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FORMULATING PATENT MANAGEMENT STRATEGIES FOR AN ENTERPRISE;
TURNING NEW IDEAS INTO COMMERCIAL PRODUCTS

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INTRODUCTION

For the high-tech company, Intellectual Property (IP) may be the most valuable of company assets. Of the several internationally recognized forms of Intellectual Property, those of particular value to the high-tech company include patents, copyrights, trademarks, trade secrets, and mask works. Among these, patents are generally considered the most important. Relative to procuring other forms of IP, however, the patenting process is a long, complicated, and expensive process. Thus when IP owners commit resources to develop their inventions and protect them with duly issued patents, decisions regarding allocation of resources must be addressed.

This paper is directed to a discussion regarding the integration of intellectual property management strategy into corporate and business strategy. The topics discussed cover IP issues from the generation of novel ideas to the introduction of new commercial products or services. In the present discussion, the term IP will generally be utilized to encompass all forms of intellectual property protection. As indicated above, however, it should be understood by the principals of technology companies that patents are perhaps the most important of intellectual property protection devices. While keeping a view to all forms of IP, the present discussion will nonetheless be somewhat necessarily focused on patents. In addition thereto, it should be further understood that in several large economically developed nations of the world, business methods are patentable. Therefore this paper will discuss IP issues relative to developing and protecting new products as well as new and novel services.

This paper is divided into three main parts each including several sections. Part I is directed to a brief economic analysis of small and medium size enterprises relative to the use of the patent system. Part II is directed to the administrative aspects of implementing and maintaining internal corporate procedures for structuring the development and protection of proprietary innovation. When effectively implemented and maintained, these procedures lead to the creation of an enforceable portfolio of intellectual property. And lastly, Part III of this paper is directed to the offensive use of intellectual property as a patent management strategy for commercial enterprises.

PART I

SMALL AND MEDIUM SIZE ENTERPRISES AND THE PATENT SYSTEM

A Brief Economic Analysis

As indicated above, the patenting process is a long, complicated, and expensive process. Thus when IP (Intellectual Property) owners commit resources to develop their inventions and protect them with duly issued patents, decisions regarding the allocation of resources must be addressed. The nature of the IP owner and the objectives or expectations regarding use of the patents should first be considered.

For example, is the IP owner a university, a small private start-up company, a medium-sized enterprise, a large public company, a non-profit organization, or a single individual inventor? This is an important question because the type of IP owner may dictate what percentage of available resources should be allocated to IP development.

A. Nature of the IP Owner

In the case where the prospective IP owner is a small- or medium-sized enterprise (SME) with very important new technology, the percentage of allocation of resources should be relatively high. For this type of IP owner to be successful in a competitive world relative to larger established companies, the strength and integrity of the IP portfolio is of paramount importance. In contrast to the SME, large established multinational companies with substantial market share, goodwill, and proven technology may need to direct more resources to business operations not found in the start-up SME. Such operations include advertising, customer service and support, as well as maintaining distribution channels. The large established company must, of course, still keep an eye on its in-house R&D advances relative to competitors to stay current with industry trends when competing primarily on the basis of technological innovation.

Because of their established resources, however, other methods employed by larger companies to stay current with technological innovation include direct investments in, joint ventures with, or mergers and acquisitions of emerging SMEs with promising new technologies. In these situations, the strength of the SME's patent portfolio is often one of the primary assets considered by the large company to determine whether it will invest in the SME, form a joint venture therewith, or make an offer to acquire all or a part of the SME. This is particularly true when the SME is a high-tech start-up organization that has focused its resources on R&D and product development, rather than post-development activities such as establishing distribution channels, sales and marketing, customer support, or advertising.

B. Why is the SME Motivated to Initiate the Patenting Process?

This question should also be addressed by the prospective IP owner in determining allocation of resources. Take, for example, the SME high-tech company, does it intend to manufacture its products, is its goal to be purchased by a larger company, or will it license its technology? These strategic issues should be addressed in determining allocation of resources to IP development. In the case where the SME start-up intends to do its own manufacturing to satisfy eventual market demand, a substantial portion of available resources must then be directed to establishing manufacturing capabilities. On the other hand, if the SME start-up is focused on being an R&D and product development company with the ultimate business objective of licensing its technology to established manufacturing companies, then a substantially higher percentage of available financial resources should be directed to IP development.

C. Strategic Planning Issues

Other issues to be addressed in determining the amount of resources dedicated to IP development should include whether the patents, copyrights, and trademarks will be used

offensively or defensively. If a company is well established and competes in the market place on the bases of non-technical advantages, then defensive patents on only the most important product embodiments may be necessary. On the other hand, if the company believes its technical innovation is very valuable and it intends to aggressively assert its patents against others either by licensing or court action for infringement, then a strong, robust portfolio of IP protection is necessary and increased resources should be directed to the IP development program.

To initially engage the patent system in an efficient and cost-effective manner, the SME may turn to various established patent databases, for example, the USPTO or EPO web sites, to conduct preliminary in-house investigations of current or expired patents. A review of current patents will give insight into the strategic position of competitors relative to proprietary technology. On-line searches may be formulated to retrieve patents within certain technological classifications, or patents from specific companies and assignees, or even patents having individual inventors who are known within an industry for being principal contributors to technological innovation.

In the case of patents due to expire, the inventions therein once protected by the patent system enter the public domain upon expiration. Thus the information disclosed in expired patents is free for public use. In this manner, the SME may utilize the technical disclosures in expired patents for purposes of solving production and product quality problems which have been previously addressed by other organizations. Even though the technology disclosed in expired patents might be considered dated, it may still be useful to the SME for developing in-house expertise and an understanding of the historical trends of technological development in a particular industry. Furthermore, techniques and technological know-how from expired patents may be properly incorporated into an SME's products or manufacturing methods without the risk of being accused of patent infringement or the need to pay a licensing fee.

In conclusion then, the SME is better positioned to make prudent decisions regarding the allocation of financial resources when it has engaged the patent system in a defensive manner to verify that its products and methods do not infringe the patents of others, and is even better positioned to compete in the global market place when it has engaged the patent system to protect its technological innovations with duly issued patents.

PART II

ADMINISTRATIVE ASPECTS OF IMPLEMENTING AND MAINTAINING INTERNAL CORPORATE PROCEDURES FOR STRUCTURING THE DEVELOPMENT AND PROTECTION OF PROPRIETARY INNOVATION

A. The Corporate Document Retention Policy

To establish a reliable and retrievable collection of corporate information, it is advised that business entities develop a document retention policy. Business information may be conveniently divided into four main categories. These include financial information, administrative and personnel information, technical information, and strategic business information. All of this information should be considered either general confidential business information or confidential and subject to trade secret protection.

Routine matters such as what types of physical or electronic files are needed for maintaining the types of documentation the corporation produces should be decided. Whether this information is public or confidential should be clearly indicated both on the documents and their files. Access to and distribution of confidential matter should be strictly limited as necessary. The time period during which corporate records are to be preserved should also be established.

Of the types of business information discussed above, the type of information most amenable to IP protection (either patents or trade secrets) is technical information and strategic business information.

Technical information containing disclosure of developing new and innovative products and services is typically kept by scientists and engineers in laboratory notebooks, technical reports, drawings, electrical schematics, simulations, photographs, graphs and tables, flow charts, and source code. This type of documentation typically contains the subject matter of trade secrets and patents. Such documentation therefore must be maintained as strictly confidential with a view toward sharing it with IP attorneys for analysis.

B. Establishing Corporate Committees

A critical part of integrating IP management into corporate and business strategy is in the formation of effective committees which need to share information and interact in a coordinated manner. The principal committees necessary to perform this function internally in a business organization may typically include the executive committee, the patent or IP committee, the product development committee, and the marketing committee. To ensure the flow of information between these committees and promote coordination among them, it is advised to have two or three senior ranking company officials sit on several or all of such committees. In accordance with established corporate policies, each of these committees will have its mandated areas of responsibility and accountability.

The executive committee is generally concerned with maintaining company profit and strategic advantage over competitors, providing a sufficient flow of resources into company departments, allocation of resources, and ensuring sufficient financing for established business objectives. The members of this committee typically include the president, chief executive officer, chief financial officer, general counsel or in-house corporate patent counsel, and vice-presidents from product development, marketing, and regulatory affairs for example.

The IP committee is typically charged with the duty of analyzing competitors patents, maintaining an awareness of internal research and development involving company innovation, establishing and maintaining a reverse engineering program when necessary, and interfacing with IP attorneys in private firms for (1) reviewing competitors' IP strengths and weaknesses and (2) developing the company's IP portfolio in a manner that makes strategic and competitive sense given the company's strengths relative to its competitors. Members of this committee should include senior scientists and engineers, heads of technical departments, general counsel or in-house corporate patent counsel, and one or two executives or corporate officers. The IP committee is also usually responsible for reviewing proposed trademarks and approving the use thereof in connection with the company's products and services.

The product development committee and the marketing committee typically work in a “feed-forward” to “feed-back” manner. Once company objectives and market targets have been established by company executives, the marketing committee must first analyze the market relative thereto. If there is no profitable market for a newly proposed product or service, the company will not typically allocate resources relative thereto. On the other hand, when the marketing department establishes that there is a profitable market for a newly proposed product, the product development committee then analyzes customer needs and preferences and attempts to develop a suitable product based thereon. As the product develops internally, the marketing department will assemble consumer focus groups to test the prototype products. The results of such consumer testing are fed back to product development to be used in further refining the developing product to thereby better suit the expressed needs and preferences of the customer.

C. Documenting Innovation, Discovery, and Creativity

When creative employees have an idea relating to the company’s business, they should have a clear understanding of what to do with such an idea. Documenting such ideas is critical to the maintenance of an internal IP development program. Apart from the general corporate policy relating to document retention discussed above, the corporation is advised to have clear policies regarding idea submissions. Typically, creative personnel are given access to official company forms that require completion for documenting ideas.

With respect to patents, a corporation usually provides and “Invention Disclosure Record” or similarly named document that is to be completed by prospective inventors when they have new product ideas or innovation inspiration. These forms can be supplied by the company’s IP attorneys. They typically have several sections requiring completion. These sections may include a proposed title, list of joint inventors, brief description or abstract, a detailed description, drawings, and a series of questions relating to when the idea was first conceived, whether it has been discussed with others and if so, under what circumstances, and knowledge of the prior art.

If the SME intends to use trademarks or services marks, a similar “Proposed Trademark” submission form should be employed. All personnel should be encouraged to suggest trademarks and service marks for prospective use by the company. This trademark submission form typically includes an area for listing the mark and providing a stylized drawing if suggested.

When the company’s main activities involve copyrighted materials such as music, motion pictures, software, or publications including books, newspapers, and magazines, registering copyright protection is highly recommended. For new SMEs starting in these areas, the internal corporate process for documenting and protecting copyrighted materials should be developed by working closely with IP attorneys that specialize in copyright protection for these types of industries.

D. Employee Training and Related Personnel Issues

The best of corporate policies become ineffective unless they are properly followed by all employees of the corporation. This is true for all levels of employees--from the president

and CEO to the janitorial staff that removes paper waste from company premises which may include discarded technical or business documentation containing trade secret information.

When a high-tech SME hires new employees, its human resources officer should provide a new employee orientation. This orientation should clearly establish the corporate policies relating to documentation retention, creation and ownership of innovation, and employee duties of confidentiality and non-competition where appropriate. It is advised that corporate entities maintain such policies in written form and require new employees to read and sign such policies as a condition of employment.

Virtually all creative innovation in a high-tech SME is generated by the scientists and engineers who have responsibility for conducting research and development and/or product development. Therefore documentation from these employees is particularly necessary for memorializing their innovative work. If a creative employee generates new and innovative ideas without hard documentation, the SME may never realize any economic benefit therefrom. Senior managers in these departments are typically charged with the responsibility of reviewing their employees' progress and determining whether such technical progress is sufficiently significant to rise to the level of important trade secret information that perhaps requires patent protection. As discussed above, these senior managers or department vice-presidents should sit on the product development or marketing committees which in turn are coordinated with the executive level via the executive committee.

All SMEs should take actions directed to enforcing their policies with their employees. Typically, hard-working and loyal employees have no difficulty conducting their activities within set policies. To ensure compliance with established corporate policy, however, employee reviews or performance appraisals should include a review of the employees' fidelity to established policies maintained for promoting and maintaining IP development. Such performance areas include (1) how well scientists and engineers keep their laboratory notebooks, (2) clarity of technical reports, (3) significance of creative contributions to company innovation, (4) ability to keep company trade secrets and confidential information from inadvertent public disclosure. The ability of a business organization to properly train its employees and maintain needed administrative programs that impact IP development, is directly related to its ability to successfully compete in the market place.

There are times when employees breach company policies relating to the development and maintenance of IP. When these breaches are significant and result from gross negligence or intentional conduct, it is advised that the company take swift and appropriate action to protect its business interests accordingly.

PART III

OFFENSIVE USE OF INTELLECTUAL PROPERTY AS A STRATEGIC BUSINESS TOOL

A. Market Analysis from the Strategic Business Point of View

To maintain its competitive advantage, a business organization must be aware of the competitive environment. With regard to monitoring competitors' activities, it is advised that high-tech companies perform IP monitoring of published trademarks, published patent

applications, trademark registrations, and issued patents. A business organization can perform this activity internally by conducting on-line searches in the various national patent and trademark office data bases. Alternatively, the business may hire watch services or law firms to perform this function.

Once the publicly available IP of competitors is collected, it must be analyzed from a strategic point of view. The company's patent or IP committee is responsible for assigning such tasks. Typically, analysis of competitors IP is delegated to sub-committees of the IP committee. When dealing with competitors' patents, two principal inquiries are investigated. The first is defensive in nature and is directed to determining whether the company's products of proposed products would infringe the patents of others. The second is strategic nature and is directed to determining whether there are technical areas in which the competitor is either unprotected or insufficiently protected with enforceable intellectual property. In this manner, the high-tech business organization develops a keen insight into the areas of coverage of its patent portfolio relative to the portfolio of patents held by its competition. To maintain this keen insight, the monitoring of competitors' IP must be conducted on a regular on-going basis.

B. Developing and Supporting Company Strengths—Internally

Once the competitive landscape of intellectual property is understood by the high-tech business organization, it should look internally to identify its strengths relative to its competitors. If a competitor is highly advanced in a particular technical area and that area is strongly protected with patents and other intellectual property, the company must make a realistic decision regarding whether it can compete in that area. If on the other hand, the competitor is not well advanced in a particular technical area and thus virtually unprotected in that area; the high-tech SME may have a strategic advantage. To convert this potential advantage into a real advantage that bears economic fruit, the SME should assess its technical strengths in this area, develop competitive products based on these technical strengths, and ensure that all innovation relating thereto is properly protected by patents and other intellectual property.

As an added component to improving an SME's strategic advantage over its competitors by managing its intellectual property, an SME may allocate resources into new areas in which it has determined its competitors are vulnerable. Thus after conducting an extensive IP audit of its competitors, a high-tech SME may determine that its competitors are weak in an area in which the high-tech SME had not historically operated. Given this competitive landscape, the high-tech company may then expand its areas of technical development and expertise. This expansion may be supported by a reallocation of resources to the new area. Such an expansion into a new technological area for the SME should be well supported by both sufficient funding and technical personnel. To protect its investment in supporting this new area of technological development, the high-tech company is advised to all such new innovation with patents and IP.

Thus in this manner, the high-tech SME has used the IP system both defensively and offensively to identify, create, and maintain an economic advantage over its competitors.

C. Licensing Intellectual Property

Rather than utilizing its intellectual property as a means of preventing others from using its protected innovation, the high-tech SME may alternatively use the IP system to generate licensing revenue. Thus after building its portfolio of patents and conducting an extensive IP audit of its competitors, a high-tech company may determine that it prefers to license its competitors.

Often times, competitors are not readily amenable to offers to license. Thus a high-tech SME that has decided on a licensing program for its IP must be prepared to convince its competitor that it needs a license. This convincing process is quite time consuming and involved when dealing with sophisticated competitors and complex technologies. But what is necessary at the core of the process, is a portfolio of valuable and enforceable patents. If the high-tech SME has such a collection of IP, it should be successful at licensing it given needed technical knowledge and licensing expertise. This technical knowledge includes a detailed understanding of the SME's technology and patents, and an intimate knowledge of its competitor's technologies--which may require sophisticated reverse engineering techniques.

D. Enforcing Intellectual Property

Whether a high-tech business organization decides to employ its IP portfolio as a means of preventing others from practicing its innovations, or whether it decides to license its protected technology, the business organization should be prepared to enforce its intellectual property rights either by arbitration or in competent national or state courts having jurisdiction over actions for intellectual property infringement.

Thus if a high-tech SME has launched a new product which it has protected with IP and it identifies a competitor with an infringing product, it must have the option of enforcing the IP in an appropriate forum. In this manner, the IP system is given legitimacy by proper support from the judicial system.

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