

IP/Technology Transfer

Published online: 25 January 2005, doi:10.1038/bioent842

▼ Building a strategy for maximizing intellectual property value

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Without a strategy to guide the development of their IP portfolios, companies may waste valuable resources and miss opportunities to protect valuable inventions.

Lets face it—intellectual property (IP) is a messy business. Valuable ideas don't flow in a smooth, orderly manner from inventive minds. They come in fits and starts. They are hammered into useful products only through great will and persistence. Likewise, the transformation of ideas into valuable IP is an exercise in the management of chaos. Managing IP requires strategies and tactics for bringing order from chaos, separating valuable ideas from the dross, developing and executing strategies for orderly growth of IP portfolios, and minimizing the risk of infringing the IP rights of others.

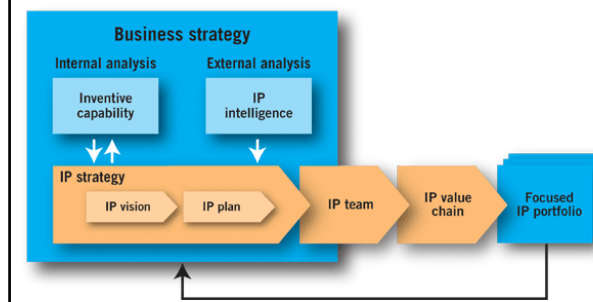
Getting started

For biotech companies that make their living from technological advances, the value of their intellectual assets is usually greater than the value of their tangible assets. And on the defensive side, awareness of the potential landmines in a company's competitive IP landscape is a necessity, because a surprise patent can stop a good idea dead in its tracks. For these reasons, IP gets the attention of investors, potential partners and acquirers, who understand that the value of the company is intimately related to the sophistication with which it operates in the IP arena.

Although companies often invest heavily in the procurement of IP, they often do little to ensure the effectiveness of their procurement efforts. Most companies realize that they are not achieving their full IP potential but are not sure where to turn for help. Their patent practitioners are usually highly skilled at obtaining legal protection for IP, but are not focused on developing and implementing strategies that account for the IP environment in which the company operates and the need to align the company's IP portfolio with its business strategy. From the company perspective, information about potential inventions and IP needs is fed into a black box with a foggy expectation that what comes back out of the box will provide adequate coverage; after all, "We are paying those guys a lot of money." The result is often an inefficient use of resources, a misaligned IP portfolio that does not adequately support the company's business or product strategy, and a never-ending series of surprises as competitive patents randomly float to the surface.

There are three major prongs to any IP program: (i) the IP acquisition process, which molds the output of inventors' minds into legally protected assets¹, (ii) the IP intelligence process, which provides a strategic understanding of the threats and opportunities in the company's IP landscape and minimizes the risk of infringement², and (iii) the IP strategy, which guides and drives the first two prongs. This article focuses on the third component: the elements and function of an IP strategy (see [Figure 1](#)).

Figure 1: Success factors for implementing a successful IP strategy.



This strategy includes: a business strategy that has IP as a core component and forms the foundation for the IP strategy; an inventory of inventive capabilities that is aligned with your company's business and IP strategies; a system to gather IP intelligence that provides an informed understanding of your company's competitive IP landscape; a rational, written IP strategy that is aligned with your company's business strategy, including IP vision and IP plan; a fully functioning, multidisciplinary IP team that is empowered to execute the IP strategy via the IP value chain² to produce an IP portfolio that is aligned with your business objectives.

Business strategy

One of the most common problems encountered in growing an IP portfolio is the failure to connect the business strategy with the strategies and processes involved in producing the IP portfolio. This disconnect can lead to wasted resources by protecting IP that doesn't support the business strategy, or even worse, it can result in failure to sufficiently protect critically important IP. For a company whose revenue stream is based on technological innovation, IP strategy should be at the heart of and driven by the business strategy, producing a culture that appreciates the importance of intellectual property to your business. As stated by Gerald Rosenthal, vice president of licensing and intellectual property at IBM, "It really starts with, what is the culture of your business? Does the business understand, from the CEO down, the value of intellectual property to the business, and are they transmitting that message to every employee in the company? Does the Board discuss intellectual property at its proper time? Does the operating committee of the business discuss intellectual property on a regular basis? And if your company does that, then they do understand the importance of the intellectual property"³. The way to make this happen is to place IP at the heart of your business strategy.

One reason for the disconnect is that patent counsel often work in a black box, separated from the business and technology decisions that are affecting product development. According to Steve Menton, managing consultant at IP&AM, although most business leaders argue that their success depends on the strength of their IP, "IP management is invariably treated as 'someone else's problem,' a specialty that should be dealt with by a central function with minimal input from the rest of the organization"⁴. Invention disclosures are shuttled into the patent counsel black box with little information about the product strategy.

Compounding the black box problem is that managers often don't understand their IP portfolios. Their interpretation is often based on inaccurate models, such as the mistaken belief that what is disclosed in a patent is protected. (Actually, only what is claimed is protected, and even claims can be challenged in litigation.) In addition, companies frequently seek to understand their patent portfolios at the worst possible times, such as when deal negotiations are already in progress.

Not surprisingly, the combination of black-box patent practices, management misunderstandings and bad timing can have devastating results. The IP portfolio that grows out of this process can range from slightly misaligned to totally inadequate for the strategic needs of the company. The solution is to ensure that all of the players in the IP process are proactively tied into and guided by a rational business strategy with an IP strategy at its core.

Inventive capability

Just as the development of a business strategy requires analysis of internal capabilities and external factors, so the IP strategy as a subset of the business strategy also requires analysis of its own set of internal capabilities (inventive capabilities) and external factors (the IP landscape). Developing an IP strategy starts by first taking inventory of your inventive capability—a function of a company's idea-generating and idea-executing ability—and involves personnel, systems and structural resources.

Ideas spring from minds, and at least for the present, minds are embodied in people. Who are your inventors? What are their abilities? What resources are available to them? Their experience, skills and resources determine what problems your company can solve and what technologies you will use to solve them, that is, what kinds of inventions your company will generate. A biochemist, a physiologist and a geneticist will all approach the problem of a heart defect from very different perspectives. Ensuring innovative outside-the-box thinking requires outside-the-box capabilities; how would an electrical engineer approach a heart defect problem? Furthermore, properly motivating your inventors and creating an outside-the-box culture can increase inventive capabilities. Jerry Yang, cofounder of Yahoo states: "We value engineers like professional athletes. We value great people at ten times an average person in their function"⁵. How do you value your best inventors? What kinds of incentives are they given?

The relationship between business strategy, IP strategy and inventive capabilities is more iterative than linear. Your company's business strategy tells you what kinds of problems you will solve, the kinds of solutions you will seek and the kinds of inventive capabilities you need to generate those solutions. Your inventory of inventive capabilities will tell you what kinds of inventions you will generate, which will, in combination with the external factors discussed below, influence your IP strategy. Your IP strategy may also become a driving factor in who you hire. For example, if you find that you are relying on outside contractors to produce critical

aspects of your technology, then your IP strategy may drive you to bring that expertise in house, in order to maintain ownership and control of the core aspects of the technology you are developing.

IP intelligence

George Washington once said, "The necessity of procuring good intelligence is apparent and need not be further argued."⁶ This truism is equally applicable in business as in war. In his book, *Intelligence in War*, John Keegan outlines five fundamental stages in the acquisition and use of intelligence information: acquisition, delivery, acceptance, interpretation and implementation.⁶ The same stages apply to IP intelligence; however, I would add an 'analysis' stage between the acquisition and delivery stages, as follows:

- **Acquisition.** IP intelligence is readily available for mining. The challenge lies in the volume of data, and the best way to moderate this challenge is to begin with a quality search of the relevant databases.
- **Analysis.** The data must be sifted and analyzed to provide meaningful information that can be relied on by decision makers.
- **Delivery.** The analysis must be accessible to the right decision makers at the right time. Although necessary in some cases, 150-page legal opinions are generally not accessible to decision makers, but graphical maps of the IP landscape and streamlined IP knowledge management systems are.
- **Acceptance.** The intelligence has to be believed. Every decision maker operates within his or her own mental model of the world, including basic assumptions about IP. Inaccurate assumptions need to be identified and challenged for acceptance to occur.
- **Interpretation.** The decision maker must be able to integrate the IP intelligence with other information such as market intelligence, technology information and product strategies to perceive the potential impact of the IP intelligence on the business strategy.
- **Implementation.** The business, product and IP strategies must be changed as needed to overcome issues that arise from the patent landscape.

It is critical for the IP intelligence stages to be undertaken at the right time. It is not effective to undertake an infringement analysis after you have scaled up your process or invested in fitting out a manufacturing facility, and even less effective to wait until you have been sued for infringement! On the other hand, it can be virtually impossible to gain any degree of comfort before you have a solid idea of what your product will actually look like. However, the IP intelligence process can be timed so that investments in the process are in sync with your R&D process, so that an appropriate amount of money is spent at each phase of the process to gain information needed to identify IP opportunities, risks and uncertainties, to influence the R&D process, and to avoid future landmines.

IP strategy

The IP strategy arises out of and supports the business strategy. It typically includes an IP vision and specific objectives that define how the company will invest its time and resources in an IP portfolio that will, along with the business and product strategies, help to support a sustainable competitive advantage. The IP strategy tells inventors where to innovate, the legal team how to evaluate that innovation, and a CEO where and how to invest in protecting it. The IP strategy also maps out the use of other IP tactics, such as the use of defensive publications for weakening its competitors' IP positions, or the use of trade secrets to protect manufacturing technology.

IP vision. In their study of visionary companies, James Collins and Jerry Porras identify three components of a business vision: core values, a core purpose and one or more BHAGs ("Big Hairy Audacious Goals").² The same is true for an IP vision. It describes the reason you are investing in your IP portfolio, what you expect it to accomplish and includes one or more visionary BHAGs. It should address your opportunities, account for your capabilities, inspire your commitment and be aligned with your company's vision. A good vision for a new company with an acquisition exit strategy could be something like: "We are going to build a portfolio of patents and trade secrets, including broad platform patents, focused product patents and method patents that protect critical points along our value chain. Our patent portfolio will stand out as the most substantial portfolio in our industry, and our sophisticated IP program will dramatically enhance the value of our company to potential acquirers."

IP plan. The IP plan outlines the guiding principles and specific steps that must be taken to realize the vision. Examples of guiding principles for an IP plan include:

- Focus IP investment on a core set of IP that directly supports business objectives.
- Make information about IP portfolio and landscape readily available to business leaders.
- Avoid IP landmines for products in product pipeline.
- Avoid unnecessary loss of IP due to public disclosures, offers for sale and the like.
- Build a corporate culture that is attentive to IP issues and strategy.
- Facilitate accurate communication of IP information to partners and customers.
- Grow a patent portfolio in a focused manner around core products; or, alternatively, grow a patent portfolio in a manner that emphasizes platform protection and maximizes opportunities for outlicensing.
- Maximize inventor participation; increase the pool of patented inventors.

The IP plan should also include specific short-term IP objectives—the steps needed in the next year to keep your company moving closer to realization of your IP vision (see [Box 1](#) for examples).

IP team

Having an IP strategy is helpful only if the key players in the company's IP processes share it. One way to ensure a shared vision is by forming a team that will be responsible for developing and implementing the company's IP strategy. An effective IP team requires a multidisciplinary approach involving technical, business and legal expertise. The team members work together to execute the IP strategy, guide the IP value chain, and control the growth of the IP portfolio in a manner that comports with the company's vision, mission and goals. Taking a multidisciplinary approach can seem like a large investment of time and personnel resources. However, in the long run, a fully functioning IP team actually saves time and money, and ensures the development of a higher quality patent portfolio.

Conclusions

Companies of all sizes focus their time and energy on building shareholder value by developing and implementing profitable business models, moving products closer to the market and/or gaining market share. In the shadow of these primary goals, the long-term investment in time and resources needed to ensure the development of a strategically aligned patent portfolio can be forgotten. In the chaos, many companies accumulate patents in an *ad hoc* manner, rushing to file patent applications when inventions happen to surface, omitting patent applications on potentially valuable inventions because their value is not understood, rushing to make patent investment decisions at the last minute and seeking to understand the output of this process only when the pressure is on.

Such a minimalist approach to IP planning and processes is clearly out of touch with the true value of IP. Strategy and tactics for managing an IP portfolio should infiltrate the biotech company from the business strategy to the product teams, from the boardroom to the bench scientist. Managing IP requires the implementation of an IP strategy and standards that control the development of the IP portfolio. Just as a company would never leave the development of its product pipeline open to chance, so it should actively and strategically manage its IP pipeline to ensure maximum return on its IP investment.

Box 1: Examples of short-term (~1 year) IP objectives

- Add ## US patents to our portfolio
- Document ## trade secrets
- File ## significant new patent families
- Add method of manufacture and method of treatment protection to extend patent life of an existing composition of matter portfolio
- Conduct regular IP team meetings, ## per year
- Conduct random laboratory notebook audits, ## per year
- Implement a process to keep the management committee informed of important internal and external IP developments
- Conduct patent watches for certain products, technologies and/or competitors
- Draw up patent landscape maps for certain products, technologies and/or competitors
- Generate revenue by outlicensing or selling certain noncore aspects of our IP portfolio
- Implement best practices in due diligence preparation
- Conduct a series of IP education presentations to management committee members
- Implement a formal 'freedom to operate' policy and process to minimize the risk of infringing the IP of others
- Complete and implement a formal material transfer policy and process
- Minimize patent expense by postponing prosecution of foreign patent applications as long as possible

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