13 Measurements a Corporate Patent Department Can Use to Report Its Activities

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The purpose of this research is to attempt to identify what measurements or benchmarks could be employed by corporate IP departments to measure the success of their patent activities. Certainly, senior corporate management is keenly interested in understanding what the patent activities have been. Now, however, other groups like shareholders, market analysts, and investors are just as interested. IP departments need to show the benefit of their activities to these audiences. As a work product of this research, it is anticipated that a catalog of such possible measurements will be developed. Accordingly, the IP department could choose some of these measurements to use in their reports. Some of the measurements can be very simple, such as a total of the patents received or the applications filed over a year's time. However, the possibility of using other measurements exists and these other measurements may be relevant to a particular company's situation. There is perhaps not one set of measurements that will work for all companies, given several factors. Some of these measurements may be too economic to be practically used. However, other measurements will involve quantifying the value of risk avoided through the use of patents. Also, the overlap between a company's patents and its products will be highlighted as a possible measurement.

I Introduction

Many companies are increasingly recognizing that a general IP strategy plan, and a specific patent strategy plan, should be included within their overall business objectives. IP and patents are becoming much more than a legal issue. Rather, IP and patents are becoming an embodiment of a company's competitive position. As such, companies are starting to devote as much emphasis on developing the value and impact of their IP as on creating and maintaining it. Certainly many good studies and books discuss this growing importance.

With the increased importance generally comes increased scrutiny of IP activities by a company's business management. Accordingly, with this greater scrutiny is coming a wider audience for reports on patenting activities. This audience is not only internal to the company but is also external, such as stockholders, potential investors, and analysts. Reporting of a company's patenting activities never had a wider audience.

The purpose of this study is to consider what objective benchmarks, metrics, and/or measurements an IP department could use to describe and demonstrate its "patent successes" to its senior management, its Board of Directors, any other relevant audience internal to the company, as well as to external investors and market analysts. Companies can then choose among those metrics and measurements that seem to fit best for its owner's particular needs and corporate culture. The correct choice of such performance indications can be used to identify areas where improvement is required, and to guide activities that should be undertaken to improve performance.

The need for such values and measurements are clear. Corporate patent departments are still largely viewed by management as "cost centers" or as a "staff expense" rather than as a creator of strategic assets. Companies have historically built portfolios of patents because it was "the right thing to do" or as a way of keeping their engineers and scientists happy.

Indeed, there is currently in the United States an active discussion among corporate legal departments (not yet focusing on "corporate IP departments") about how to measure success. An article from "Corporate Legal Times," entitled "Legal Departments Learn How to Measure Success" (Vol. 14, No. 150, May 2004) discusses the proceedings from a "Counsel to Counsel Forum" entitled: "How Do You Measure Up? Metrics and Measurements for the Law Department." A number of General Counsel or "Chief Legal Officers" from some of the United States's largest companies participated. The discussion at the Forum was somewhat surprising. The observations were made that a number of corporate legal departments themselves have no meaningful metrics by which to measure anything. The conclusion was made that, in today's corporate culture, implementing the proper

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metrics and measurements is crucial to a legal department's success, especially as corporate budgets remain flat. Such metrics and measurements provide information that helps a department gain the trust and respect of company business executives. Additionally, the observation was made at this Forum that the first thing that needs to be done is to succinctly define the role of the corporate legal department within the company. It is respectfully submitted that corporate patent departments face the same pressures.

This study is limited to metrics and measurements for patent activities only.

Ⅱ Description of Information Reviewed and Collected.

The following information was collected and reviewed:

1. Personal interviews with corporate IP departments;
2. Documentary sources identified through research; and,
3. The author's personal experiences in being significantly responsible for the patenting activities within a corporation and separately of a division within a corporation, albeit as "outside counsel."

A "Questionnaire" was provided to most of the interviewees in advance. No specific company or its practices are identified in this study.

Ⅲ General Observations.

Several general observations can be made:

First, it is useful to remember the five fundamental roles of patents in facilitating business success. Whatever measurements a company chooses should be consistent with its business goals and these five fundamental goals.

Second, there is not one set of metric and measurements for all companies to use. Instead, the patent department of each company has to decide which of the available ones may be preferred for its unique corporate situation and resources. This variability can be attributed to several factors.

Third, too many members of companies' senior management tend to focus only on how much money revenue has been generated. (This could be from licensing revenues, etc.) Unfortunately, such a one-dimensional way of tending to view patents does not appreciate the non-revenue benefits of having a patent portfolio.

Fourth, there is also wide variability in the actual modes of reporting to the relevant business managers.

Fifth, some of the metrics and measurements may seem somewhat speculative and hard to quantify with real numbers. However, such metrics should not be dismissed as being without practical use.

Ⅳ Catalog of Metrics and Measurements.

As described above, the purpose of this study is to create a catalog of possible metrics and measurements that a company can pick and choose from to report its patent activities. It is expected that many may not be applicable to each company, but at least choices are possible.

1 The Patent Department's "Charter" Within the Company.

Each patent department needs to fully and specifically know how it fits into the corporate structure, both on the organization chart and functionally. Such a "charter" sets forth a way to judge whether the patent department is conducting its businesses the way it should be. A "charter" would identify any inconsistencies that different business managers may have about the roles of the patent department.

Clearly, decisions on the maintenance, protection, disposal, licensing, and abandonment of IP should be taken by the business units. However, equally clearly is that the patent function, whether based internally or outsourced to private practitioners or split between the two, will be responsible for managing the legal processes implied by such decisions. The "charter" would consider whether accountabilities between the businesses and the patent department are clear, and, if delegated, whether approval and reporting structures are clearly defined. Simply, the "charter" will help to outline the principles that the company will follow in managing its IP.

There was observed a considerable variation in different companies' patent charters. Some had none. Some had a rudimentary charter related to "human resources" issues. Some companies had charters limited to a series of statements of principles. However, it is submitted that charters of this type are often little more than "philosophy statements" that do not contribute much in the operation of the patent function. Some companies' policies contained detailed procedures describing not only what should be done but how. Charters of this type may be ignored because of the sheer volume of information users must navigate.

It is submitted that the most effective charters would be structured to provide a clear description of: the company's policy, the minimum actions needed to ensure compliance, and identifies those responsible for policy interpretation and ensuring compliance.

2 The "Standard" Set.

The next four (4) measurements are most frequently used by companies at the present time.

(1) Number of Patents Issued.

This is probably the most rudimentary metric. It simply counts the number of patents issued to a company typically for a given year.

A company may compare how many patents issued this year to those issued in prior years, as a way to keep track of any trends. Bar charts or graphs of such yearly totals are sometimes used. Also, several variations of the totals that can be presented. One variation is to present the total numbers issued by each business unit. Another variation is to present the totals by geographic region, like patents in China. Another way would be to present the totals by technology category, such as design patents, business method patents, or manufacturing patents. Another variation would be by "special purpose" categories, such as patents that relate to "preventing counterfeiting." Another variation would be the total number of patents held, not just the new ones for the last year. Graphics or illustrations could be used to illustrate the total or variations thereof.

(2) Number of Patent Applications Filed.

This metric is very similar, but instead looks at the number of patent applications filed to a company or related family of companies, typically for a given year. The same variations as with "numbers of patents issued" could apply here as well.

(3) Number of Invention Disclosures Received.

A perhaps related (and a more upstream) metric is the "number of invention disclosures" received from the scientists. The same variations as with "numbers of patents issued" could apply.

(4) Comparing the Number of Patents Obtained to the Number of Patents Issued to Your Competitors.

This metric compares the number of patents issued to a company or to a related family of companies to the number of patents issued to competitors. Certainly not all companies are the same size or commercialize all its products within the same sector, so some adjustments need be made for meaningful comparisons. To some companies, comparing how many patents it has compared to competitors is very important.

3 The "Product-Centric" Set.

The next nine (9) measurements focus not on the patents that are obtained but focus on the products that are covered by the patents.

(1) Illustrating How the Patents or Applications Cover Products or Technology.

This metric attempts to correlate the patents issued or patent applications filed to commercialized or proposed products. Product protection has certainly been one of the main purposes for seeking patent protection.

Patents can provide a "fence" of exclusivity around products or technologies. The key to maintaining healthy profit margins is to avoid "commoditization" of a company's products. This invariably involves a commitment to innovation and to building fences around those innovations to prevent others from copying them. This metric may help to assist the company in recognizing a consideration and value between the company's products and the patents protecting them. Accordingly, this metric takes into account the importance of the patents in protecting the company's core business.

Surprising, many companies cannot readily tell which of its patents — both domestic and foreign patents — cover which product. Such a correlation is arguably the cornerstone of any patent strategy. Some companies are actually using this metric in their advertising or branding campaigns.

This metric can even go to the next level of understanding with a description of <u>how</u> the patents cover the products. For example, the patents cover particular features of the product, the product's manufacture, the product's packaging, etc.

It can also be envisioned that some very persuasive graphics or illustrations could be used to explain this metric.

(2) Protection of Market Exclusivity.

Being able to exclude competitors from marketing a "me-too" or copied product certainly has value. A patent or patents that are able to protect market share for the patent owner is generally extremely valuable.

Yet, this type of metric is not used very much in showing patent value or success. This is even true in the situation when the patent owner and one of its competitors are first involved in a patent dispute. Further, during a litigation, the amount of such loss of market exclusivity, and sometimes even "price erosion" of the patent owners' prices and the value to the accused infringer of "accelerated market entry" is calculated by economic and accounting experts. (In the U.S., this is done during the phase of the Federal Court litigation called "expert discovery.") The litigation experience shows that a fair estimate can be made of the value of market

share protection. Certainly it is not possible to know when a competitor has reviewed a patent, became convinced that the patent is strong enough to be avoided, and then has taken steps to avoid a sector of the market. Such an estimation may seem too speculative. Nonetheless, it may be possible in some circumstances to estimate these values.

Talking with sales or marketing people about the potential products and/or features thereof may help to provide information for the valuations. It also may be possible to compare the covered products to other products similarly being commercialized.

(3) Patent Use Indicators.

This type of indicator considers what corporate patents and pending applications are currently in use (by the company or corporate license), of potential business use for the future, or of no interest to the company. One measurement could be a percentage of patents used in a company's products, such as 30% of a company's patents being used in products. One way to gauge the value of patents is to survey the perceptions of the patents' value and use. If a patent is used, then it has to have some sort of value. This technique can also be used to compare how value changes from year-to-year.

(4) Patents to Commercial Products Ratios.

This ratio compares the patents issued to a company to commercial products produced from patents. In fact, one major U.S. company used a variation of this ratio as an indication, both internally and externally, to show how "innovative" its products were. It also focuses on the "output of the patent": new products. The potential weakness is that not all new products are equal and this measure would not differentiate between extremely innovative products in one year and mediocre products in other years.

(5) Ratio of Sales to Patents.

This metric calculates the ratio of the dollar value of sales to the number of patents held by the company. This measure was discussed in several academic articles on the subject of intellectual property valuation. However, no actual instances of use was identified in the interviews that were conducted. This measure presumes that the innovativeness, usefulness, and value of a company's patents is reflected in a company's sales and profits.

(6) Market Impact of Patented Innovations.

This measure relates to the percentage change in market share (or company sales) that occurs when a potential product is introduced into the marketplace for the first time. Such a percentage change could be attributed to the patent or patents covering the product. Companies and market research firms routinely measure the impact of new product introductions in the structure and dynamics of a market. This is probably a more "quantitative" measure than the previously-discussed "market exclusivity" factor. Sometimes it is difficult to measure unless actual sales figures and increased market share can be linked to a new innovation.

(7) Added Product Value From a Patented Feature.

This measure looks at the average percent increase in the value of a product when a patented feature has been added as calculated by looking at price and sales changes to a product before and after a specific patented innovation. Certain patents may lend themselves to this type of analysis.

(8) Volume of Sales That Is Patent Protected.

Several of the measurements discussed above related to determining which of the company's patents cover which of the company's products. Once that exercise is completed, then the total monetary value of sales each year derived from products that are patent protected can be easily derived. This is a relatively straightforward measure, which would show the impact of patents by focusing on the revenue generated by protected innovations.

(9) Effects of Expiring Patents of Company Performance.

Patents expire all the time, even ones that are important to a company's business. Before a patent expires, it is necessary to assess how the patent's expiration will affect a company's continued profits. Such an analysis could best be prepared together with the business team.

While this metric may not be one which highlights a patent department's success, it is one that demonstrates that forethought is being given to how to handle to adverse patent events before they happen.

4 The "Money Saved" Set.

The next two (2) measurements highlight the money saved by not maintaining certain types of patents. Certainly, foregoing additional expense is a definite benefit to a company.

(1) Money Saved By Abandoning Patent Protection for Products Removed From a Product Line or No Longer Being Developed for Introduction.

It will rarely make sense for a company to

maintain patent protection for a feature it has removed from its product line. Without such a consideration, it is very difficult to make intelligent decisions as to where to file or maintain the company's patents. The future cost savings of patents that are no longer being sought or maintained can be tabulated. Of course, there are situations in which it might make a great deal of sense for a company to have patent protection even in countries where its sales are low.

(2) Money Savings From Abandoning Low Quality Patents.

Another reason to abandon a patent is after a recognition that the patent is actually of "low quality" from a legal perspective. "Low quality" can be assessed a number of ways. Then the future cost savings of that decision can be quantified.

5 The "Licensing" Set.

The next three (3) measurements consider the different benefits achieved by licensing activities of a company. Success can be more than just comparing "revenue in" to "revenue out."

(1) Tabulating the Amount of Revenue Generated Through Licensing.

Certainly licensing patents is a way to generate revenues and above average profit margins. On a simple level, this metric involves totaling up how much revenue is generated through patent licensing. This can be simply calculated by adding up the amount of royalties collected. One common variation is to compare "licensing revenue in" to "licensing revenue out." Another variation is to compare the revenue received through licensing to a predetermined target. Graphics could be used to allocate the amount of revenue.

(2) Quantifying — Or At Least Describing — Non-Monetary Value From Licenses.

However, the true value of a license is frequently more than just royalties. It is always possible for a value to be placed on such non-monetary benefits. Non-monetary components can include cross-licenses, business that is to be received as part of the deal, stock, other assets, and so on. Therefore, any conceivable other concrete benefit should be also included as a measure of success.

(3) Information About Patent Alliances With Other Companies.

Companies interact with other companies frequently relating to IP/patents. Besides licensing "in" or "out," interaction could be for purposes of joint development, general cross-licensing, joint ventures, and so on. These interactions could be described and also how IP/patents contributed.

6 Quantifying Risk Avoidance.

One metric that is not used very much — but perhaps which has a lot of potential — is the value of the patents in avoiding risk, such as in avoiding or terminating patent disputes. Disputes are typically allegations of infringement that are made by one company against another. In these disputes, patents can be used as a defensive shield in an effort to terminate the dispute, such as through a counter-attack allegation of infringement ("if you sue us then we will sue you") or as a basis for cross-licensing.

It is typical for different analyses to be done at the time a dispute arises. One analysis is to assess the monetary amount of the risk. Another analysis is the amount of attorneys fees and expenses that must be paid if a court action is filed and maintained. These can be very large numbers indeed.

If the dispute is resolved and the accused company's patents form a part of that settlement or termination, then the argument can be made that the patents' value was used as "barter." Therefore, a value should be accounted for the amount of the risk avoided.

7 The "Patent Citation" Set.

The next three (3) measurements rely on "citation" analysis, a growing tool for analysis of patent data.

(1) "Technology Cycle Time" of Cited Patents.

This measurement considers the median age of patents cited within the company's patent portfolio. This measurement has already been used by researchers as an indication of the speed with which a company is developing new technology. It reflects the length of time for a given technology to produce additional innovation.

(2) "Technology Strength" Measurement.

This is a rather esoteric measurement. This was developed by CHI Research Inc. but publicly available. However, availability to the appropriate database is needed.

Two calculations must be done. First, the "Current-Impact Index" must be calculated, a supposed measure of the broader significance of a company's patents. This Index is calculated by how many times a company's patents that issued during the last 5 years were cited as references in last year's patent of others. A value of 1.0 is

average.

The second calculation is of the "Technology Strength." This is calculated by multiplying the number of a company's U.S. patents by its "Current Impact Index."

(3) Calculating Value Using Patent Citations.

A growing body of studies explore the usefulness of patent citations as a measure of the "importance" of a company's patents, as indicated by the stock market valuation of the company's intangible stack of knowledge. Such analysis utilize so-called "Tobin q equations" on the ratios of R&D to assets, patents to R&D, and citations to patents. These analyses generally conclude that each citation per patent impacts market value. However, such analyses have generally not been used as patent management tools yet.

8 The "Accounting Information" Set.

The next four (4) measurements rely on information that company accountants may have in their possession.

(1) Value of a Patent or Groups of Patents Calculated Through a Discounted Cash Flow Analysis.

This measure calculates the present monetary values of the economic benefits from commercialization of a patent or a group of patents as calculated from a discounted cash flow analysis. Venture capital companies, banks, and other lenders often use this method to forecast the value of a patent before agreeing to fund the commercialization phase of a patented process.

Data to be used in this analysis can be derived from company information. Most corporate plans or budgets have the expected cash flow from a particular product that is expected to be developed and commercialized.

(2) Value of Intangible Assets.

Under this measure, the average market value of intangible assets of a company is measured by subtracting the book value of all assets (fixed assets, working capital, etc.) from the market value of the company's underlying equity. This is a measure that is commonly used by accounting personnel and stock analysts to calculate the company's excess value. Company financial information is available on such parameters as the value of fixed assets, current assets, and current liabilities, long-term liabilities, market value of equity, etc.

The problem is that this measure does not relate to the value of just the company's IP, but of the intangible assets as a whole. Certain intangible assets may not be patented or trademarked, making them difficult to separate out.

(3) Common Stock Value Divided by Value of Intangible Assets.

Under another way to view the value of intangible assets, the market value of this intangible property is calculated by dividing the prices of common stock by the balance sheet (book value) of the underlying equity. This measure is commonly used to assess the market-to-book-ratio. However, as with other measures of intangible assets, IP alone may not be responsible for this value. In addition, stock prices can be highly fluctuating and influenced by factors other than the value of the IP.

(4) Rate of Return on Intangible Assets.

The rate of return attributable to the intangible assets can be calculated by dividing the value of intangible assets by total profits of the company.