Managing IP in a difficult economic environment

There are proven ways to reduce IP investment costs while also enhancing the value of rights portfolios. During an economic downturn, these come into their own

By **John Cronin** and **Bruce A Story**

In today's knowledge-intensive marketplace, a significant portion of a company's value is often attributable to intangible assets – and more specifically, intellectual property. This value is quantified by understanding the opportunities and mitigated risks afforded by IP, such as maintaining margins of products that IP rights protect; preventing key competitors from entering profitable or desirable markets; licensing revenue; and increasing company valuation by enhancing the company's perception to the investor community.

When financial markets change, a company's value may get reduced. This, in turn, should mean that all aspects of the basis of the value of IP are affected and should be right-sized like other aspects affecting investments in the value of the company.

This article seeks to illustrate how a rational set of methods can be deployed to right-size a company's IP assets, as well as potentially set up higher value for the company once market conditions change. It further discusses how this approach creates additional synergies between the executive management, legal counsel and intellectual asset management (IAM) groups, and helps to support the company's operating and financial goals.

Right-sizing methods

There is a rational set of methods to right-size IP investment:

- Perform an IP process audit and an IP portfolio strength assessment to find areas to decrease costs, enhance value and improve IP process efficiencies.
- Use the audit and strength results to develop or update an IP strategy.
- Deploy appropriate strategic cost-reducing measures, such as changing the IP vehicles used to obtain lowest-cost protection, reducing foreign filing costs, abandoning unneeded patents, mitigating infringement risks or linking the patents more closely to trademarks.
- Identify strategic value enhancement measures – for instance, monetising unused portions of your IP portfolio, acquiring IP at a favourable price or implementing open innovation processes to lower and distribute your IP financial risk on current and future projects.
- Implement IP process-related changes for improved process efficiencies, such as leveraging advanced IP analysis tools for R&D, auditing existing IP agreements or turning your IP generation process from bubble-up and non-systematic to directed, proactive and systematic.

Perform an IP process audit and an IP portfolio strength assessment

Many companies have never audited their IP or analysed the strength of their patent portfolios. As an example, the economic downturn in the early 1990's became the catalyst for the IAM Group at The Dow Chemical Company to develop a new process for evaluating and, where applicable, pruning the company's patent portfolio. An analysis of their existing patent management process indicated two key gaps. First, the company did not have a patent strategy in place. Second, business and product interests were not effectively aligned with ownership of the patents.

IP process audits

IP process audits are best carried out by an independent team that reports directly to senior management. Typically, these auditors are external entities with significant IP process experience. These audits generally touch all areas of the business, from senior executives and technical management to inventors, attorneys and IP analysts.

The audit typically consists of extracting policies, processes and procedures regarding IP, along with example documentation and a summary of roles and responsibilities. Typically, an audit takes approximately one month. The IP processes are then mapped and assigned an appropriate performance metric, such as quality or cycle time. The results usually show large process efficiency changes, headcount reductions and quality gaps that, when addressed, allow more valuable IP to be produced with less expense.

Even if the company feels its processes are modest and do not need auditing, it is surprising how even basic processes in large organisations turn out to be extremely costly when not actively monitored and audited. For instance, in one organisation we studied, we found that a simple disclosure form which had been used for years resulted in many inventors not having enough information to document their inventions, thereby resulting in a lack of proper upfront documentation and, in some cases, the loss of valuable IP. The result of this inefficient process was that significant back-end development efforts were required to file the IP in a timely manner and patent costs increased significantly as additional time from legal counsel was required.

IP portfolio strength assessment

There are many ways to determine the strength of a portfolio, but we have found it is best to use a number of basic immutable factors such as citations, inventor experience, age of patent and electronic claims analysis. Also, we have found it best to analyse the strength of your portfolio against a related, random cohort portfolio. As shown in Figure 1, the cohort portfolio and your portfolio are analysed against your business opportunities. A relative strength is assigned to your portfolio, at both a comprehensive and individual patent level. This leads to improved basic decisions, such as abandonment or licensing.

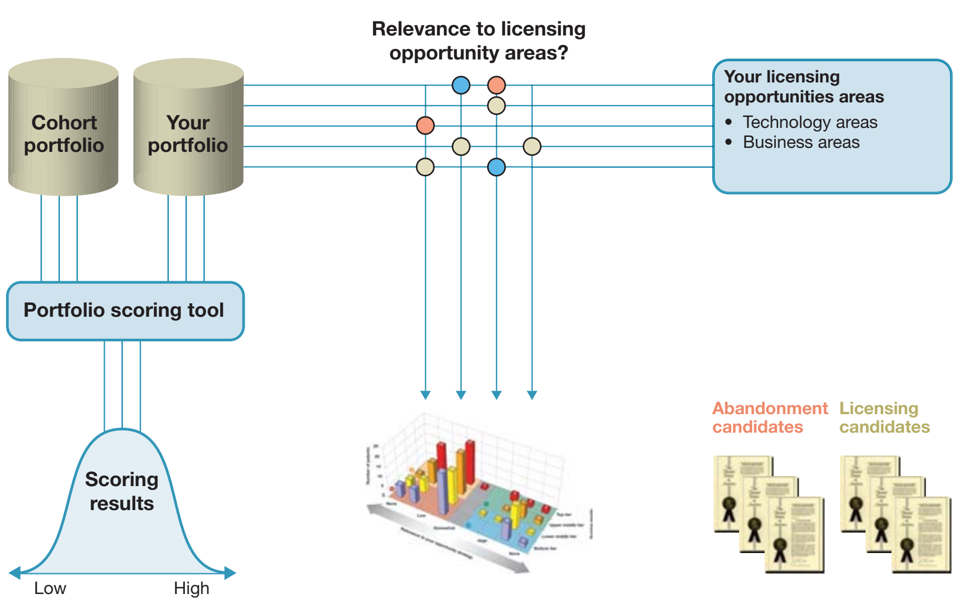
Results typically produce a strength number for each patent in the portfolio (Figure 2) and allow the company to look at each patent in terms of its value (Figure 3).

Use the audit and strength results to develop or update an IP strategy

There are many inputs to an IP strategy and a number of them change over time (affected by circumstances such as an economic downturn). Typically, we see companies setting up a cost-cutting input to the IP strategy. This makes perfect sense, but unfortunately is often executed in a non-systematic manner. For instance, assume that in an organisation the legal budget gets cut. This, in turn, forces the patent team to file fewer patents, which they do based upon their legal analysis and not that of the entire corporation. Given that very high-level technical and business strategies may shift, it makes more sense to align the legal budget rather than simply to cut it.

Armed with information from the audit and strength analysis, a company is now able to make fact-based changes. For example, at Dow in the 1990s, the result of not having a patent strategy in place was the generation of a very large patent portfolio with many patents of dubious value. Inventors were rewarded for having the most patents issued each year, which led to a predictable glut of patents (and costs) because there was not a strategy against which to test the invention disclosures before filing. Patents were applied for based on inventor urging rather than for strictly business reasons. As a

Figure 1. **Portfolio scoring process, part 1**



result, the Dow patent portfolio increased to more than 20,000 patents.

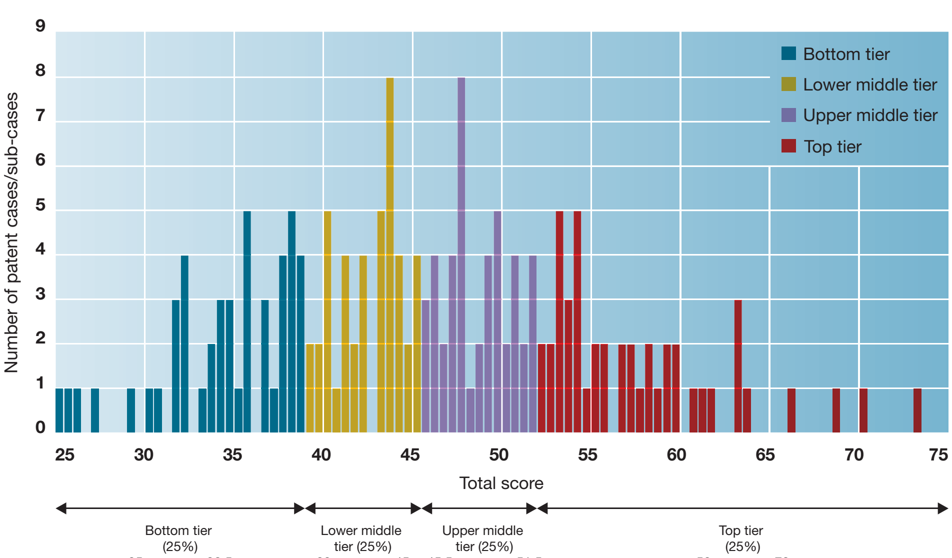
The audit and strength analysis at Dow led to the decision that all patents must be aligned to businesses and that a determination should be made to identify the business use for each patent. The first step by the IAM group was to align every patent to a business within Dow. A significant portion of the patents were listed as unaligned because there were no businesses that would take ownership of them. Then the IAM group, working through multi-functional teams, sought to evaluate every aligned patent's business use (Dow's Opportunity Strategy). The results were surprising! It emerged that 43% of patents were currently being used by a Dow business unit, while a further 32% had potential business use. This left 25% as having no business interest.

The cost of IP protection is a small fraction of the total R&D investment in a large company – typically less than 10%, sometimes even less. Economic downturns last for a relatively small percentage of a patent's potential 20-year life. Decisions on IP strategy should take into account the long-term business needs of the organisation. A conservative IP strategy can be developed to contain costs while providing adequate protection and value.

Deploy appropriate strategic cost-reducing measures

There are a number of options open to companies looking to reduce their IP-related costs.

Figure 2. **Portfolio scoring process, part 2**



Changing IP vehicles to obtain the lowest costs – use of enabled publications

Usually, an IP strategy will place highest priority on broad, fundamental patents protecting new business growth and other key business goals. If strong claims result, then instead of filing new improvement patents, these may be published as enabled publications to deny patentability to others. We have found that very few companies use enabled publications, mostly because they are misunderstood. Enabled publications are very short two to three-page documents with figures that show not what the invention is, but rather how an invention operates. The cost of an enabled publication is usually less than several hundred dollars to file in venues such as IP.com. They can be filed anonymously and are immediately recognised as prior art.

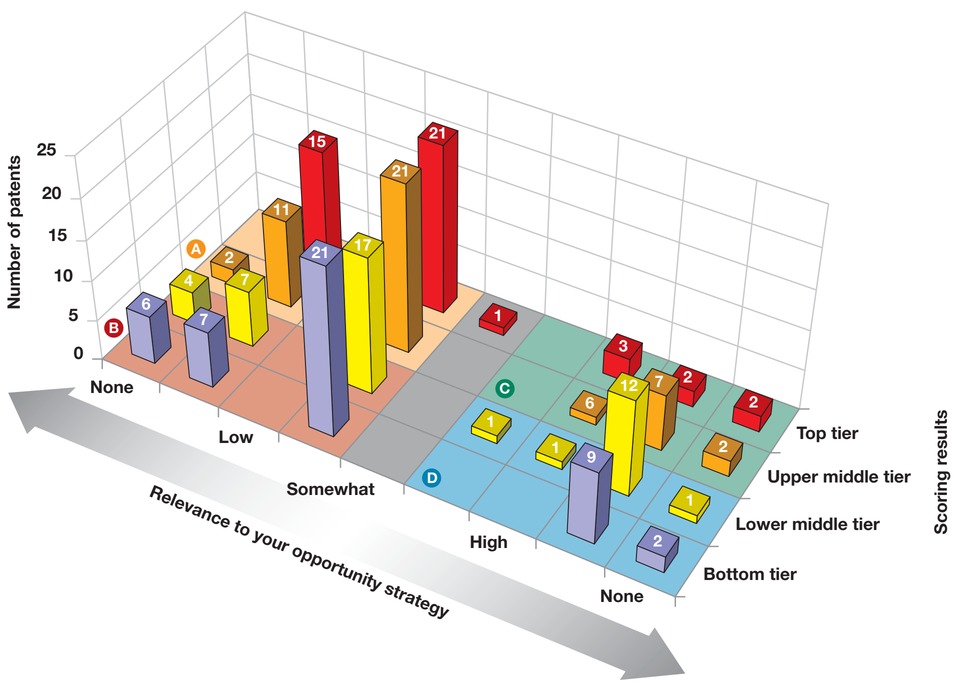
An example of a world-class enabled publication strategy comes from the early 1990s, where IBM had over 30,000 in-force patents but over 150,000 enabled publications. These enabled publications were published in IBM's Technical Disclosure Bulletin, which has become the number-one cited reference in the US Patent and Trademark Office. This low-cost strategy led to the enormous value of IBM's portfolio at about one-fifth the cost of competitors' portfolios.

Changing IP vehicles to obtain the lowest costs – use of trade secrets

Sometimes, the use of trade secrets may be an appropriate addition to the mix of intellectual assets protecting innovation. Trade secrets are particularly lower risk if a sound secrecy process is rigorously followed. Recently, we have seen many companies lowering their IP costs by using trade secret methodologies to protect larger portions of their portfolios. In essence, these companies feel that their innovations can be protected as trade secrets and are confident that their secrecy policies, combined with their speed of innovation, will provide a lead that will make it difficult for competitors to keep up.

One particularly novel technique we have found is to take apart inventions that might normally be filed as patents – breaking them into pieces – and file a portion of the invention as a patent while holding the rest as a trade secret. This allows many follow-on inventions to be held as trade secret with approximately the same protection as filing the many follow-on patents, with much lower costs.

Figure 3. **Portfolio scoring process, part 3**



A High scoring and low relevance
Initiate discussion to find partners for licensing or sale of IP

B Low scoring and low relevance
Strong candidates for abandonment

C High scoring and high relevance
High potential for out-licensing

D Low scoring and high relevance
Review for strengthening possibility, combining in a high scoring group

Reducing foreign filing costs

Foreign filing and maintenance fees of patents are expensive (up to US$500,000 over a patent's lifetime). The usual default decision to file in a large set of countries routinely should be rethought. Significant cost savings can be obtained by using a more prudent process for determining where to file.

The ability to file an international patent application through the Patent Cooperation Treaty (PCT) allows a decision on country filing to be put off as much as 30 months from the patent's original filing date (priority date). This time can be used to delay costs and allow markets to develop before a decision on foreign filing is made. Filing a patent application in any particular country should be based on several factors, such as: presence of competitors selling, making or licensing; size of relevant market; the ability to enforce; future trends, including how the country's legal system is improving, whether manufacturing might move from developed countries and in-licensing could increase to establish a manufacturing base, and the track record of confiscating intellectual property.

It is important to consider whether you already have enough patent protection in a particular country before contemplating filing improvement or secondary patents there. In the end, this is a cost-benefit analysis with a 20-year time component.

Abandoning unneeded patents

As shown in Figure 3, the combination of low relevance to your business opportunities and low scores in general may mean that abandonment is the right decision. One reason we have found as to why companies do not abandon patents is that the decision maker is ultimately afraid that if it is later found that the patent is needed to protect an important product or technology, it will appear to have been an incorrect decision. A process for ensuring that abandoning patents is without blame (and therefore allowing for the selection of more patents to be abandoned) is to have a process that has criteria for abandonment based upon the IP strategy and further to have the legal, technical and business groups officially sign off on each patent individually. Thus, each patent is efficiently selected from the electronic analysis to find the lower scoring patents, and then a more detailed strategy-driven analysis is used to abandon patents.

In some businesses we have found truly amazing results with more than 30% of a portfolio eliminated, hundreds of patents abandoned and tremendous cost savings. At Dow, for instance, attention was placed on the 25% of the portfolio that was found to have no business interest. Actions taken included out-licensing some of these patents, but many were abandoned. The total savings on future annuities and other fees was over US$40 million. These very real cost savings won the attention of senior management and resulted in additional support being given to the IAM function for more effective management of IP within the businesses.

Mitigating infringement risks

One cost associated with IP is a litigation event. Given the pressures by some companies to make up revenues by finally enforcing their patents (taking the legal and market risks to do so), it would make sense to deploy strategic risk-reducing measures. These include taking large revenue-generating products and ensuring freedom to operate (FTO) has been established. If it has not, a company should consider whether it makes sense to allocate the necessary resources to protect its FTO. Alternatively, the company may consider obtaining IP insurance against this risk. If there is an FTO issue, it would make sense to deploy an invent-around strategy and move the products away from infringement if possible.

Should actual litigation occur without the risk mitigation having been done, it

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would make sense to develop a non-legal set of practices to fortify the legal practices to minimise the business risk. These include proactive analysis of your portfolio to find counter-assertions or to find patents to buy for counter-assertions. This is becoming more popular as more companies look to sell their unused patents. Finally, we have found that systematically inventing in front of the products of those enforcing their patents might allow provisional-level IP to be added to the negotiations to limit going-forward damages. There are also companies that have started to acquire pools of patents in an industry and provide access to the pool via membership, such that the members can use the pool to counter-assert against litigious companies.

Link the patents more closely to trademarks

A unique method for lowering costs is to abandon or eliminate patents in areas where the trademarks carry the product. This is rarely done because those owners of trademarks in the company are not aligned with the patent owners and, therefore, the value of synergistically linking one with the other is never established. However, we are seeing more and more of a strategic intent to use trademarks in this way. As both brands and trademarks stop copiers from the high end of the market, there is less need for complete patent protection because the marks may provide adequate protection.

Identify strategic value-enhancement measures

Cost-cutting is not the only option, however, there may also be opportunities to extract increased value from an IP portfolio.

Monetising unused portions of your IP portfolio

As we have seen in many companies, licensing is used for revenue generation. Licensing is very difficult and should be pursued only when a competent licensing team is made available, through either finding outside partners or hiring the right skills. We have seen countless failures in large companies attempting to license their IP without adequate skills and resources.

At Dow, for instance, the business use audit highlighted the need to develop a more robust licensing process. This led to the formation of the Technology Licensing Business of Dow. By the time of the next economic downturn, the licensing business had the processes in place to obtain significant revenue from out-licensing and selling patents that were deemed to have no business interest.

Opportunity for acquiring key IP at a favourable price

Economic downturns bring a great opportunity for acquiring key IP at favourable rates. Start-up companies may lose funding and their investors are willing to sell the IP at a lower price. Some companies may even enter into bankruptcy and their patents may be auctioned or otherwise be made available from the receivers or banks. Companies may be more likely to evaluate their patent portfolios for out-licensing or selling to increase their cash flow.

This is the time to do careful competitive patent analysis looking for key patents to acquire. Several reputable patent portfolio scoring systems are available that may be used to help with this hunt. Targeting what you want allows you to do more effective negotiating or selective auction participation. Using effective valuation processes before entering into negotiations can provide you with an important advantage.

Structuring open innovation to lower your IP financial risk and to spread the financial risks of new projects
Another area for value enhancement is to spread the risk by developing in open innovation partnerships to get access to valuable IP. Typically, open innovation is used to speed product development and obtain access to needed technology. Licensing is generally used to get access to patents only, but may be costly. The way to merge these two methods is to apply open innovation primarily to get access to patents, but also to include the partner in some aspects of the technology or product development.

Deploy IP process-related changes for improved process efficiencies
Simple process changes can save tremendous amounts of money and time. These changes produce additional value in companies that are based upon IP, however are frequently overlooked.

Leveraging advanced IP analysis tools for R&D, minimising R&D headcount and laboratory investments, and finding new markets
The patent literature is a rich source of technology, but the problem is that it is not easily accessed by those who can leverage it. By adding IP landscaping and analysis, companies can find expired patents, university patents or other patents that can be targeted for acquisition through negotiation. Intelligently using these tools can lead to a much more efficient R&D effort.

Another novel way of using the patent literature is in reverse: that is, to use functional searching to search for the functions that exist in your base technology and then use this data to find citation topics that become new market potential for your existing functional technology. In one example, in a chemical company, 17 new markets were found for a chemical composition of a unique function that were not previously known to the chemical company.

Auditing existing IP agreements where millions of dollars may be available
Many companies do not have adequate accounting for their various agreements and therefore the financial systems cannot be truly linked to the status of the agreements. In one company, we found in excess of US$50 million in back royalties owed to the company that could now be collected, simply because the agreements were not tracked as they were owned by too many internal factions at the company.

Turning your IP generation process from bubble-up and non-systematic to directed, proactive and systematic
The normal way that IP is developed in companies is through the *ad hoc* bubble-up process of inventors who, when they have the time and the skill, document their inventions. In general, we have found this to be a very inefficient process; even more so during a recession, when there is tremendous internal focus on efficiency and inventors often have less time for invention. This causes two problems. The first is that good inventions that are needed are missed and other, less valuable inventions are filed, using up limited financial resources. The second is that more valuable IP is missed because inventors will not document their inventions.

A solution is a proactive invention extraction process, undertaken by a few experienced individuals who canvass the organisation to identify the most valuable inventions and then document these in a high-quality way, saving the inventor's and attorney's time. This process became the hallmark of IBM's patent factory, where literally hundreds of inventions were documented yearly by internally trained staff. These inventions, developed at extremely low cost, later went on to become some of the most valuable patents in IBM's portfolio.

Investments, not expenses
As stock market indexes and profit forecasts decline, the pressure placed on IP professionals by financial managers for cost containment or cost reductions continues to increase. Viewing IP costs as expenses rather than as investments in protecting the vital innovation of the corporation can be shortsighted. However, there are ways to manage IP costs prudently during difficult economic times by developing a rational set of methods to right-size the IP investment.

Undertaking an IP process audit and an IP portfolio strength assessment is key to finding ways to decrease costs, enhance value and improve IP process efficiencies. There are strategic cost-reducing measures and ways to strategically enhance the value of the IP portfolio through deploying IP process-related changes. These methods have all been proven over the last two decades at large businesses such as IBM and Dow, and in many of the hundreds of companies with which we have worked. *iam*

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