KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY

ZAGADNIENIA INNOWACYJNOŚCI FUNKCJONOWANIA SYSTEMU BADANIA + ROZWÓJ W NAUCE

Redaktor naukowy
ANTONI MIKLEWSKI

Tom I

Projekt: „INNOWACYJNE ZARZĄDZANIE SYSTEMEM B+R W JEDNOSTKACH NAUKOWYCH" jest współfinansowany ze środków Unii Europejskiej w ramach Europejskiego Funduszu Społecznego 4.2. "Rozwój kwalifikacji kadr systemu B+R i wzrost świadomości roli nauki w rozwoju gospodarczym"

Wyższa Szkoła Informatyki Stosowanej i Zarządzania, 01-447 Warszawa, ul. Newelska 6, tel.: 22 3486523

ZAGADNIENIA
INNOWACYJNOŚCI
FUNKCJONOWANIA SYSTEMU BADANIA + ROZWÓJ W NAUCE

Redaktor naukowy
ANTONI MIKLEWSKI

Tom I

Projekt: „INNOWACYJNE ZARZĄDZANIE SYSTEMEM B+R W JEDNOSTKACH NAUKOWYCH"
jest współfinansowany ze środków Unii Europejskiej w ramach Europejskiego Funduszu Społecznego
4.2. "Rozwój kwalifikacji kadr systemu B+R i wzrost świadomości roli nauki w rozwoju gospodarczym"

Wyższa Szkoła Informatyki Stosowanej i Zarządzania, 01-447 Warszawa, ul. Newelska 6, tel.: 22 3486523

Książka współfinansowana ze środków Unii Europejskiej w ramach Europejskiego Funduszu Społecznego.

Projekt Programu Operacyjnego Kapitał Ludzki.

„Innowacyjne zarządzanie systemem B+R w jednostkach naukowych"

Priorytet IV Szkolnictwo Wyższe i Nauka.

Działanie 4.2. Rozwój kwalifikacji kadr systemu B+R i wzrost świadomości roli nauki w rozwoju gospodarczym.

Podnoszenie umiejętności pracowników systemu B+R w zakresie zarządzania badaniami naukowymi i pracami rozwojowymi oraz komercjalizacji rezultatów prac badawczych – w tym również w zakresie ochrony własności intelektualnej i przemysłowej.

Projekt POKL.04.02.00-00-059/08

Recenzenci:

Prof. zw. dr hab. inż. Jan Studziński

Dr inż. Edward Michalewski

Projekt okładki: Aneta Pielak

Komputerowa edycja tekstu: Anna Gostyńska

ISBN 83-894-7542-1

EAN 9788389475428

Artykuły gości zagranicznych

Do You Really Need Another Worldwide Patent?

Mary Dicig
University of Illinois at Chicago

Introduction

Inventors, please forgive me but I speak from experience – I owned stock in three venture-backed companies that were forced into bankruptcy by poor IP management (after I left, of course). In this article I will describe a common practice that causes technology companies many wasted dollars, if not bankruptcy. I will also describe an alternative practice that is kept in relative secrecy by big companies who want to buy the technology assets of smaller companies, preferably for very little money out of bankruptcy. The bad practice I see frequently among small technology companies is to patent everything and never abandon an issued patent, under the theory that all patents will add to a company's valuation. As far as I can tell, this theory was invented by patent lawyers (of which I admit I am one but I abandoned that profession in favor of the business side many years ago). The good secret practice, which does not require lawyers except tangentially, is called "IP triage" – the process of evaluating the commercial potential of inventions before significant time and money are invested in their protection. Any invention, whether a commercially available product, or a mere twinkle in the eye of a scientist, is suitable subject matter for IP triage.

1. Early experiences

During the late1980's and through much of the 1990's it was fashionable for companies to patent everything they could, and to file lawsuits to enforce these patents in the hopes of generating a windfall settlement. A very few patents were litigated that resulted in huge damage awards, triggering an explosion in both patent filings and patent lawsuits. The number of patents owned became a widely publicized statistic used by pop culture magazines to trumpet the "success" of technology companies, and the cost of obtaining those patents went largely ignored. A decade later however, the practice of indiscriminate patenting and using litigation as an economic engine has come to a screeching halt. A little internet research yielded the surprisingly consistent statistics of $US4.2 million dollars as the average cost of legal

fees to enforce a patent in the US, and $US500,000 as the average cost to obtain a patent in most major market countries. So why are small companies filing too many patents? This relates to my earlier apology to inventors because I think it's because inventors themselves are in charge of deciding what gets patented. It's a resume thing – inventors collect patents like academics collect scientific papers. Also, in most companies scientists are not involved in the business end of IP and they are not informed about the costs and downsides of patenting, or that alternatives that might be better exist.

2. What are those downsides?

According to my recent multiple experiences, a single moderately complex patent application filed today in the US, five members of the European Union, China, Brazil, India and Japan will cost approximately $500,000 thousand dollars and take several years to process to the point of issuance or rejection. In most countries patent applications are published within 18 months of filing thus publicly disclosing the described technology to competitors all over the world. In the US, and in many other major market countries, the rejection rate for patent applications is currently 40%. In all countries, no refunds are given if the application is rejected. In countries where a patent is denied anyone can make, use or sell products described therein, for free. In many cases, within a year of filing an initial application, multiple significant improvements are made. Without a rigorous evaluation process, many companies (and certainly most inventors) would simply file additional patent applications covering the improvements, each of which cost the same amount to prosecute as the original application. These improvement applications are also published, and thus provide competitors with a detailed roadmap of how to make the invention, albeit as infringers. IF the applications are approved and patents issue, the patent holder is granted the right to sue infringers in countries where the patents are issued, at a cost of at least several million dollars per lawsuit per country. IF the patents survive an attack to their validity (the standard defense in a patent infringement suit) and a judgment results, the patent holder must still collect that judgment and in many cases the companies will not have sufficient income to satisfy the judgment. Still, a patent is still the only way to protect an idea, and to stop others from using your idea. While patents remain important for fundamental technology, but the big industry standard of unchecked patent filing has radically morphed into IP triage – a careful screening of inventions against rational criteria to determine whether and how to protect them. IP triage results in far fewer patents and, I respectfully submit, much stronger IP protection. While a patent covering core technology seems like a good investment, the need for a rational evaluation arises when considering improvements, variations and unrelated inventions.

3. Alternatives to patents

The cost-effective alternatives to patents are trade secrets and copyrights. The specifics of trade secret protection differ by jurisdiction, but in every case trade secret protection depends on (a) no public disclosure, and (b) consistent use of well-written confidentiality agreements. Trade secrets cover anything a company wishes to remain confidential and are very inexpensive to implement, but also easy to lose – a single disclosure without an agreement in place can result in a complete loss of protection. Trade secrets are also enforced by litigation, but the litigation is much less expensive than patent infringement actions. Trade secrets are generally useful in protecting inventions that are unlikely to be independently invented, or improvements to an underlying patented invention, or if they can be kept secret, where a company does not have the resources for a patent. Copyrights are widely applicable to software (which is not patentable in many countries), and if distributed in machine-readable form, are combined with trade secrets. Copyrights cover a broad range of published and non-published works including data of any type, anything written such as music or a script, digital works such as web site graphics and electronic content, and artistic works such as sculpture or photographs.

Early IP evaluation ensures that a company will choose a method of IP protection that is aligned with company goals and is appropriate for the applicable invention. For example, in the case of the improvements to the patent described above, the evaluation committee may dictate that the improvements be covered by trade secrets instead of additional patents, thus saving the company a great deal of money, a 40% risk of rejection of the applications, and a potential for invalidation. In addition, in the event that the underlying patent application is rejected, the company may still rely on the improvements protected by trade secrets to preserve its market advantage in making and selling the improved product. Contrast this with the easy decision to patent everything, where everything is lost if a company cannot afford to enforce or the patent is invalidated.

4. The process of evaluation

The process of evaluation begins with a detailed written disclosure which is submitted to an evaluation committee composed of at least one senior member of the technical staff, one member responsible for company finances and one member responsible for the strategic direction of the company (often a sales or marketing person). The committee groups each invention into one of three groups: critical for current or planned products, useful to company or industry in general but not critical to company's products, and interesting but not part of current or planned products and not generally useful to others. The first group of inventions is obviously the most important and if patent protection is appropriate, this is the category most

frequently protected by patents. However, few inventions are significant enough to fall into this category. The second group, in addition to being used for company products could be used to generate licensing revenue – patents, copyrights and trade secrets are all commonly used to protect these. The third group, the most common, is generally protected by trade secret or copyright only. Once these groupings are completed, the first and second groups are further evaluated for the appropriate type of protection to apply.

5. The best form of protection to use

Common criteria used for determining the best form of protection to use include (a) whether the invention meet the requirements, for instance, no previous public disclosure; (b) will it negatively impact your company if a competitor invents it also and is it easy to reverse engineer (patent protection is best); (c) can it be used in the general industry and thus might generate licensing revenues (method of protection depends on the likely revenues); (d) is it a new product or does it make your products better, faster or cheaper; (e) does your company owns it (which is not as simple to determine as it may seem); (f) how much will it cost to produce; (g) is it complicated and difficult to reengineer (and thus appropriate for trade secret); (h) will publication be harmful (trade secret is appropriate).

6. Best practices

Best practices also include two inexpensive analytical tools for quickly estimating the licensing potential of inventions – citation analysis and key word searching. Citation analysis uses patent numbers for evaluating issued patents, and key word searching uses technology descriptors for evaluating patent applications and invention disclosures. In both cases, the patent number or descriptors are used to search databases of issued and pending patents, which databases are available commercially and can be found on the technology office web sites of most large countries. In general, the greater the number of hits that belong to companies, the greater the licensing potential of the searched technology. From the resulting list of patents and published applications that contain the search terms, the companies owning the listed patents and applications can be determined. These tools can be used to evaluate disclosed or acquired technologies for licensing potential (and to develop a list of potential licensors), and they are used by investors and acquirers to evaluate the commercial potential of a company seeking a buyer or investment. From the number and nature of the resulting companies, a rough estimation of the market for the searched invention can be determined, which often drives the means of protection. For instance, where the search results in one or two small companies, it is unlikely that significant licensing revenues will result and the costs of patenting will likely be more than the potential for revenue obtained from licensing.

Program Operacyjny Kapitał Ludzki **Priorytet IV Szk**

Działanie 4.2: Rozwój kwalifikacji kadr systemu B+R i wzrost świadomoś
gospodarczym. Podniesienie umiejętności pracowników systemu B+R w zakres
naukowymi i pracami rozwojowymi oraz komercjalizacji rezultatów prac bada
w zakresie ochrony własności intelektualnej i przemysłowej.

Projekt POKL.04.02.00-00-059/08:
Innowacyjne zarządzanie systemem B+R w jednostkach naukowych.
Projekt wpisuje się w realizację unijnej strategii wzrostu Europa 2020.

W zmieniającym się świecie UE potrzebna jest inteligentna i zrównoważona gospodarka sprzyjająca włączeniu społecznemu.

Inteligentny rozwój oznacza uzyskanie lepszych wyników w dziedzinie:

- **edukacji** (zachęcanie do nauki, studiów i podnoszenia kwalifikacji),
- **badań naukowych/innowacji** (stworzenie nowych produktów i usług, które wpłynęłyby na zwiększenie wzrostu gospodarczego i zatrudnienia oraz pomogłyby w rozwiązywaniu problemów społecznych),
- **społeczeństwa cyfrowego** (wykorzystanie technologii informacyjnych i komunikacyjnych).

Unijne cele służące zapewnieniu inteligentnego rozwoju obejmują:

1. zwiększenie łącznego poziomu **inwestycji publicznych i prywatnych do wysokości 3 proc. unijnego PKB**, a także zapewnienie lepszych warunków dla badań i rozwoju oraz innowacji,
2. **podwyższenie wskaźnika zatrudnienia kobiet i mężczyzn w wieku 20–64 lat do 75 proc.** do 2020 r. poprzez wprowadzenie większej liczby osób na rynek pracy, zwłaszcza kobiet, młodzieży, osób starszych, pracowników niskowykwalifikowanych i legalnych imigrantów,
3. zapewnienie lepszego poziomu wykształcenia – zwłaszcza:

- sprowadzenie **odsetka młodych ludzi przedwcześnie porzucających naukę do poziomu poniżej 10 proc.,**
- dążenie do tego, by co najmniej 40 **proc. osób w wieku 30–34 lat miało wykształcenie wyższe** (lub równoważne).

Wniosek z artykułu K. Lityńskiego (Tom 1, str. 67):

Polityka zwiększania innowacyjności, która decyduje o konkurencyjności całej gospodarki, nie może podlegać nieskoordynowanym, a często wykluczającym się inicjatywom poszczególnych ministerstw.

Polityka proinnowacyjna nie polega jedynie na szybkim wydatkowaniu wszystkich dostępnych środków unijnych pod hasłem „innowacja", lecz także na wytyczaniu i monitorowaniu kierunków i problemów, które powinny być rozwiązane w skali kraju i poszczególnych regionów.

Idea utworzenia platformy koordynującej działania proinnowacyjne rządu i jego agend nie jest nowa, jako koncepcja Krajowego Systemu Innowacji wydaje się obecnie ze wszech miar na czasie.

ISBN 83-894-7542-1
EAN 9788389475428

INSTYTUT BADAŃ SYSTEMOWYCH
POLSKIEJ AKADEMII NAUK