

Unleash Your Intellectual Property Potential

Advantage Series White Paper

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The so called “old economy” companies derived a significant portion of their value from manufacturing prowess and hard assets. In the past, companies invested heavily in tangible asset utilization to gain a competitive advantage. The shift is on. In the “knowledge economy,” intangible assets such as intellectual property and brand strategies play a key role in determining company value. Every company has intellectual property, whether it is a unique product, a clever brand name, or published information describing products or services. To compete in a rapidly changing business world, effectively using intellectual property assets will be a key strategy to increase business performance. There are three main elements of intellectual property; patents, trademarks, and copyrights. Let’s uncover where your company can find intellectual property and explore how to improve business results by leveraging intellectual property assets.

What is a Patent?

A patent can be granted to anyone who “invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvements.” The term “process” is defined as an act, method, or sequence of steps, and primarily includes industrial or technical processes. The term “manufacture” refers to articles that are made, and includes all fabricated articles. The term “composition of matter” refers to chemical compositions and may include mixtures of ingredients as well as new chemical compounds.

A patent is issued by the United States Patent & Trademark Office (USPTO) after a thorough review process to evaluate the newness and ensure that the invention has not been practiced before¹. A patent allows the inventor the right to exclude others from making, using, offering for sale, or selling the invention in the United States. A patent also prohibits others from importing the invention into the United States. The term of a new patent is 20 years from the date the patent application was filed at the USPTO. Some older patents had 17 year terms. United States patents are effective only within the United States, US territories, and US possessions.

In order for an invention to be patented, it needs to be new and non-obvious to one skilled in the area of the invention. The term “prior art” entails any description, publication, or invention that or describes the proposed invention. According to the US Patent & Trademark Office, an invention cannot be patented if:

- The invention has been described in a printed publication anywhere in the world or has been in public use or on sale in the US before the date the applicant made their invention.
- The invention has been described in a printed publication anywhere in the world or has been in public use or on sale in the US for more than one year before the patent application filing date, regardless of the date the applicant made their invention.

Documenting the first date the invention was conceived is very important. To protect the invention date, the inventors should describe the invention in detail, then sign and date the description. Another person should read, understand, and witness the invention by signing and dating the written description. Ideally, all potential inventions should be recorded in lab notebooks that are filed for future reference.

In the United States, if the inventor describes the invention in a printed publication, uses the invention publicly, or offers the invention for sale, the inventor must apply for a patent within one year of the first disclosure or any right to a patent will be forfeited. If the inventor is seeking foreign patent rights, the patent application must be filed on or before the date of public use or disclosure to maintain patent rights in many foreign countries.

Even if the invention sought to be patented is not disclosed in the prior art, the subject matter must be new and different from what has been used or described before. The difference or improvement must also pass another hurdle. The invention must be non-obvious. This means that the invention must be sufficiently different from what has been disclosed in the prior art and that it may be said to be non-obvious to a person having ordinary skill in the subject area related to the invention. For example, changes of colors or sizes of products are generally not patentable. If changing the shape or form adds new and different functions or features, and if the changes are non-obvious, then the invention may be patentable. The prior art determination is usually fairly easy to determine after completing a comprehensive search. Consulting a patent attorney can help you determine if your invention passes the non-obvious requirement.

How Can Patents Increase Business Performance?

Patents can be an effective means to achieve a competitive advantage. There are two strategies on using patents;

- Gain a proprietary market advantage
- Generate revenue stream through license agreements.

Proprietary Market Advantage

An issued US patent covering a core technology can provide companies with a significant competitive advantage. The most powerful benefit of patents is to establish and defend a proprietary market position. In some cases, patents define entire new industries. A classic example is the xerography technology pioneered by Xerox. For many years, Xerox's effective patent portfolio allowed them to enjoy a near monopoly in the photocopier business. Once the key patents expired, the competition became fierce and profitability eroded. Pharmaceutical companies rely heavily on key patents for prescription drugs. After the lengthy FDA approval process, the drug maker has to leverage the exclusivity a patent allows and generate high-margin sales until the patent expires. When the drug goes "off patent", generic drug makers enter the market thereby increasing the competitive landscape.

Having a laser-sharp focus on intellectual property in new product development is a key factor in developing products with a high probability of market success. Early in the new product development process, the patent position of competitive offerings must be thoroughly investigated. The competitive patent landscape will guide the design team to identify potential patent infringement issues and identify areas where new features may be patented. The primary focus of the patent intelligence study is to

define new product features that will make it more difficult for competitors to copy the new product under development.

Companies may also patent business processes. Dell computer isn't the technology leader in the personal computer business. Dell builds high quality products typically using standard components, but has taken the process of building custom PC's to a new level. A consumer can go on the Dell website and select an off-the-shelf model, or custom configure a system with a few mouse clicks. From the Dell website, the customer is able to track the progress from manufacturing, testing, and shipping. Dell has over 40 issued or pending patents covering their innovative business model.

Patents covering a core technology or business process may be used to provide an effective barrier to entry for competitors. A well written patent or series of patents can make it very difficult for competitors to develop and sell competing products in your market. An effective tactic is to successfully have several patents issued to cover multiple aspects of the product. An excellent example is the Gillette Sensor razor². Early in the development of the razor, the engineers and scientists developed seven potential designs. Working with the patent attorneys, the engineering team completed a full patent analysis on each design and carefully compared each design with competitive offerings. The final design was chosen based on how difficult it would be for competitors to get around the Gillette patents. The team ultimately incorporated 22 patentable inventions into the Sensor razor. The Sensor razor was protected by a formidable patent wall that prevented competitors from duplicating the product. This strategy is called "clustering" or developing a "patent thicket" around a product or process.

Revenue from License Agreements

Patents can be powerful revenue generators. Revenues from patent licensing have increased dramatically over the last 10 years. Many companies have realized that their most important asset is their intellectual property portfolio. The most notable example is IBM. In 2001, IBM was issued 3,453 patents from the U.S. Patent & Trademark Office. To put the number in perspective, IBM was awarded approximately 13 patents each business day in 2001. In 2000, IBM collected approximately \$1 billion in revenue from patent licensing agreements. Several other large companies and universities have enjoyed significant revenues from patent licensing:

- Qualcomm reported \$705 million in license revenues in 2000
- Texas Instruments recently closed two patent licensing deals with Samsung and Hyundai, each worth \$1 billion.
- Hitachi reported approximately \$430 million in patent licensing revenues
- Honeywell licensed two auto-focus patents to several camera manufacturers and collected more than \$300 million in royalties
- University of California, Stanford University, and Columbia University each reported more than \$60 million in licensing revenue in 1998

Patent license revenues are nearly pure free cash flow. The typical profit margins from successful patent licensing/enforcement can be over 90%. Where can you sell products with that kind of margins? Depending on your cost structure and margins, for every \$1 in patent licensing revenue, you would have to capture approximately \$5-20 in product sales to generate an equivalent net income stream. It pays to dust off your old patents and do a serious evaluation of their licensing potential.

That's nice, but let' be real. Not everybody has the resources of IBM or Texas Instruments. How could a smaller firm leverage patents? In the early 1990's Jim Howard and Greg Lucas at Zycon (then Hadco, then Sanmina, now Sanmina-SCI) developed an embedded capacitance technology that provided an

effective approach for decoupling high performance printed circuit board components and reducing electromagnetic interference. The company secured four key patents.³⁻⁶ Zycon had two options. In one case, they could use their patents to form a proprietary industry position. In this case, the patent portfolio would prevent competitors from using the patented technology and make it difficult to develop competing offerings (in other words, provide an effective barrier to entry). The second option was to develop a licensing strategy.

In the early 1990's the team at Zycon realized applications requiring embedded passives would expand in the future. The recent technical sessions on embedded passives at the March 2002 IPC technical conference demonstrated the intense interest and expanding opportunities for embedded capacitance applications. At the time, Zycon made the business decision to develop a licensing program for printed circuit board fabricators and several laminators (Polyclad, Nelco, Isola, etc.) to produce ZBC 2000® (ZBC 2000® is a registered trademark). ZBC 2000® laminate suppliers were required to pass a rigorous three-phase qualification process to ensure quality, reliability, and electrical performance before they were permitted to sell the licensed product. In the case of licensed laminators, Sanmina-SCI collects a license fee for each square foot of laminate sold to licensed printed circuit board fabricators. The license agreements provide an effective "passive" revenue stream for Sanmina-SCI. The decision to license both laminators and fabricators facilitated widespread technology adoption, which in turn increases licensing revenues.

How do you know when to license or maintain a proprietary position? The decision requires careful business analysis. Will you have a more attractive financial return by garnering an exclusive position enabled by your patent portfolio? Or will revenues be larger if you license your competitors and promote widespread technology adoption? Each case must be evaluated early in the business development cycle in order to select the appropriate strategy.

What is a trademark or servicemark?

A trademark is a word, name, symbol or device which is used in trade with goods to indicate the source of the goods and to distinguish them from the goods of others. A trademark is obtained by submitting an application to the United States Patent & Trademark Office. During the application process, the applicant may use the TM designation to denote the trademark. The ® represents a registered trademark at the United State Patent & Trademark Office.

A servicemark is the same as a trademark except that it identifies and distinguishes the source of a service rather than a product. A servicemark is designated by a superscript SM (for example; ManufacturingAdvantageSM)

Trademark rights may be used to prevent others from using a confusing similar mark, but not to prevent others from making or selling the same goods or services under a clearly different mark. For example, consider Huggies® and Pampers®. Both products are disposable diapers for infants, but are manufactured and marketed by Kimberly Clark and Procter & Gamble respectively. The distinct trademarks are used to distinguish similar products. Additionally, each product may be protected by patents covering unique product features (absorbency, fit, tab closures, etc.).

The term ZBC 2000® (Zycon Buried Capacitor) is a registered trademark distinguishing the patented product in the printed circuit board market. From these examples, trademarks and patents often work together to establish a proprietary market position and establish a brand identity.

What is a Copyright?

A copyright is a form of protection provided to the authors of “original work of authorship” including literary, dramatic, musical, artistic, and certain other intellectual works, both published and unpublished. The copyright protects the form of expression and not the subject matter of the copyrighted work. For example, a description of a product could be copyrighted, but the copyright would only prevent others from copying the description. A copyright does not prevent others from developing and writing a different description of the same product. The copyright also does not prevent others from making or using the product. Copyrights are registered by the Copyright Office of the Library of Congress.

Summary

In the “knowledge economy,” intangible assets such as intellectual property and brand strategies play a key role in determining company value. Patents can be a powerful means to leverage your intellectual capital by establishing and defending a proprietary product position. Many companies have developed very effective strategies to leverage both core and non-core patented technology in profitable license agreements. Trademarks can be used to develop a unique branding strategy. Patents and trademarks often work together to establish a proprietary market position and establish a brand identity for products or services.

References

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