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intellectual property law

Patents: What countries to file in?

A strategy is required. You must have a strategy for determining where to file your patent application. It costs money for each country that you file a patent in. These costs include government filing and maintenance fees, translation costs, and attorney fees for local representation and prosecution and can easily run into the thousands of dollars for each country. Accordingly, while it is rare that you should not apply in the United States, beyond that the scope of application varies greatly with your budget and the nature of your product and industry.

The theory. You should apply if the investment in a domestic patent will produce a positive return on investment over the life of the patent relative to investing the funds in other aspects of the business. Unfortunately, you cannot determine this with certainty, as the calculation depends on a number of unknowns and contingencies. To calculate this, the factors you would need to consider include:

1) The cost of securing the domestic patent. You can make a decent estimate of this.

2) The cost of enforcing the domestic patent. This is unknowable, but should be estimated as a large number.

3) The likelihood that the patent application will progress to a valuable, issued and enforceable patent:
   a) Approximately 50% of US applications are abandoned. [
   b) A large number (around 50%) of patents are invalidated when litigated in the US.
   c) Many valid patents end up being relatively easy to 'design around'. You should assume a high failure rate, over the order of 80%.

4) Your cost of capital. If you are a start up, this will be high, and this will drive down the value of a current patent application.

5) The cost of capital of any acquirer of your business or invention (or strategic licensee). This will likely be lower than yours if you sell or license to a mature business.

6) The margins on the product that embodies the invention.

7) The incremental revenue that can be attributed to the patented invention.

As a very rough rule of thumb, a domestic patent will pay off if, but only if, the patented invention will lead to incremental revenue beyond what you would have secured without the patent, of at least $5M per year in that country. It is seductive to conceive of patents as applicable to 'new, new things', but careful analysis suggests that patents on inventions that reduce costs for customers in a pre-existing and large industry are most likely to pay off. For instance, an invention that reduces the energy consumed to make a commercial product like paper is more likely to pay off than most new 'nice to have' consumer products.

The practice.

Generally, you want to patent:

1. where there will be a large market for the product or service that embodies the invention, and

2. perhaps, where the 'product' will be manufactured or the service provided if not the same as (1). For instance, consider patenting semiconductor inventions in Taiwan, as it has a global presence in semiconductor manufacturing.

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With respect to item (1) the factors to consider include:

- The size of the potential market for the invention in each country.

- Consider geography and cultural factors. Some inventions are specific to certain industries which are geographically-restrained or more relevant in certain cultures. For instance, the petroleum extraction industry is a source of a number of inventions. Patents will be most valuable in other countries that also participate in petroleum extraction (eg. Consider the United States, Russia, Norway, Canada, Brazil, and the Gulf States.)

- If the invention is not constrained by geography, the market size in any given country is roughly correlated to Gross Domestic Product for that country.

    - Some countries, like India, have large populations. Some, like Scandinavia, have affluent populations. Clearly, the United States has the highest combination of affluence and population for many products and that is why it ranks so highly as a preferred jurisdiction to patent in. (It also has robust patent laws – see below). Some, like Canada, have a higher combination of affluence and population than you might expect.

    - You can cover roughly 60% of current world GDP by filing in the United States, Germany, Japan and China, and roughly 75% by adding Canada and Australia.

    - You may want to consider market growth over the life of the patent, and hence should consider the BRIC nations (Brazil, Russia, India & China).

- Sometimes, it makes sense to focus on where products are manufactured rather than used. For instance, consumer electronics are used worldwide, but only manufactured in a few countries. Focusing on these countries could be very effective at modest cost.

- The cost of filing, prosecuting and maintaining the patent in each country.
    - Some countries have low filing fees, and some are very costly. For instance, the cost of filing, including translation costs, is high in Japan.

    - Some countries have low prosecution costs. Also, many countries belong to regional conventions that can reduce patent costs (Europe, Africa etc.). In Canada, the "patent prosecution highway" being tested (in conjunction with the United States, Korea, and Denmark) can dramatically lower the cost of prosecution in Canada or the corresponding countries.

- The cost and likelihood of enforcing the patent in the country. A patent is nothing more than 'a call option to sue for infringement'. To enforce the patent you (or an acquirer or licensee) must sue to enforce it, in that country.

- Legal systems vary and the Rule of Law is better established in some countries than others. If enforcement in a country is likely to be prohibitively expensive, extraordinarily slow or capricious, the value of a patent in that country is seriously impaired. However, some countries like China that lacked a strong history of the Rule of Law are making rapid improvements to the robustness of their patent laws and enforcement.