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Utilization of In-House Patent Practitioners in Technology Companies

Abstract

Research and development (R&D) technology company managers, such as Presidents, Chief Executive Officers, and Chief Technology Officers, regularly delegate patent-related assignments such as invention submission analysis, patent prosecution, freedom to operate assessments, licensing arrangements, etc. This patent work is often outsourced to external patent practitioners without consideration of potential benefits of using in-house patent practitioners for at least some of the patent related work. The cost savings and the organizational benefits and time savings realized through utilization of in-house patent practitioners can be substantial; however, using these internal patent practitioners is not advisable in all situations. To that end, this paper provides insight into the various trade-offs associated with using external and/or internal patent practitioners. Additionally, specific recommendations are provided with regard to how and when to utilize in-house patent practitioners.

1. Patents

A patent strategy needs to be integrated into a company's business plan: "New or original knowledge and the creative expression of ideas [are] the driving force of successful businesses in the 21st century" (WIPO, 2006). Thus, "if [intellectual property (IP)] is an important asset for your business (i.e. if you own patents or patentable technologies, industrial designs, trade secrets, reputable trademarks or hold the economic rights to copyright works), then it should be a key part of your business plan" (WIPO, 2006).

A patent is a limited term right to exclude others from making, using or selling the associated patented invention in the territory in which the patent is granted, normally for an invention that is new, useful, non-obvious (or has an inventive step), and covers patentable subject matter. National patent systems encourage innovation by protecting the rights of inventors for a limited time period in exchange for public disclosure – e.g., 20 years from the filing date for utility patents in the USA, Canada, and Europe. Patents are territorial – that is, they provide protection only in each jurisdiction in which they are granted.

In many jurisdictions, there are multiple types of patents – for example, in the United States there are three types of patent protection: utility, design, and plant. A utility patent is issued for the invention of a new and useful process, machine, manufacture, or composition of matter, or a new and useful improvement thereof. Approximately 90% of the patent documents issued by the USPTO in recent years have been utility patents, also referred to as "patents for invention" (USPTO, 2000). A design patent is issued for a new, original, and ornamental design for an article of manufacture. A plant patent is issued for a new and distinct, invented or discovered asexually reproduced plant including cultivated spores, mutants, hybrids, and newly found seedlings, other than a tuber propagated plant or a plant found in an uncultivated state.

A granted patent allows a patent holder to do the following, among other things:

- (i) prevent others from making, using, or selling the patented innovation
- (ii) license the patent to others to generate additional revenues and/or goodwill (even pending application inventions can be licensed)
- (iii) perform cross-licensing with third parties
- (iv) have a potential defensive tool in patent infringement litigation
- (v) increase the value of the patent holder

2. Patent Practitioners

A patent practitioner is an individual who performs various patent-related assignments on behalf of one or more clients. The titles "patent agent" and "patent attorney" (or "patent lawyer") denote two types of patent practitioners. In some jurisdictions these terms are interchangeable, while in others the term patent attorney is used only if the person also qualifies as an attorney. Hereafter, the term "patent agent" is used to denote an individual who is not an attorney and who performs various patent-related assignments on behalf of one or more clients, with or without being registered with a national patent office. An unregistered patent agent can perform only a

limited set of patent-related activities such as prior art and patent searches, while a registered patent agent can also act on behalf of a client for matters involving patent preparation, filing, and prosecution with a national patent office. Patent attorneys are permitted to act in all matters and procedures relating to patent law and practice, including representation during patent litigation. In the United States, approximately 62,000 individuals have passed the patent bar exam since 1790 to therefore become registered to prosecute patent applications, and there are currently about 36,000 registered patent practitioners in the US, approximately 27,000 (75%) of whom are patent attorneys (USPTO, 2008).

3. Roles of Patent Practitioners

Advantages of well-integrated business and IP (including patent) strategies include “(1) keeping at bay unscrupulous competitors, (2) developing relationships with employees, consultants, suppliers, subcontractors, business partners and customers, and (3) obtaining funds” (WIPO, 2006). Moreover, attracting potential investors or convincing upper management to launch a new product requires that the product being proposed or developed is not only free of third party IP (e.g., patent) rights but also has been properly protected internally (WIPO, 2006). These critical patent strategies lead high-tech company managers, such as Presidents, Chief Executive Officers, and Chief Technology Officers, to utilize patent practitioners for such patent-related assignments as invention submission analysis; patent preparation, filing, and prosecution; freedom to operate assessments; licensing arrangements; etc.

One of these patent-related activities is invention submission analysis, which entails several steps that should take place when reviewing a new invention submission to determine whether or not to pursue patent protection for this invention. There are many decision points during the process at which it may be determined that the invention is better kept as an alternate intellectual property right such as a trade secret or a copyright. Below are some exemplary steps that can be taken to assist in determination of desirability of pursuance of patent protection:

- Obtain a sufficiently enabling disclosure from inventor(s).
- Establish that the invention has utility.
- Establish that it is not obvious to devise the solution proposed for a person having ordinary skill in the art.
- Establish that the invention is for patentable subject matter.
- Determine that the invention provides a competitive advantage.
- Ascertain that the potential market and/or competitive preclusive effect is sufficient to justify the costs of patent protection.
- Verify that infringement can be detected.
- Perform patentability searches to conclude that no statutory bar exists.

Once a determination to pursue patent protection is made, patent practitioners are normally heavily involved in the preparation, filing, and prosecution of patent applications on behalf of clients. Patent application preparation involves drafting drawings, a specification, and claims in arcane formats as defined by patent office rules, where patent claims define the

extent of protection conferred by the associated patent application. Once the practitioner and client are both satisfied with the drafted application, the practitioner files the application at one or more national (or international, e.g., via the Patent Cooperation Treaty or the European Patent Office) patent offices on behalf of the client so that examination of the application can later be performed. The interaction between a patent practitioner and a patent office with regard to a patent application (or later, even with a granted patent) is referred to as patent prosecution, and can last months or even up to several years. The patent practitioner acts as representative for a given client when communicating with a patent examiner, or with other parties within a patent office.

Patent application filing in some jurisdictions such as the USA can be done provisionally, whereby claims are not necessary, and examination is not performed. An associated non-provisional patent application must be filed within 12 months from the original provisional patent application filing, otherwise the provisional application is considered abandoned. Advantages of filing provisionally include much lower fees, fewer format requirements, a time window during which to experiment further and determine the value in pursuing patent protection, the right to denote "Patent Pending", and a patent term endpoint that may be extended by as much as 12 months. Patent practitioners can draft and file both types of applications: provisional and nonprovisional.

Patent practitioners can also provide various patent-related searches, such as patentability, freedom to operate, enforceability, and state-of-the-art. Patentability searches are performed to discover any prior art references, including patent documents (patent applications and granted patents), that would preclude patenting an invention for reasons such as anticipation or obviousness. Patentability searches are not limited to the jurisdictions in which patent protection might be sought, as prior art references from other jurisdictions around the world may prevent patentability. Freedom to Operate (FTO) searches are undertaken to find any potential patent obstacles to free commercialization of products or services, and are specific to the targeted jurisdiction for commercialization. An enforceability, or validity, search is one performed in order to determine if a given patent is valid and enforceable, and is very similar to a patentability search in that relevant prior art references are sought. In the case of an enforceability search, the objective is to find one or more relevant prior art references that anticipate or render obvious the claims of a given patent, preferably using references that the patent examiner did not consider during examination. And finally, a state-of-the-art patent search is the broadest and most general of all the patent searches, and is essentially a survey of all existing patent documents within a given technology. A state-of-the-art search can provide guidance on such things as: advisability of a new entrant to make a product within the given technology; hints for workarounds; and design solutions. Recall that national patent systems encourage innovation by protecting the rights of inventors for a limited time period in exchange for public disclosure. Therefore, after the limited time period, the public is able to freely make, use, or sell any invention whose corresponding patent has expired, so a good state-of-the-art search includes expired patents as well as in-force patents.

As detailed above, Freedom to Operate (FTO) investigations are searches for any potential patent obstacles to free commercialization of products or services. It is advisable to perform FTO investigations before product development in order to: avoid patent infringement, know where licenses may be required, obtain invalidity and/or non-infringement opinions, and provide an indication of what competitors are doing. As there are tens or potentially hundreds, if not thousands, of features in each technology product, it is not cost effective to spend time/money seeking clearance for all of them through FTO investigations. Therefore patent practitioners can provide guidance regarding what feature/functionality should be investigated, and to what depth, with the focus of each potentially on what a due diligence review would encompass. Selective FTO investigation performance should provide sufficient coverage so as to clear obstacles to free commercialization of technology products, greatly reducing risk and uncertainty (though there are no guarantees), while preventing costly investigations of little value. When a potentially relevant patent document is discovered, a patent practitioner, together with a client, can consider the tradeoffs of the various options available: i.e., which one is more costly, risky, detrimental, time-consuming, resource-consuming, etc. Some non-mutually exclusive exemplary options available in this scenario include: determining patent workarounds; finding relevant prior art references that anticipate or render obvious all of the relevant patent claims; obtaining a noninfringement opinion from a patent attorney; obtaining an invalidity opinion from a patent attorney; and/or acquiring a license from the patent owner.

A patent practitioner may also assist in patent licensing arrangements with third parties on behalf of a client. A practitioner can help a client to license a patent to others to generate additional revenues and/or goodwill (even pending application inventions can be licensed), and the practitioner can also assist with obtaining a license from a third party to allow for inclusion of the patented subject matter in a product. The licensing arrangements are complicated, and have many legal, financial, and market facets, and can be arranged in several various forms.

Patent practitioners that are not attorneys are limited in the types of the above activities in which these practitioners may participate. A registered patent agent can act on behalf of a client for matters involving patentability and patent preparation, filing, and prosecution with a national patent office, while patent attorneys are permitted to act in all matters and procedures relating to patent law and practice, including representation during patent litigation. However, beyond patent preparation, filing, and prosecution, a patent agent (registered or not) can additionally provide invention submission analysis and patent-related searches, and can even write opinions in some situations.

4. Internal Patent Practitioners

There are many advantages for a technology company to utilize one or more internal patent practitioners. Many of these advantages are gained by the advantage of having ready access to the company's inventors and their research and development information, and by having an insider's perspective on overall strategy and direction that is not always readily apparent to external

patent practitioners (Hammond, 2005). However, there are many scenarios and conditions in which the company would be better served by external patent practitioners, some of which are addressed in section 5.

One overarching advantage of utilizing an internal patent practitioner is the financial savings, and most of the following listed advantages also have associated competitive cost aspects when compared to using an external patent practitioner. Internal resources offer ease in budgeting where salary and other compensation benefits can be easily allocated accurately on a monthly basis, and the financial impact of these costs is spread evenly over the budget year (Hammond, 2005). External patent practitioners charge varying amounts for billable hours, consistently at rates above those associated with overall hourly compensation for an internal patent practitioner. Additionally, patent agents can be hired at reduced rates compared to patent attorneys (Hammond, 2005). For example, according to AIPLA (2007), the median gross annual income (excluding benefits) in 2006 of an in-house corporate patent agent (registered with the US Patent and Trademark Office) was less than \$120,000, and the median gross annual income (excluding benefits) in 2006 of an in-house corporate patent attorney was \$185,000. Assuming a 40 hour workweek, in-house patent agents cost around \$58 per hour, and in-house patent attorneys cost approximately \$89 dollars an hour. Consider that many of these internal patent practitioners will work an average of over 40 hours weekly, but that the hourly compensation also includes time not spent working such as vacations. These rates compare very favorably to the average hourly billing rate for a private law firm associate, which according to AIPLA (2007) is over \$300 per hour, even for practitioners with patent experience of only five years. As a concrete example, Invitrogen Corporation reduced patent prosecution costs for the company by 60% to 75% by moving the prosecution work from outside patent practitioners to an in-house patent agent (Hammond, 2005). One study found a reduction in cost for drafting and filing a patent application from \$10.6k when the work was done externally to \$7.6k when the work was done in-house – a savings of approximately \$3000 (Dilling, Beveridge, & Chen, 2007). The University of Virginia Patent Foundation (UVAPF) noted that by moving patent prosecution activities in-house, costs dropped to \$185 per hour (including all overhead) versus a range of \$295 per hour to \$325 per hour when this work was performed by outside counsel (Dilling, Beveridge, & Chen, 2007). Considering corporations' continuing efforts to reduce costs, particularly in the current economic slowdown, there is a tangible sense of urgency to cut expenses related to patent handling. Given the cost savings, using an in-house patent practitioner can provide the vision for change (Kotter, 2008) needed to resolve this sense of urgency within an organization.

Regardless of the practitioner's costs, an effective patent practitioner must know the company's entire business by understanding the company's and its competitors' products, markets, customers, distribution channels, and long-term objectives (Bradley, 2005). Therefore, an individual working for and within a company is best positioned to know that company's entire business. By knowing the company business, an internal patent practitioner also should be involved in creation of the overall corporate IP strategy, where such an IP strategy "should also include regular active management of a company's patent portfolio, which involves analyzing the portfolio not only for identifying

and filling IP gaps, but also for reviewing the portfolio for potential out-licensing opportunities and for strategically pruning the portfolio in times of financial constraints” (Ruschke, 2006). “Moreover, not only should a company be monitoring its own portfolio, a company should include in its IP strategy the monitoring of the patent activity of its competitors and of any other third party with relevant IP that could impact the ultimate clearance of a product to be released to the marketplace” (Ruschke, 2006). An internal patent practitioner is well positioned to execute the company's IP strategy quickly and cost-effectively.

An internal patent practitioner can additionally easily avoid the types of potential conflicts of interest that can arise when an external patent practitioner seeks to represent a third party in a manner potentially adverse to a client or to an affiliate or related entity (Moffitt, Swift, & Moore, 2008). Furthermore, a patent portfolio managed internally is more likely to be driven by value as opposed to an externally managed patent portfolio which might at times be more driven by volume (Jacobi, 2007). While an internal patent practitioner should not alone evaluate the value of pursuing patent protection for a submitted invention, an internal patent practitioner provides much additional value to an internal review team based on his or her knowledge of patent rules and of the company and its competition. It is difficult for an external patent practitioner to properly assess the value of pursuing protection for submitted inventions from a corporate perspective.

Given that “employee IP training is a must” (Bradley, 2005), an internal patent practitioner is better suited than an external patent practitioner to provide proper patent training to company employees at regular intervals and with the appropriate scope based on the business needs. Also, who better to make intellectual property such as patents accessible internally to the various business units than an internal patent practitioner? According to Bradley (2005), “not only will this relieve the IP department of various administrative tasks, but it will also permit the company's business units to support and take ownership of its IP generation and acquisition activities, and facilitate the creation of a corporate-wide IP organization that strategically manages the company's IP activities.” Per renowned change theorist Peter Senge, a “systems thinking” method helps a corporation become a “learning organization”, which is one that integrates, at all personnel levels, related company functions [such as intellectual property] to “expand the ability to produce” (Senge, 1990).

A patent practitioner internal to the business is well positioned to provide a checkpoint for external exposure activities, such as marketing materials and trade shows, where discussions, presentations, and documentation are not protected by nondisclosure agreements. An internal patent practitioner, who is familiar with the company's product line and the associated patent landscape, can recommend alternative language so as to avoid any unwarranted and undesirable attention from patentees. In the same way, such an individual can quickly provide input based on review of requests for information, and can also glean an understanding of what types of features and functionality might become part of the company's product roadmap going forward. This type of regular review and insight is valuable for the internal patent practitioner to be able to determine what features,

functions, and products require freedom to operate investigations, and to what level.

Another sensible activity for an internal patent practitioner is to coordinate the overall patent budget, which can easily be hundreds of thousands of dollars, even at small technology companies. The patent budget will normally include cost items not normally visible to external patent practitioners, such as incentive program award payments.

Regardless of the number of internal patent practitioners at a technology company, or the amount of work performed by such practitioners, it is very likely that patent-related activities will need to be supplemented by external patent practitioners, which means that at least one representative of the company will need to provide the main interface to such external patent practitioners (Heming & Skaryan, 2005). Because the quality and costs associated with utilization of external patent practitioners need to be closely monitored, it is imperative that the main company liaison to external practitioners be well-versed in patent law and practice, which should lead company management to further consider employment of at least one internal patent practitioner.

5. External Patent Practitioners

While there are several advantages to employing an internal patent practitioner, such as those provided in section 4, there are also many advantages to hiring one or more external patent practitioners.

In most cases, litigation work, particularly in a patent-intensive industry, is better handled by outside counsel because unlike patent prosecution, patent litigation is episodic, unpredictable, and highly time-consuming (Hammond, 2005). "As cases come and go, and the work in each case ebbs and flows, the staffing requirements of such a litigation department would be difficult to manage. Inefficiencies inevitably result, and if one tries to maintain a lean staff, quality would likely suffer" (Hammond, 2005).

There are also situations in which patent prosecution might be better handled by external patent practitioners. When the current staffing of a set of internal patent practitioners is insufficient to meet the given demand for patent prosecution, it can be helpful to hire external patent practitioners to handle the overflow. Additionally, when no internal patent practitioner is experienced with the subject matter of a new invention, it may make sense to utilize an external patent practitioner who is a subject matter expert so as to increase the quality of the associated patent application. Perhaps most significantly, there is a substantial administrative burden associated with a large patents pending portfolio, particularly for multinational companies who are seeking patents in multiple jurisdictions (Heming & Skaryan, 2005). Law firms are structured with dedicated staff to handle this type of administrative burden and to follow international patent laws and coordinate with patent practitioners around the world, and in many cases it will not be feasible to create such an internal administrative team within a company. Many large companies with large patents pending portfolios utilize volume-driven external law firms (Jacobi, 2007) (Heming & Skaryan, 2005), but small companies filing internationally also often use external patent practitioners because they cannot handle the administration internally.

As for Freedom to Operate (FTO) assessments, it is not financially practical to acquire a written opinion from external patent attorneys for every single patent document reviewed, and it is expected that many can be dismissed internally. One must be aware however that “opinions given by in-house personnel are not per se incompetent, but will be scrutinized for bias” (Fordis, 2007). Therefore, if there is any residual doubt, then it is best to engage external patent counsel to provide a non-infringement and/or invalidity opinion.

6. Summary and Recommendations

Because the cost savings associated with employing at least one internal patent practitioner within an R&D technology company can be substantial, it is recommended that technology managers consider the anticipated amount of patent related activities in order to determine if this work can at least partially be brought in-house. Additionally, in the case that management deems it appropriate to hire one or more internal patent practitioners, technology managers should also consider employing one or more patent agents because utilization of patent agents where possible is cost effective relative to use of patent attorneys. Internal patent practitioners also have advantageous insight into the daily workings and core of a business, so can often provide higher quality work products. Also, as there are several administrative tasks normally handled internally associated with patents, someone within the company will need to oversee or perform these tasks anyway.

While it is strongly recommended to utilize one or more internal patent practitioners, there are several conditions under which it is not advisable or possible for internal patent practitioners to perform given assignments, and as such these are often best handled by external patent practitioners, such as litigation, foreign prosecution, large patents pending portfolios, and written non-infringement and invalidity opinions.

Some example activities for which significant financial savings can be realized by performing patent activities internally include: filing provisional patent applications, performing searches, finding invalidating prior art for potentially problematic patents, constructing claim charts denoting noninfringement and/or invalidation analyses, and monitoring third-party patent pending applications/re-examinations. All of these activities can be performed at even greater cost savings by utilizing a patent agent instead of a patent attorney. Additionally, it is sensible for an internal patent practitioner to manage the patent budget, help devise the overall IPR strategy, provide employee patent training, oversee external patent practitioners, and review external communications. It is therefore recommended that technology managers utilize internal patent practitioners, particularly agents, for such patent related activities.

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