

Protecting Intellectual Property in a Global Environment

Dr. Mark H. Polczynski*†

Introduction

Corporate globalization is driven by the promise of lower production costs, greater market opportunities, and access to regional expertise. But as customer, supplier, manufacturing, and now design bases, are stretched across the globe in pursuit of this promise, more and more companies are being confronted with an unanticipated threat—intellectual property (“IP”) theft.¹

Protecting IP in the new global environment requires new information, new thinking and new strategies. While experienced legal counsel should always be sought when making global IP decisions, engineering, marketing, and sales people with limited experience in global IP protection often become involved in such decisions and therefore need to be familiar with key global IP issues. Here, we present these decision makers with some of the background they need to both protect their IP and also to realistically assess the global IP environment into which they are venturing.²

The Global IP Protection Problem

In the nonglobal environment, IP protection is fairly straightforward and issues related specifically to patent coverage are typically well known. Products are designed, manufactured, sold and used within one or a small number of countries where patent laws are familiar to all patent attorneys involved and where these attorneys have working relationships with the agencies and institutions involved in obtaining and enforcing patents. This familiarity and predictability makes patent decisions a relatively simple assessment of the cost, time and difficulty involved in filing patent applications, maintaining applications and/or resulting patents, identifying infringement cases, prosecuting infringers, and consummating infringement judgments.

In a global environment, the situation is different. Pursuit of new markets and customers drives sales and use of a company’s products across the globe. Furthermore, products may not only be manufactured but now also designed and developed per a company’s specifications (i.e., invented) by low-cost external contractors in many different countries, with the originating company serving primarily as the IP holder and the channel to market. And pursuit of new markets may drive sales and use of products even more broadly into the global arena.

For these situations, patent decisions become complicated by unfamiliarity and lack of predictability across a multiplicity of jurisdictions. Not only does patent law and regulation content vary, but also the ability and willingness to litigate and enforce differ widely among countries. Further, maintaining a corps of attorneys experienced in local practice and interface can present a significant hurdle for many companies.

In this more uncertain environment, the difficulties of developing and executing effective global IP protection strategies can result in excessive patent application and enforcement costs, invalid and unenforceable patents, loss of IP, and even creation of new competitors.

Key Global IP Issues

Consideration of three critical environments - the legal environment, the cultural environment and the business environment - helps to illustrate the difficulty of developing effective IP protection strategies in a global environment. The individual character and interaction of these three environments constitutes the initial decision space for global IP protection decision makers.

* Mark Polczynski is a Technology Consultant at Eaton Corporation, a global diversified industrial manufacturer. Mark is located at Eaton’s Innovation Center in Milwaukee, Wisconsin.

† This document first appeared in the *Intellectual Property Journal*, vol. 18, no. 1, pp 83-95, May 2004.

¹ In this discussion “intellectual property theft” refers to any use of a party’s intellectual property without the express permission of that party. This concept applies most strongly in cases where there are legal means of identifying and protecting specific elements of IP e.g., patent infringement.

² This document is not intended to provide legal counsel. Always seek professional advice directly from qualified patent attorneys when making IP protection decisions.

Legal Environment: Does a country's legal environment make IP protection practical?

Characterizing a country's IP protection legal environment requires much more than a reading of patent-related laws and regulations. It requires a full examination of the patent climate - the government, court, legal and corporate-compliance landscape.

In an ideal IP protection legal environment, the patent process, government agency and court activity, litigation and adjudication all proceed in a logical, timely and predictable manner. Patents are granted on merit. Government agencies are receptive to infringement prosecutions and enforce judgments. Courts have the capacity for litigation. Legal representation is readily available. And companies both participate in legal proceedings and conform to judgments.

The opposite extreme is a totally unpredictable protection environment. Patents are granted on patronage. Infringement is widespread and unchecked. Government agencies are unwilling to prosecute infringers and do not uniformly enforce judgments. The courts do not have the capacity for or interest in comprehensive enforcement. And companies do not respond to legal proceedings or judgments.

Of course, most countries lie somewhere between these extremes, so development of an effective IP protection strategy requires an assessment of the particular legal environment in the countries where a company's products will be designed, manufactured, sold, and used. To be complete, such studies require not only snapshots of current climates, but also assessments of ongoing changes in environment driven by factors such as evolving local and global economic and political conditions. The impact of such factors can cause dramatic variation in the environment over time and by location within a country. Thus, trend information is significant because, in the end, what is required is a predictable protection environment when and where the protection is needed and, for new products entering a market, protection in the future may be more important than protection in the present.

Cultural Environment: How does the population perceive IP?

Since the attitude of individuals toward the legal structure has as much to do with effective deterrence as laws and regulations, global IP protection issues must be considered in the context of the dominant culture.

To illustrate the impact of the cultural environment on IP protection, consider the illegal sharing of music files over the Internet. Few people engaged in this activity see themselves as thieves stealing the IP of others, even though such acts are legally theft. Some rationalize these illegal actions as a form of protest against the establishment. Some acknowledge their guilt but consider the offense insignificant compared to the illegal actions of others. And it simply never occurs to others that this is an electronic version of shoplifting.

Since such behaviors and beliefs are more deeply rooted in a society and less prone to change with current conditions than the IP protection legal structure, they can easily thwart institutional attempts to uphold protection laws. Therefore, when considering global IP protection, it is essential to look beyond the local legal environment to examine the cultural attitudes toward IP theft. Furthermore, while this form of theft must never be condoned, organizations must pro-actively consider means and strategies that anticipate these illegal actions.

Business Environment: Is there a strong market for IP in a country?

The third environment of importance to global IP protection decisions is the business environment. Here, business environment references the level of innovation and entrepreneurship in a region - how vigorously the invention pot is boiling.

Business environments with high levels of innovative and entrepreneurial activity are typically characterized by strong markets for IP, high employee turnover rates and large numbers of new venture start-ups. Under such conditions, both IP and IP generators are in great demand and highly mobile. The combination of high demand high mobility makes it more likely that IP will flow in an unregulated or illegal manner.

The innovative and entrepreneurial business environments that make it difficult to protect IP are also more likely to be rich in the new talent, customers and suppliers companies are seeking. Combine this kind of business environment with a permissive cultural environment and an unpredictable legal environment and in some cases it may be virtually impossible to prevent some level of IP theft.

Internal Technical Environment: What are your core technologies?

The legal, cultural, and business environments just discussed reference primarily external environments in the countries where a company's products are designed, manufactured, sold, and used. There is also one particular internal environmental factor that constitutes a key global IP issue. As companies strive to reduce costs by outsourcing product design and manufacturing, the issue of preserving core competencies, and here especially, core technologies, becomes a major concern. In the limit, IP protection becomes

synonymous with core technology preservation. Weak or tactically oriented IP protection plans and execution measures ultimately result in the loss of core technologies.

Development of global IP protection strategies requires an enhanced understanding of and commitment to preserve core technologies. Due to the expanded opportunities for IP theft in the global environment, moving into this environment increases the need to clearly identify those particular technologies essential to success. Having identified these technologies, the purpose of an IP protection strategy is to guarantee continued ownership of IP associated with these technologies regardless of the location of product designers, manufacturers, and users.

Impact of Environmental Drivers

At this point, it is instructive to examine in greater detail some particular ways that these four environmental drivers interact to impact IP theft in the global environment.

Ways of Infringing IP: Who are the potential IP thieves?

In a nonglobal environment, IP theft is relatively easy to monitor. Companies are typically quite familiar with competitors and customers; and since these local competitors and customers are those most likely to value and potentially steal IP, infringement is easily identified.

In a global environment, the pool of potential IP thieves broadens. There are more direct competitors selling more kinds of products to more customers in more countries. A global base of external designers, manufacturers and sellers engaged to perform contract work further expands the pool of potential IP thieves.

One variant of IP theft arising from this expanded pool comes in the form of overproduction. A contract manufacturer tools up a factory to produce a patent holder's product. The contractor continues production beyond the contract period or number, selling the overproduction to the patent holder's competitors or even directly to customers. The contractor has become a competitor selling an identical unauthorized and infringing product.

IP theft by these competitors is especially difficult to prevent since the pool is so large and the theft is enabled by the requirements of globalization. A company must often provide IP detail (how the product works, how it must be manufactured to make it work, etc.) in order for the contractor to supply product. Unauthorized use of this IP can be very profitable for these new competitors. Furthermore, the pathway that this IP takes through contractors to products in customers' hands can be difficult to trace. And finally, such competitors can be very adept at advantageously manipulating unpredictable IP protection environments with which they are familiar. Consequently, the temptation to steal IP under these conditions is strong.

It is easy to see how such behavior is facilitated or mitigated by the level of permissiveness of the cultural environment, fervor of the business environment, and unpredictability of the legal environment. Clearly, the potential to create competitors should weigh heavily when making globalization and IP protection decisions.

Nonwillful Infringement: What's the impact on strategy?

Not all unsanctioned use of IP is willful and premeditated. Patent law typically acknowledges the condition of *nonwillful* infringement, where a party uses IP without being aware that it is infringing a patent. This is still illegal, though damages awarded for nonwillful infringement are typically less than for willful infringement.

Nonwillful infringement is more likely to occur in a global environment than in a non-global environment and, with continued globalization, may perhaps be even more likely than willful infringement. Language differences, unfamiliarity with products and technology of competitors, customers, and suppliers and the sheer volume of information available in a global environment can make it difficult to identify the IP of others or to discern one's own IP from that of others, even for the most conscientious inventor.

While both kinds of infringers must be considered from the standpoint of IP protection, the existence of larger numbers of potential nonwillful patent infringers in a global environment can have a special impact on IP strategy. Whereas in a nonglobal environment "hiding" IP (e.g., opaque descriptions of inventions in patents, limited access to inventions outside of patents) can serve to keep IP and patentable improvements to IP out of competitors' products, in a global environment going public with protected IP (e.g., trade publications, press releases) may be the better path since it will reduce the chances of nonwillful infringement. In fact, a whole information-based industry dedicated to broadly disseminating IP information is developing to respond to this need (see, for example, the web-based company ip.com).

Infringement by Use: Are those really Nikes?

Generally, a patent prevents others from manufacturing, selling or using products covered by the claims of the patent. Infringement by manufacturing or selling patented products is a relatively straightforward

issue, but maintaining control over IP can be more complicated for infringement by use, especially in the global environment.³

Consider a situation where your competitor in Country A, where there is no patent protection, is manufacturing and selling a product using your IP, which is patented in Country B. The product is then imported into Country B. Since there is no patent protection in Country A, there is no infringement by your competitor. However, there is infringement by *users* in Country B, where the product is patented. So, your primary legal recourse for patent infringement is to pursue users rather than the manufacturer and seller.

If the product is large, expensive, and/or used by few companies (e.g., chemical processing equipment), it is relatively easy to identify and pursue the infringing user or the importer that brings the products into the country. But if the product is small, cheap and used by many private individuals in many different countries, as with athletic shoes, it may be impractical to pursue individual infringing users (though still possible to identify and pursue the importer).⁴

Global Contract Design⁵: How does this growing practice impact IP protection?

Just as it is now common for companies to outsource manufacturing to contract manufacturers in so-called “low-cost countries” (LCCs), it is becoming common for companies to outsource new product design and development to contract designers in these countries. With the continuing increase in engineering training and experience levels in these countries, significant product development cost reductions can be achieved by outsourcing product design in LCCs.

A typical scenario here is for a company to define customer requirements and then convert these requirements into a detailed form/fit/function specification for a specific product. The specification is then turned over to a contractor that generates the product design and the associated documentation that allows a manufacturer to build the product. In this process, the originating company may provide their IP to the contractor for incorporation into the product, or the contractor may develop new IP in order to meet the product specification.

Clearly, issues of IP control and ownership can easily arise in such a situation. Once you’ve taught your contract designer how to incorporate your IP into a product, how will you maintain control of your IP? If your contractor invents novel ways to implement your product specification, then who owns what part of the new IP? Specific answers to questions such as these can become quite complex in the global environment.

Many of the IP-related problems that can arise through the use of contract design companies are not associated with patent protection. Patent laws control primarily the manufacture, sales and use of products that contain protected IP, but not the design of products that use protected IP.

Consider a situation where you have patented an invention in Country A. You hire a contract design company in Country A to design a product that uses your invention. Your contract designer then manufactures products in Country B, where there is no patent protection. Patent law does not prevent your contractor from selling these products to your customers in Country B.

Legal recourse with contractors that commit this form of IP theft is not through patent infringement laws, but through breach of contract laws. Of course, well-constructed IP agreements clearly defining ownership and control of IP are always necessary when working with contract designers, but global patent, business and cultural environments can significantly complicate developing such agreements. And global environment issues come into play regardless of whether IP theft plays out as patent infringement or breach of contract through violation of IP ownership and control agreements. Countries that do not rigorously prosecute patent infringement may take a similar approach to breach of contract. Countries in which patent infringement is culturally acceptable may view breach of contract in the same way. And breach of contract may be a common practice in some countries with highly entrepreneurial business environments. Therefore, the possibility that breach of contract deterrents may not adequately protect IP must be considered.

Improvement Patents: The uninvited partner

Continuing with the issue of IP agreements with contract designers, improvement patents are also an area of concern. When a contract designer completes their work to contract specifications and transfers all associated IP in accordance with the contract, it is possible for the contract designer to legally patent

³ While patents are intended to prevent manufacturing, selling, and using patented products, other forms of infringement exist. Further, specific definitions of the various types of infringement are not universally applied in all jurisdictions.

⁴ The current situation with Internet music sharing offers a counterexample. The music industry has chosen to identify and pursue individual users as well as “importers” like Napster, though this action may be targeted as much at changing cultural environment (through intimidation of the parents of young infringers) as at recouping lost revenue.

⁵ The issue of global contract design is somewhat outside the patent protection focus of this discussion, but as this practice becomes more widespread the implications of global contract design will have an increasing impact on global IP strategy.

improvements made subsequent to, or even during, the contract period. This is possible if the improvements clearly exceed the results specified in the contract and the employer did not finance the improvement work.

Patent law does *not* give a patent holder the right to manufacture and sell patented products - patent law gives the patent holder the right to *prevent others* from manufacturing and selling products. Thus under certain conditions, improvement patents by a contract design company can prevent its employer from improving its own IP. Such situations often result in cross-licensing agreements, converting the contract designer into an unanticipated business partner.

Again, the need for well-constructed contracts arises regardless of the location of a contract designer. But in a global environment, the potential for improvement patents by contract designers means that the employer must be capable of dealing with unanticipated *international* cross-licensing agreements and business partnerships.

Responses to IP Theft

An element to IP protection that can be overlooked, especially by the technical and business community (vs. the legal community) is that any measure to protect IP is a waste of time and money unless there is some plan for responding to IP theft in any of its forms. So what responses are available?

Basic responses: What can be done about IP theft?

The basic response to patent infringement by a direct competitor in a country with a predictable IP protection environment is to sue the offending party. Here, all the rules of the game are known, enforced and conformed to by all parties involved. The typical restitution sought in such cases is an injunction to prevent continued occurrence of the infringement and/or the award of monetary damages.

But in a global environment populated with unanticipated competitors and countries with unpredictable patent environments, suing is often difficult, and even a favorable ruling may be ignored by an infringer. Under these conditions, options for the patent holder include blocking import of a patented product, ceasing to do business with the offending contract designers and manufacturers and communicating the actions of the offending parties (competitors or contractors) with the hope of applying peer pressure to the offender. Each of these options presents difficulties in a global environment.

There are two potential problems with reliance on blocking imports to stop unauthorized use of IP. First, countries have differing laws governing the actions of customs agencies and differ in their enforcement diligence as well. Second, even where strong laws are diligently enforced, it may be difficult to specify to customs agents what products should be impounded. Many individual agents, probably in several different countries and speaking several different languages, need to make a correct call on what individual products to impound. For rip-off athletic shoes with a big Nike "swoosh" on the side, this might not be difficult, but for cases without a clear, concise specification, description, or detailed listing of infringing products, blocking imports may not be a viable option.

If a contract designer or manufacturer steals its employer's IP, the employer can certainly stop doing business with the thief. But even this action is problematic. By itself, this response does not recoup losses due to the theft nor does it prevent continued unauthorized use of the IP. It may have relatively little impact on the infringer and the IP holder must still find a different, hopefully more honest, contractor.

A third recourse is communicating the actions of the thief with the hope of influencing other customers to not employ the contractor. Unfortunately, this type of "collective enforcement" may take years to produce any results in the global marketplace. Furthermore, organizing such a boycott may itself be illegal.

When evaluating recourse options, cost, time and effort as well as feasibility and effectiveness must be primary considerations. Although it may be possible to limit IP theft through one or more of the preceding mechanisms, the price of doing so may well exceed revenue lost due to the theft.

Alternative Responses: What to do when theft is likely to occur?

Given the situations described thus far, it is easy to envision particular patent, business, and cultural environments where there is a high risk of certain types of IP theft. However, there will be situations where a particular business opportunity is so attractive that it may warrant the risk of losing control over IP. In these circumstances, completely different approaches to IP protection strategies may be appropriate. For example, a company in this situation may choose to do whatever it can to protect its IP and then simply plan to write off the anticipated "IP shoplifting" as a cost of doing business.

Another more radical strategy is to create and sustain technical competitive advantage independent of the ability to protect IP. To maintain a non-protection-based competitive advantage, a company could choose to institute product and technology development and technology transfer processes that generate high-quality IP faster than competitors can implement the IP. Using primarily the advantages of speed and creativity, a company could render its own technology obsolete before it is stolen.

The ability to execute this particular response to IP theft depends heavily on the internal technical environment discussed previously. Even where it is possible for a company to protect IP that is applied by contract designers and manufacturers, in practice it is difficult to “own” IP without some internal ability to generate and apply IP. Without this capacity, a company can be very much at the mercy of external agencies regarding control of its IP.

Defining Guidelines: How can we apply this information?

Although the primary objective of this discussion is to familiarize non-experts with key global IP issues, it is reasonable to expect some guidance on applying the preceding information to the development of IP protection strategies.

Guideline Characteristics: What would a good strategy address?

Just as each situation may require a unique IP protection strategy, each organization may require unique guidelines for formulating strategies. This makes it difficult to describe specific guidelines. Nevertheless, there is common ground. In general, such guidelines should generate IP protection strategies that:

- Identify the minimum set of countries in which to seek protection;
- Support a triage approach that results in statements such as: definitely file for patents in *these* countries; definitely do not file in *these* countries; conduct a more detailed investigation in *these* countries;
- Provide recommendations on locations for product design and manufacturing as well as IP protection, since these decisions are interdependent; and
- Explicitly anticipate the most likely IP theft scenarios and recommend specific responses; what is most likely to go wrong?
- Identify specific core technologies that must be protected by the strategy.

Key Input: What must always be known to make good global IP protection decisions?

Regardless of the specific set of guidelines used to generate IP protection strategies, certain key information will always be required to effectively implement the strategy:

- An assessment of sales potential by country for products incorporating IP;
- An assessment of the IP legal protection, cultural and business environments of countries under consideration for design, manufacture and sale of these products;
- The same two sets of information from the perspective of direct competitors; and
- The same two sets of information from the perspective of potential contract designers and manufacturers.

The first input, though obvious, is not necessarily easy to obtain. The second should be rigorously organized, investigated and documented according to the three environments to improve overall understanding of the situation.

Assembling the third and fourth data sets can be very difficult, but the information is essential to determining which threats are real and which imagined, and can also be used to develop response plans to the most likely threat scenarios. Fortunately, the database built with this information can be re-used for subsequent strategies. In fact, this database in itself represents a source of competitive advantage.

IP Agreements: Working with contract designers

In addition to these general guidelines, some more specific suggestions can be made regarding the particular case of IP agreements with contract designers. Well-written IP agreements will include:

- definition of the field of use for employer IP and contractor-developed IP - making it clear who can use or license what IP for what applications without risking infringement;
- provisions for how the contractor will notify the employer that IP suitable for patent has been developed - i.e., that “invention has occurred”;
- reference to how and by whom invention disclosures and patent applications are generated and processed – with acknowledgement that individual inventors must be cited on invention disclosures and patent applications regardless of who the ultimate patent assignee may be;
- assurances that preparation of invention disclosures and patent applications and decisions regarding disposition of these documents are pursued in a timely manner by both parties;
- description of actions to be taken by contractors to safeguard IP in their possession - e.g., no enabling disclosure prior to filing patent applications or, where applicable, provisional patent applications; and
- agreement to co-operate in the protection of the IP if a contractor’s employee leaves the contractor.

Conclusion

Decisions regarding globalization and the protection of IP in the global environment often include engineering, marketing, and sales executives generally untrained and inexperienced in the area. While expert legal advice should always form the basis of global IP protection decisions, *all* parties involved should be personally aware of basic global IP issues in order to ensure informed decisions and construction of sound protection strategies. Some order can be applied to these potentially confusing IP protection issues by determining the influence of legal, business, and cultural environments in a particular region, and then developing protection strategies that protect core technologies in accordance with guidelines that account for these regional influences on competitor and contractor behaviors.