

What's It Worth?: Principles of Patent Valuation

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Attorneys specializing in intellectual property (IP) law must occasionally counsel clients on how best to extract value from, or monetize, patents in their portfolio. This is an increasingly important consideration for patent owners as they seek to maximize return from all their assets, including intangible assets. Determining the best approach to take toward patent monetization¹ can require a multidisciplinary approach. Factors affecting the monetization decision may include: the patentee's strategic goals and tactical capabilities, the demand in the market for the patented invention, the owner's ability to commercialize the patent, the strength of the patent claims, the value that the patent itself can create, and the depth of the market for patent transactions.

This article identifies issues that can affect patent monetization strategies at a high level. First, we discuss factors that can affect patent value, as well as steps that are often taken to assess that value. This includes an overview of research and data collection methods, as well as conventional valuation approaches. We then discuss various means for extracting value from patents, and considerations that may be relevant to choosing the best approach.

Basics of Patent Valuation

Patent monetization is an important part of managing an IP portfolio. But before pursuing a particular patent monetization strategy, it is important to have a general sense of the value of the portfolio. In all, the complexities and nuance of patent valuation is a complicated undertaking, requiring a great deal of experience, expertise, and judgment. As such, the many approaches that a patent valuation expert might employ, and the information he or she might rely upon, are beyond the scope of an introductory article. However, this article will enable skilled IP attorneys to develop a solid sense of the valuation process, and to make informed decisions as to how and when to engage an expert.²

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The economic right embodied in a patent is granted in 35 U.S.C. § 154—namely, “the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States.” Generally, with some exceptions, the value of that right can reflect the power of the patent to contribute to the profitability of the company in some manner. In assessing the profit-making capacity of a patent or a portfolio, several dynamics may be worth consideration.

Potential for Producing Revenue and Profitability

Some patents possess value because they are directly responsible for added revenue. The patented technology might be so important to the product that it drives additional purchases or commands a premium price. Similarly, the subject of the patent might drive sales of related, but unpatented, products. Examples include derivative sales (replacement parts, supplies, and maintenance services) and conveyed sales (sales often made in conjunction with the patented product).

Other patented technologies do not directly contribute to revenue, but might nonetheless be valuable to the patent owner. For example, the patented technology might make it less expensive to manufacture a product, directly reducing the cost of doing business and improving the owner’s bottom line. Others represent an add-on technology that doesn’t directly increase revenue but allows the patent owner to keep up with the feature offerings provided by competitors.

Patents may also be valuable to the patent owner in circumstances where there is not a clear connection to profitability. Patents can, in some circumstances, also be used to great effect for strictly defensive purposes. For example, the patent owner might rely on the patent to stake out a technological realm within which the owner could potentially sue for infringement, but which may also ward off competitors contemplating a lawsuit by raising the prospect that the owner would institute a countersuit.

Additionally, some companies may view the accumulation of patents as a promotional tool in that it may enhance the firm’s reputation as a technological leader. In these ways, a strong patent portfolio could potentially produce a competitive advantage without having an obvious impact on the profitability of the company in the present.

Nature and Scope of the Patent

The practical exclusive effect of some patents is limited to specific industries, markets, or products. Patents that are limited to an incremental improvement within a subsection of a market may in some circumstances have fewer resulting income streams and therefore a correspondingly limited value. Others can be broader in scope and applicability, and may afford practical and commercial value in a variety of industries, markets, and products. These may be particularly advantageous as they possess the potential to yield multiple income streams. Here, for example, the patent owner might retain its rights under the patent in a particular field, and simultaneously license it to another company in a separate field, thereby sustaining its own revenue stream without diminution while simultaneously deriving added revenue from sales by another company in an unrelated, noncompeting market.

Size of the Market for the Product

Patents providing a highly specialized improvement to existing technology or that support a niche product may, in certain instances, have a relatively limited value. On the other hand, patents that contribute to products with a wide market appeal or that represent a considerable improvement to an existing product in an established market may be likely to generate significant economic returns. Thus, the commercial value of a patent may be, in part, a function of the size and nature of the market for the product to which the patent pertains.

The “Pioneering Patent” and the Proximity of Competitors

Many patents represent modest or incremental improvements to existing products or technologies. These improvements on their own may be quite valuable, but could be relatively less valuable in comparison to existing, alternative, market-acceptable means of accomplishing the same thing.

Rarer, but often more valuable, are patents that might be considered pioneering patents, i.e., those that create whole new industries, markets, or product lines. Aside from creating new fields of endeavor, pioneering inventions may enjoy a broad scope, both literally and under the doctrine of equivalents, due in part to the paucity of prior art. Additionally, the pioneer patent holder may obtain a first-mover advantage that competitors cannot easily or rapidly replicate. Properly prepared and prosecuted, those patents may afford a relatively broader scope of protection and the potential for a sustainable competitive advantage. For these reasons, they can be especially valuable.

Industry Analysis

Another factor that can influence the profitability of a patent is the profitability of the industry in which the patented technology is employed. A thorough analysis of patent value might begin by defining the market in which the patent operates, and developing an understanding of the dynamics of that market. There are inherent factors that can make some industries more profitable than others. One helpful framework for assessing the profitability of an industry is the “five forces” analysis popularized by Harvard University professor Michael Porter.³ Porter’s five forces are:

- The potential of new entrants. Industries with high barriers to entry tend to be more profitable than those where startups can quickly compete with established companies.
- The existence of substitute products or services. If the technology that the industry is based upon is the only established and market-accepted solution to the consumer’s need, that industry will tend to be more profitable than industries that supply one of many competing products or services that a consumer can readily switch between.
- The relative power of customers. Many factors can influence the power of buyers relative to providers. These can include price sensitivity, the ability to bargain, customer knowledge, customer loyalty, switching costs, and the degree to which buyer decisions are independent or aggregated. All else equal, markets in which customers have more power tend to be less profitable than those where the customer’s power is weaker.
- The relative power of suppliers. Each firm in an industry is not merely a provider of products and services, but also a purchaser of inputs, including specialized labor, raw materials, technologies, and distribution bandwidth. Thus, the power relationship with suppliers may affect profitability similarly to the relationship with customers.

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- Competitive intensity. Some industries see cutthroat competition between competing firms, while in other industries competition is less intense, or in the case of monopolies, nonexistent. Some industries even see a fair amount of collaboration between ostensible competitors. It is generally the case that the more intense the competition between firms, the less profitable the industry.

Information to Be Considered

Because there are often such a variety of factors relevant to the assessment of patent value, it can be helpful, when it is available, to collect a wide variety of data. This may require gathering information on the relevant market and the products that will incorporate the patented technology.

An analysis of the industry might consider many of the factors discussed above, including the size of the potential market; the existence, strength, and intensity of existing competition; the ease of market entrance; and the industry's relationship with other markets offering similar solutions. It can be important not only to assess the industry's current status relative to these factors, but also to understand likely industry growth and future trends. Some publicly available industry information comes from dedicated industry analysts writing either for an industry or investment audience. The patent owner may subscribe to these sources or conduct its own competitive research.

After understanding the parameters of the competitive marketplace, one might develop sales and revenue projections for the commercialized product. Sometimes analysts within the company that would commercialize the product might generate their own projections. However, while it would benefit companies to make the most accurate forecasts possible, the reasonability of the model's assumptions and inputs should be carefully considered. In the absence of reliable company projections, it may be prudent to develop projections independently. This may involve a review of such information as industry trends, the size of the potential market, the pricing model the company will pursue, manufacturing capacity, and access to distribution channels, as well as other factors.

Valuation Approaches

The value to be derived from a patent might be estimated through a number of accepted valuation techniques. Methods of valuing assets are commonly grouped into three fundamental approaches: the "market approach," the "cost approach," and the "income approach." Each approach is based on well-established principles of economics and finance, but each looks at value from a different perspective. Each relies on specific information that might not be present in, or comparable to, a given situation. As a result, for any given valuation, one or more approaches may be more appropriate than others.

Market Approach

The market approach determines the value of an asset based on the price that was paid for the asset or comparable assets in arms-length transactions occurring at or around the valuation date. The market approach asks the question, "What would be the value of the asset on the open market based on information from similar market transactions?"

The market approach typically requires information on specific market transactions. For patent valuation, this could take a number of forms: direct patent purchases, broader asset purchases in which the patent is among the assortment of assets being acquired, and licensing terms, among others. Information on acquisitions is frequently hard to come by unless the patent holder was a party to the transac-

tion, although sometimes details can be found in SEC filings. Even if transaction data is available, the comparability of the acquired patent to the patent at issue may require adjustments to the acquisition cost before it can be applied to the patent at issue.

In the case of licensing transactions, two widely used databases are maintained by RoyaltyStat and RoyaltySource. Those databases provide details of patent licenses and related transactions based on desired search terms typically related to the technology or industry in which the patent operates. Through services such as these, the potential exists for a substantially more robust set of licensing transactions than might be generated for patent acquisitions.

Cost Approach

The cost approach asserts that an investor will pay no more for an asset than the cost to purchase or create an asset of equal utility.⁴ The cost approach asks, “What would it cost to procure or recreate an asset equal to (or of equal utility to) the patent?” The cost approach often considers out-of-pocket expenses as well as risks, lost sales, and other adverse economic effects connected with the alternative technology.

Generally speaking, the application of the cost approach to patent valuation requires an investigation of the cost of achieving a market-acceptable substitute solution in a way that would not violate the patent. This consideration embodies the novelty and economic effect of the patent, as well as the scope of technology to which the patent pertains. If one or more market-acceptable substitute technologies can achieve a similar result more cheaply, the patent may have less value than a patent for which no such readily available substitute exists.⁵

Income Approach

The income approach values assets based on the present value of the future income flows the asset is expected to generate. The income approach asks, “What would someone pay in exchange for the future cash flows generated by the asset, considering the timing of these cash flows and the risk of the enterprise generating them?” This approach has been used for valuing financial instruments, corporate projects, and whole or subsidiary businesses because these generate returns that can be fairly reliably predicted.

For a typical asset, the income approach involves projecting incremental revenue and expenses associated with employing the asset, and then applying a discounted cash flow (DCF) analysis to determine the net present value (NPV) generated from using the asset. This approach may be used in valuing patents as well, with the distinction that the use of the patent will depend on how it is monetized. If the likely course is to commercialize the patent through use of the technology in a product, it might be more appropriate to consider the apportioned future cash flows from the product in the analysis. If instead, the patent is likely to be licensed out, it may be more relevant to project future licensing revenue. The resulting cash flows would tend to be straightforward in the case of a lump-sum license, but in a running royalty license, it may require assumptions regarding the revenue base that will be generated and the licensing rate that will be agreed to. To the extent that legal costs can be foreseen and estimated—whether for negotiating a license or defending against infringement and allegations of invalidity—those expenses might need to be factored into the income approach analysis.

Apportioning Product Value to a Patent

One key consideration when determining the value attributable to a patent is the relationship between the patent and the entirety of the product that utilizes the patented technology. In some instances, especially with products that include many different parts, features, or systems, the contribution of the patented feature to the value of the whole product can require expertise to estimate accurately. In litigation and/or a damages assessment, this is referred to as “apportionment.”

Consideration of the relative value of the patent to the entire product is typically a three-step process. First, the end product may be reviewed to determine whether there might be any separable subcomponents that contain the patented technology. Such a subunit is referred to as the smallest saleable unit. If the smallest saleable unit containing the patented technology is identified, the price of that unit is usually ascertained or estimated. Finally, the portion of the smallest saleable unit value that is attributable to the patented technology is often estimated. An exception to this is the entire market value rule. That rule may apply where the patented feature is one of the bases of customer demand for the product as a whole. In such a case, the market value of the entire product may be the appropriate value attributable to the patent, and no further apportionment may be necessary.

There are many methods for apportioning the value of the smallest saleable unit to the patented technology. One is a demand survey. This type of survey can ask actual and potential customers a series of questions that, when analyzed, help determine whether or not the patented feature would affect consumer purchase decisions. If the survey finds that the patent is a driver of demand for product purchases, it may be justifiable to consider the entirety of the product’s revenue as relevant to the valuation of the patent. On the other hand, the survey might find no link between demand for the product and the patent, which could lead the analyst to consider other possible benefits (e.g., cost savings, strategic value) that may be attributable to the patent. It may, in some instances, be appropriate to apportion the product’s revenue by the proportion of users who indicate that the patent influenced their decision to purchase the product.

In addition to surveys, another approach for determining the contribution of the patented technology to the value of the product as a whole is to compare the product’s price and/or profitability to other, similar products. The “analytical approach” may be useful when the patented technology can be compared to other similar products. Under this approach, the price and/or profitability of the base version of the product is compared to the profitability of the version containing the patented feature. If the only difference between the two products is the patented technology, then any incremental profit that the patented product generates may be considered solely attributable to the patent.

In the absence of survey data regarding the influence of the patented technology on purchase decisions, or financial data that relates to the contribution of the patent to the product’s overall profitability, apportionment might benefit from the employment of marketing or technical expertise. Instead of survey data that demonstrates the degree to which the patent drives demand, a marketing expert may be able to analyze the content of the promotional messages associated with the product, among other fac-

tors, to determine the relative weight given to the patented features in the overall promotional package. Alternatively, it may be possible for a professional with technical expertise to assess the relative contribution of the patented feature to the entirety of the technological offering embodied in the product.

Monetization Approaches

There are many ways that patents can be monetized. The exclusivity afforded by the U.S. Constitution is a common vehicle. The U.S. Constitution permits Congress to grant patents “[t]o promote the progress of . . . useful arts, by securing for limited times to . . . inventors the exclusive right to their . . . discoveries.”⁶ One method of monetizing a patent is to commercially exploit that limited exclusive right. In so doing, the patent owner may reserve to itself, or convey to another by contract, the right to make, use, sell, offer for sale, and import products or processes embodying the patented subject matter.

The decision to retain this exclusive right, and defend it from would-be infringers, rather than seek an alternative monetization route, such as through licensing, depends on the relation of the patented subject matter to the strategy and commercial objectives of the organization. If the exclusive right afforded by the patent offers an advantage over competitive products, a strategic advantage over its competitors, or is aligned with the company’s strategic vision, using the patented technology might be the most effective use of those IP rights.

Another means for monetizing patents is through licensing. One of the first steps to successfully licensing a patent is finding a suitable and willing licensee. This might be accomplished through an active search for a licensing partner, or it may develop more organically as interactions and negotiations with other firms take place. Licensing might also come about as the result of feared, actual, or threatened enforcement. Some patent owners acquire or file for patent rights without ever intending to make products using the patented subject matter. Instead, they might seek out entities that appear to be infringing one or more of their patents, and attempt to enforce their rights unless they can come to agreement on a license.

Every license agreement involves an early determination as to what rights the patent owner will convey, for how long, and under what conditions. Licenses can be for individual claims of a patent, to one or more patents per se, or to whole families or portfolios of patents. The combination that might be most valuable to a potential licensee may be influenced by the technology, the strategic and/or commercial significance, and the remaining life of the patent or patents being considered, among other factors. Licenses may also take the form of cross-licenses where each party exchanges IP rights with the other for monetary or other consideration. Here, important considerations may be whether the license is to be exclusive or nonexclusive, and whether the licensee will have the right to sublicense, among other considerations. There are myriad other conditions that may be applied to license agreements including, but not limited to, field of use limitations.

Licensing revenue can be negotiated in any number of ways depending on the goals and capabilities of the parties. Commonly seen payment structures include one-time lump-sum payments or a running royalty based on revenue generated by the licensee. However, many alternative structures can be employed, including multiple lump-sum payments, a combination of a running royalty with a lump-sum

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payment, additional milestone payments for achieving certain development goals, running royalties based on unit sales, and running royalties based on some other metric where the rate paid by the licensee is adjusted based on certain criteria.

There are other ways to extract value from a patent that may be more commonly seen with other financial or tangible assets. As with other corporate assets, the patent can be sold outright for cash as long as a willing buyer can be located. As with licensing, the challenge can be finding a partner who is interested in acquiring the patent, and who is willing to pay fair market value. Alternatively, if the patent owner wants to generate funds but would prefer to retain ownership of the patent, it may find a lender willing to accept the patent as collateral for a loan. This may involve either directly assigning the patent to the lender, or providing the lender with a security interest in the patent. In the case of direct assignment, the lender assumes all right and title to the patent. While this might be an effective means for protecting the lender's interests, it also burdens the lender with the responsibility of maintaining and defending the rights provided by the patent. Those who would acquire such rights, however, must bear in mind that, without the willingness and ability to enforce the patent, the patent owner effectively grants an implied license to those willing to risk using it without permission.

For patent holders with a low tolerance for risk, a need for immediate cash, or other reasons, an alternative monetization approach involves the patent holder giving up its rights in future cash flow from the patent in exchange for an upfront, lump-sum payment. These rights to future cash flows could come from licensing revenue or product sales.

Another option that patent holders might consider is to forego monetization of the patent per se, by allowing others to use it for free or for less than they might have negotiated otherwise. This may seem counterintuitive, but because patents, unlike other assets, represent the useful application of knowledge, and because that knowledge may be exploited directly or indirectly, patent owners have at times found it valuable to allow others, even competitors, to use its patented technology for a reduced fee, or even without any payment at all under certain circumstances. For example, a patent owner might enlarge the potential market for its patented technology by availing it to the industry as part of an industry standard. In return, the patent owner will generally be required to commit to license the patent to all comers on terms that are "fair, reasonable, and nondiscriminatory" (FRAND), or simply offering the patent on a royalty-free basis. Motivations for such a move vary but may include promoting public goodwill by making technology widely available or encouraging industry-wide adoption of nascent technology with the hopes that as the technology develops and becomes accepted by the market, the market will expand. Following such a strategy is based on a determination that the returns to the company's operations from a larger market may exceed any direct payments it might have received by maximizing returns on its foundational patent rights.

It is important to note that, with the exception of the patent holder using the patent itself, each of these monetization options involves another party. While the focus of this article is on patent valuation and value extraction, bear in mind that your client may also benefit from being on the opposite side of a

patent monetization negotiation. In other words, while a patent-owning client may be interested in deriving value from its current holdings, acquiring additional patent rights, for the right price, could be an equally important means for maximizing the value of its overall patent portfolio.

Choosing a Monetization Strategy

Assessing the strategic and commercial value of intellectual property, and determining the best means for monetizing it, is a complicated endeavor that requires careful evaluation. It depends on a number of different factors. These include, but are not necessarily limited to the:

- patent owner's goals;
- patent owner's business model;
- patent owner's risk tolerance;
- patent owner's ability and willingness to be involved in the monetization process;
- likely effect on the patent owner's future development;
- likely effects on strategic partnerships; and
- budgetary concerns.

For attorneys advising clients on the best way to extract value from their portfolio, there can be many factors to be considered in assessing the value of the patent, and in determining the monetization strategy that is best for the client and for the patent at issue. By bringing the expertise and resources necessary to properly value patents and pursue the monetization path that is most consistent with the client's overall goals, attorneys can provide a higher level of service to their clients and broaden their portfolio of patent-related services. n

Endnotes

1. The term "patent monetization" is occasionally used to refer to enforcement tactics to derive revenue. We use the term in a broader, more benign sense, i.e., to derive value from patents consistent with the laudable goal of rewarding innovation and stimulating economic activity.

2. The discussion of the methodology for valuing a patent is based on an understanding of current case law. This particular area of the law has been evolving rapidly. As a result, this discussion is subject to change.

3. Michael E. Porter, *How Competitive Forces Shape Strategy*, HARV. BUS. REV., Mar. 1979.

4. ROBERT F. REILLY & ROBERT P. SCHWEIHS, VALUING INTANGIBLE ASSETS 96–97 (1999) ("The cost approach to intangible asset analysis is based on the economic principles of substitution and price equilibrium (often called the competitive equilibrium price). These basic economic principles assert that an investor will pay no more for an investment than the cost to obtain (i.e., either by purchase or by construction) an investment of equal utility.").

5. Of course, as the cost approach is based upon the cost of a market-acceptable substitute for the technology, the absence of such a substitute would limit the usefulness of this approach at arriving at a precise valuation.

6. U.S. CONST. art. I, § 8, cl. 8.