowledging that in the English language there are 645 distinct definitions of the word run, which is an indication that keywords search, while incredible, has real limitations.

Moderator **Yes. It certainly does, and that I think a lot of people would say is why some of the patent examinations are not as good today as they were once upon a time when examiners really knew the field in which they were working and did not simply rely on a keyword search because you can find so much more. I was doing a search years and years ago, and it was for something on which I knew there had to be a lot of patents. It was for what I would've called a bubble mailer, but that wasn't at all what people were calling these things.**

Once you figure out what patent attorneys are calling them, everything that you need is right there. Semantic search is incredibly important. That really is how people innovate. As you were just talking, guys, I was thinking about the story of how 3M came up with the Post-it Note. It was one guy Art Fry. He was working on this project his own personal extra time that 3M gave its inventors. He was trying to find the right adhesive. He was talking to somebody, and they were like, I think we might have the right one that you might want to try. They were looking for a strong adhesive, and he says it just wouldn't keep its stick. You could re-stick it. So these two people got together. They worked for the same company. Once they figured out that they both had a piece to the puzzle you get Post-it Notes.

Jay Yes. In fact I suspect that giant companies are going to discover in the years ahead an advantage they don't even realize they currently have when they discover a way to both inventory the expertise of their own widely flung engineering resources and not only capture it, but also make it searchable with semantic tools. Suddenly they will have a kind of advantage because those people already work for them that companies that have to only go to the outside can't match.

Jon If you think of the patent database as the largest public inventory of expertise, when you add to that a private inventory inside of any company, you are then in the best position to combine the best of outside expertise with the best of in-house expertise to solve problems and stay ahead of your competitors.

Moderator **Yes. I know one of the things, and we've kind of danced around it, but maybe we can just directly address it here is this idea that every company needs to improve products faster and cheaper than their competitors. Relying on what you're doing inside is not really the only solution at which you should be looking. Those companies that are more progressive and understand that they don't have all of the answers really do look to other outside companies and are interested in doing deals,**



whether that's to acquire patents or license patents or engage in joint venture. That's really one of the things on which you guys have been focusing isn't it?

Jay Absolutely! We created a utility, which is a very intentional term of art in order to try to communicate to the marketplace that a new class of business is going to come into existence that doesn't get paid by the license or doesn't get paid by the transaction, but simply gets hired for a nominal sum of money to provide a set of innovation services that relate primarily to the patent marketplace. Those innovation services are primarily in the reporting area, but they can also add in the licensing area, as well as some buying services that make us small- and medium-sized guys more efficient compared to the big guys. At the end of the day, when you look at what we are trying to do, we're the first of a generation of people who say, you're going to need inexpensive resources that help you to innovate faster, cheaper, and better, that allow you to access the outside world using very sophisticated software tools and large databases such as the U.S. Patent Database as well as world's technical literature, so that you can answer very-specific, complex problems quickly, not because we can answer them, but because we can point you in the right direction of the people and organizations that are most likely to be the organizations and people that you need to talk to. That I think is going to be big change. If the early indication is anything to go by, we've got an extraordinary range of companies that agree with us from the very biggest Fortune 50 to plenty of startups who say this is a really smart idea. You guys need to develop these kinds of tools that we can use for relatively little money.

Jon Yes. I think it comes down to math. When you consider that for every dollar any individual company spends on trying to solve a particular problem, the world spends thousands of dollars on the same or a similar problem, so there's tremendous leverage in efficiently looking outside, and you can effectively expand your R&D budget and capacity dramatically. Your competitors are probably looking at doing those same kinds of things.

Moderator **We are a few minutes over, but I'd like to give both of you a quick lighting-round opportunity to wrap up. Jon, you want to go first?**

Jon I think my wrap up is, we live in a world where it no longer makes sense to go it alone when it comes to innovation. The U.S. patent database is the global record that inventories inventor and company expertise. With all of these new software tools that are now available to search that information in smart ways for relevant results, now any company can tap into the world's R&D budget to solve its internal problems.

Jay I think what I would add to that and since many of your readers are law firms I think many attorneys have a long-standing way of looking at the patent system and saying if you can't litigate it's worthless. I don't think that's true. I think the vast majority of patents have value to somebody. It's true that without litigation, your likelihood of licensing is low, but that doesn't mean that the patent database isn't filled



with value. Many of your clients are looking to your law firm to say, hey, show me how patents can help my business.

One of the way patents can help your business is by using The Utility's services to answer complex questions and by using smart search and semantic search inside of The Utility. They can try it for free for a month, so it's not like it's going to be an expensive problem to try. They can start to recognize how the patent system can work for them as clients. This is true for small, medium, as well as, large companies. I suspect that once they start to appreciate that the patent system can work for them, they are more likely to want to use your law firm in more strategic ways as well as possibly to file more patents. I think that for a lot of patent attorneys, there's a need to broaden and at the same time deepen their appreciation of how to use the patent system for their clients, and on behalf of their clients to grow their client's business.

ABOUT THE US PATENT UTILITY:

The Utility is an Innovation Service Provider that helps companies of all sizes find the people, organizations, and inventions that provide solutions to innovate faster and more efficiently. To learn more, visit www.USPatentUtility.com, or speak with a Utility rep at (800) 796-3345.

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