Innovation Intelligence Fundamentals:

Beyond Patents for Innovators, Inventors, Makers and More – *Video Transcript*

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Module 1: Introduction to connected innovation intelligence, beyond patents

Thanks for joining Innovation Academy. I'm Nasreen Bakht Brady, IP attorney and Senior Product Manager at PatSnap. This is the second building blocks course in our innovation intelligence fundamentals series.

In this course, we'll continue the discussion on innovation intelligence and the benefits to innovative organizations. We focused on patents as a source of intel in another fundamentals course. And today, we'll look beyond patents and discuss how innovation strategy and decisions can be informed by wide and disparate data sources, connected to efficiently provide a fuller picture and raise the bar of knowledge and intel across an organization and ultimately improve innovation.

So if patents can be an important piece of the innovation intelligence puzzle, that means there are many other important sources from which to gain insights and intel. If your view of the market, technology landscape, competitors, the world is through patents alone, you'll be missing a lot and probably will have a morphed view of reality – remember patents describe technology in a way to protect it, which may or may not represent how or who is practicing that technology in the real world. But more data isn't always 'more better.' It can quickly turn to more work, less insight, and a lot of noise.

Looking to a variety of data sources sounds hard though and has some apparent challenges – where do you look, and will gathering insight be many times slower the more sources you look to? One of the big challenges around being smartly informed and armed with good innovation intelligence is to include the many sources that will provide the fullest picture without missing anything important and quickly getting to relevant and actionable insights. That's why this course will consider:

1. Collaboration as a foundation and key to better intel gathering and impactfully leveraging innovation intelligence
2. And because we've already focused on patent intelligence, broad Innovation intelligence sources beyond patents - informative sources of intel that can be considered in addition to, alongside, or in the absence of patents

3. Ways to connect and make disparate data more useful - to help explore and validate and to leverage connection points.

When you consider how much effort should be placed toward innovation intelligence, remember that good innovation intelligence helps make good innovation decisions, and these decisions are important. This intel is important throughout the entire process to create and see through the success of inventive technologies, including commercialization - also for ongoing monitoring of competitors and potential risks or opportunities. But many of the very big decisions that require the best intel are at the beginning. After all, strategy comes first.

What are the most promising markets and what potential do they hold?
Which ideas should you develop and invest in?
What will strengthen our position against competitors?
Where is the opportunity and where is the risk?

The many questions that feed into to most basic innovation decision – what should we do? And shortly after that decision comes another big one – how do we do it? These two questions carry big weight, and as innovation is core to so many industries, these are 'make it or break it' decisions.

Example: House MD

While they aren't developing innovative technologies, another kind of important decision comes to mind where collaboration, data from disparate sources, and connecting that data in meaningful ways makes a big difference. House MD is a medical Sherlock Holmes derivative, where Dr House runs a top diagnostics department where he and his team handle cases that others couldn't figure out. While their success is measured in diagnoses and saved lives, they employ similar strategy that creates impactful connected innovation intelligence.

And in place of innovation intelligence, to inform their decisions, this team collects an impressive patient history, well beyond the norm. Where a typical patient history might consider all past medical tests and the patient's symptoms and personal and family medical history, this team collects this info and more from the patient and those around them that might not seem relevant or connected, or only faintly so. The patient's current state is observed through a full bout of medical test and scans, and their environment is studied, their occupation, where they spend their time, and life changes are all taken into consideration – disparate data to provide a fuller picture of the patient.

Additionally, House's team is comprised of different types of doctors who work together instead of siloed. The team with different specialties benefits from varied perspectives, so when these varied perspectives come together to look at all the

data they've collected, they have a better understanding of the patient and are able to gain relevant insights, draw connections, and come up with most likely diagnosis and test it along the way to validate.

Whether difficult medical diagnoses or building successful innovative technologies, insight from a single source of data, viewed through the lens of a single perspective, and used for a single step in a greater process is not ideal. Or in other words, I'm hoping for intel gathered from disparate sources to provide a fuller picture and used by collaborative teams who share knowledge and leverage their varied perspectives to make the best informed decisions toward a shared goal, no matter the part they individually play. In the next section, we'll look at the key role collaboration plays.

Module 2: Collaboration as a key component to successful innovation intelligence

Welcome back. Before we dive into gathering and using a variety of disparate data sources together, let's discuss the immediate benefits of intel and collaboration. Companies often carry out these ongoing or specific intel gathering projects to help make big upfront innovation decisions, and they are likely carried out or owned by different teams or departments within the organization: market intelligence, competitive intelligence, and technology landscape are three main ones. And while one team may be responsible for one of these areas, the impact of decisions made based on that knowledge gathered impacts everyone. Good collaboration and openness can lead to:

1. Improved use and value of innovation intelligence
   AND
2. Improved quality of intelligence

First point – it doesn't matter how good your intel is if it's not well used. In other words, no matter how good your intel is, if you share the intel across teams and everyone involved in innovation, the intel becomes more valuable.

Example: Craft Brewery

Let's look at a simple, non-technical example in the beverage industry, specifically beer. Craft beer has continued to grow in popularity in the last decade, and "innovation breweries" that aim to continually create new recipes rather than producing their staples repeatedly are common and are common offshoots of big breweries and beverage companies too. Let's look at two players – Marketing and

the Innovation and Production team responsible for creating the recipes and making the beer.

Let's imagine an example of poor collaboration – siloed teams and siloed intel. The Marketing team carried out costly research and found Citra hops were hot at the moment. Also, coconut water and coconut flavored seltzers are the company's top sellers for the hot months of summer. Feeling confident in their findings, they put substantial efforts and investment toward a huge marketing campaign that would lead into the Summer months, and let the Innovation/production team know that coconut flavored beer with lots of Citra hops was needed for July.

The Innovation and Production team are not happy. They find it a poor and impossible choice. Based on their research and intel, Citra hops are nearly impossible to source at the moment, the last tests to flavor hoppy beer with coconut was unsuccessful and produced off flavors, and they recently purchased a huge amount of raspberries that had to be used soon.

Two, well-intentioned teams who put efforts into research but were siloed from internal collaborators that are key to success in different ways. The teams didn't share knowledge and intel. And no matter the path forward at this point, resources will have been wasted. In this example, we can pretty easily see that had they each shared their research and knowledge across teams so each could make better informed decisions before acting, it would have helped. Even without improving their intelligence efforts or quality, simply by sharing the knowledge across teams, the intel itself becomes more valuable.

Second, collaboration can help improve the quality and efficiency of innovation intelligence. I mentioned earlier three core parts of innovation intelligence: market intelligence, technology landscape, and competitive intelligence. Let's say the Marketing team typically owns market intelligence, R&D owns tech landscape projects, and there is a devoted Competitive Intelligence team. Each of these teams may look to sources that they are most familiar with or that they have access to. For example, maybe the Marketing team isn't looking to patents as potentially useful market intel because they are unfamiliar with patents and didn't consider it. So here, if innovation intelligence efforts and knowledge were shared more easily between teams, the quality of market intelligence could improve by including patents as a source, for example.

In addition, each of these efforts overlap. Each effort may seek who the players in the space are, for example. If each of these teams are working on this same question, you may run into the earlier issue with different sources, which could in turn result in different conclusions from each team. Like the beverage company, when different teams involved in the innovation process and decisions are using

different intel, they run the chance of creating barriers that slow or stall the pace of innovation and cause friction between teams, making it worse. Further, if the innovation intelligence efforts were more collaborative and knowledge was shared more freely, this could really reduce workload and result in efficiencies.

Imagine multiple teams contributing intel and insights to the competitive intelligence bucket or chapter, if you consider all your intel as a book of knowledge.

We are discussing teams and intel efforts in a simple way, but imagine many organizations have many more teams and roles involved in and contributing toward successful inventive technologies: R&D, engineering, supply chain, open innovation, marketing, legal and IP, licensing, product, finance, and business executives overarching and sprinkled throughout, and more. Each may have distinct objectives throughout the innovation process, but they all risk failure if the overall initiative fails, for any reason.

And while many organizations put substantial effort toward research and gathering intel and actionable insight, you can see extra benefits of good collaboration.

- Rather than poor value where siloed teams make siloed decisions that clash with other teams and slow innovation, move toward teams who share insight and come to conclusions considering a fuller picture throughout the innovation process.
- Rather than poor quality where missing out on insights from unfamiliar or unknown sources, move toward improved quality of intel by sharing knowledge and insights from a variety of sources across teams.
- Rather than inefficiency where siloed teams may repeat work, move toward teams collecting intel and building a source of knowledge available to everyone.

Foster good collaboration and break down siloes to better connect innovation intelligence across an organization to be leveraged cradle to grave.

Module 3: Connecting the dots for impactful innovation intelligence

Welcome back. Let's dig into some other sources for intel that will help fill out your innovation intelligence 'book of knowledge.'

We'll consider eight types of data sources which are valuable and important to consider for innovation intelligence:

1. Scientific literature is a robust source for all industries to stay on top of current and emerging technologies. In addition to providing deep understanding of technology, like patents, scientific literature can help identify players and experts who may become partners.

2. Similarly, tech offerings from different universities and institutions provide great insight into new technologies and potential partners.

3. Company information about the entities themselves, including corporate structure and relationships, key people, activity, performance, their mission, motivation, and moves.

4. While not as easily obtainable, like company information, info on experts can also be useful. Sources like LinkedIn and corporate profiles may be great sources for finding, understanding, and monitoring experts, but also other data sources like papers and patents hold info on experts.

5. Linked to company information is financial and transactional information. M&A events are valuable pieces of competitive intelligence and may speak to future events or trends in the industry or market.

   Following the money is a sound way help understand priorities and look toward potential output down the line, such as looking at research funding. Similarly, VC investment to show where investment dollars are flowing and trends, and government grants show government interest and which companies are winning and obtaining those grants.

6. Market reports are very valuable sources for insight and complement sources like patents and scientific literature well. While those sources may describe cutting edge technology that may be many years from real world practice, market reports contain information about the overall market situation of a product or group or products or services. This type of intel is a very important perspective toward deciding where to put efforts and resources and how to move new technologies through to commercialized products.

7. News is broad in reach and covers all the above. It can be a valuable source to stay up to date, especially on transactions and press-worthy events, but keep in mind this is one of the noisiest sources because it is so vast.

8. And lastly, look for sources specific for your industry. There may be a number of industry-specific sources that might fall into one of these earlier categories. And also, consider if your industry requires extra hurdles or barriers to entry. If so, clearing those hurdles may create a new useful source, like FDA requirements for pharmaceuticals and clinical trials.

There are many places to look to help create a fuller picture that will in turn help you make smart and informed decisions. But how do you use and make sense of disparate data in an efficient and realistic way? Here are a few ways to use a variety of sources to your benefit.

Explore to find signals and validate with other sources. One of the benefits of looking wide is an opportunity to look for signals that you just wouldn't see if you weren't looking or monitoring. A signal might be faint and early, let's say you've noticed a leading expert in a field of interest has joined a small start-up that you've never heard of. Because they are small, they may not have otherwise hit your radar except for the top expert you've been tracking. You can then go investigate the company – perhaps you find recent funding or patent activity to pique your interest.

Example: Exploring Telehealth

Let's walk a more complex example. Say you've noticed some articles about telehealth in the news. This is an area of interest for you as you have been considering branching out or investing in that area. Rather than continue to look for more information in the news, you look to other sources to potentially confirm that this is a growing area worth pursuing or not. You look to patents and see growth in the area. Literature shows a similarly growing trend, telling you about the research and innovation activity in this space. You may also look to see if there is funding in this space. To learn more, you look to the entities playing in the space. What are the companies and are they big or small? Are they startups? Universities? And through this exploration process, perhaps you've validated that this is indeed a promising and growing space with multiple potential partners or investment opportunities, which you can continue to research further.

Looking at news, patents, scientific literature, funding, the makeup of the players including start-ups and universities. Each piece alone might not be enough to catch your attention, but together, there is evidence to help inform a big move. Using multiple sources can help provide validation and deeper understanding, even if all the pieces aren't there, so you can be informed early.

In the two prior examples, there was some connecting of the dots. In the first, you observed that an expert moved to a new company. Then you researched the company.

In the telehealth example, you might have noticed there was a common thread that enabled the connection of all those different sources. It was the technology space, telehealth – the news, the patents, literature, companies, funding, were all focused on telehealth. We also focused on recent activity only, so time was another common thread. Unfortunately, disparate data sources don't typically come tagged with a series out-of-the box common threads.

Remember patents carry all that useful metadata – other sources do too, but it isn't always clean and easy to make use of. All these different sources hold different kinds of data and metadata. There are some common connections that hold a lot of potential for making sense of the data for innovation intelligence.

Example: AI and Digital Health
(The following examples are from the State of Innovation in Digital Health and AI, a global study examining innovation and research in digital health and AI. The study used multiple data sources to provide big picture insights for global policy makers.)

Common connections:

1. Technology area or topic – looking for a lot of different insight around a single technology area to inform your innovation decisions is common. Depending on your goals and the space itself, you may be interested in a broad category or a very specific one. Though it might be challenging to define and categorize different data sources by topic, it's powerful to understand a technology from different perspectives and sources.

   In the patent fundamentals course, we mentioned patent classification. Literature may also have topics or tags assigned by editors, publishers, or distributors. Other sources may or may not be so lucky. Even still, this can be challenging to create a clear definition of a technology area across multiple data sources. However, all different types of documents that have some substantial text can potentially be categorized together using common keywords or more complex machine learning. Many tools have smart solutions for this.

In this example, we can see a common taxonomy created for patents and scientific literature so trends can be understood together. Things like companies and experts can't be tagged or categorized in this same way, but potentially their patent, research, and publications can tie them to a technology area.

2. Companies is another common thread through different data sources. In the same way you may discover which companies are active in a space when technology is central, you can understand in which spaces a company is active through patent, research, publications, investment, when the company is central.

   Just as technology space can be challenging to define, especially from different data sources, companies are also challenging to define. A single entity may have a complex hierarchy or network of subsidiaries, holding companies, and partners – each which may have had changes in name or variations in name. While challenging, gaining a lot of insight about a company is a common and important task – imagine you were considering an acquisition, it wouldn't be sound to look at just one aspect of the company before acting.

3. Experts are very similar to companies or entities with similar challenges, but there are many ways to learn about experts, including scientific literature, blogs, press releases, patents, conferences, and LinkedIn.

4. Time is very important and is often carried with many different types of data. Time helps us see trends, marks events, and help us make sure our info is – timely.

5. Geography can also be very insightful and available for different types of data. There are different aspects of geography to look to as well, whether you're seeking to practice and commercialize your technology in a specific geography or understand the origin of the innovation. Looking at the earlier example, we can see that geography was central to this application, as it was created to help inform global policy makers.

6. The last really useful common thread would be something custom tied to your business. For example a product or product line. Gathering intel around something core to your business may be the most valuable common thread you can find because it puts the insights gained in terms known to your company.

Each of these may serve as a common thread to connect disparate data and make it more meaningful. Where one of these things is central, you can imagine that you can fill that chapter of your innovation intelligence book of knowledge with relevant

insights from different sources. This makes your insights gathered useful intel because it's accessible and made more meaningful to others looking to be informed in the same area.

Connected data also opens the door to broad and deep understanding, like knowledge graphs, networks, and use of relationships as the data itself. The more data points, the more challenging it can be to draw meaningful connections from that data efficiently. With more data, the focus may be on relationships, rather than the collection of data points itself.

Check out the resources to learn more about how your company can leverage Connected Innovation Intelligence.

And don't forget to take the quiz to test your understanding and complete the course.

Explore more courses to see how innovation intelligence using patents and many different sources can be used for different purposes.