How to value IP portfolios for acquisition

Innovation-driven growth, typically secured by patent acquisitions, is becoming increasingly important. Acacia Research Corp’s acquisition of LED patents offers a valuable case study of how to pursue a successful acquisition strategy.

By Arvin Patel and Paul Germeraad

The importance of patents to a company — how they are created, how they are managed and how they are acquired — has increased tremendously. Growth driven by innovation is a top priority for many CEOs and patents are the best way to own these innovation assets legally.

Intellectual property’s contribution to sustaining a market-leading position comes in the strategic acquisition and use of patents, trade secrets, copyrights and trademarks. To achieve this sustained advantage, a CEO must ask the right questions and generate the right competencies within the business.

The key question facing executives when they are about to purchase an IP portfolio is: what is the true value of these assets and how can they further the company’s business objectives?

Answering this question in a timely and accurate manner is crucial. The ability to find value in an IP portfolio quickly and to negotiate its acquisition successfully for the benefit of a company is a critical competency for any organisation — and a significant competitive advantage.

The age-old expression “the early bird gets the worm” sums up the issue neatly. Those companies that can rapidly identify and accurately value IP portfolios for acquisition will gain access to the best technology to the exclusion of all others.

How Acacia derives value from its IP acquisitions

To explain how a simple statistical analysis of intellectual property can lead executives to make sound licensing decisions in a rapid manner, this article focuses on Acacia Research Corp and its acquisition of light-emitting diode (LED) patents from Light Transformation Technologies.

Acacia’s business model is to purchase patents and then sub-license them to entities that need to use the technology to further their own commercial objectives. As shown in Figure 1, Acacia recently purchased seven patents related to LED fixtures or luminaires. The technology associated with these patents deals with directionality and the ability to use bright lights in 24/7 operations.

The seven Acacia documents represent a licensing portfolio or source portfolio. To understand the business use of these patents and their potential value, the portfolio must first be compared to existing patents in the same technology field or application use area.

For this case study, comparison patents were obtained by using a software comparison engine that uses a combination of citations (both real and virtual), patent examiner codes and keywords and key concepts found in the original source documents. The software engine uncovered more than 3,000 documents that were similar to the seven patents that Acacia purchased. Only the 500 most relevant documents were selected for the comparison portfolio.

Key criteria to determine value

Three key criteria are typically used to determine the commercial value of an acquired patent portfolio. The first relates to the validity and enforcement potential of...
the acquired patents. Once these have been ascertained, the patent’s technical strength and business utility must be determined. The value of patents depends on how broadly applicable they are to the commercialisation of products in many diverse markets, as well as whether the technology is distinct from a performance or cost standpoint in one or more specific markets. Naturally, such patents have significant value compared to those that may have interesting scientific elements, but little commercial utility.

If a portfolio is valid and enforceable, and has technical strength and business utility, the third criterion for establishing value is whether the geographical markets covered by the patents include countries that have large commercial markets in which to sell the technology at high volumes and profits.

**Placing a value on patent attributes**

When preparing for negotiations, it is important to understand which patent attributes are likely to play a central role in the negotiations, versus other attributes that are not a point of distinction or value.

Several entities have engaged in creating patent scores, patent strength and patent rating algorithms that apply a single value to the asset. Although useful, such tools have been found wanting when it comes to the specifics of preparing for negotiations. This is because while these tools have high correlation coefficients with respect to value, the predictive ability of such algorithms – the R squared term – is often low.

One way to overcome this is by visually displaying the key variables of a particular patent or portfolio. This visual display does a better job of showing strengths and weaknesses in terms of each of the three criteria, as well as providing a balance between detail and complexity, thus facilitating fast and thoughtful decision making.

Visualisation is most easily done by creating a radar or spider diagram. In such a diagram, each axis is a rating score of one of many attributes important to the value of a patent. For example, the centre of the diagram relates to the lowest score or value – often zero – with the outer perimeter scale referring to the maximum value found for that particular attribute.

This can be seen in the radar diagram in Figure 2, which refers to the validity and enforceability of the Acacia LED portfolio.

Scores of the source portfolio and the portfolios of other comparison patents (each from specific assignees) are ranked between zero and the maximum value on any one axis. To avoid the often misleading problem in which the source portfolio score is high and the average score of all assignees is also high, the average value of all assignee scores is shown in the diagram by the dark orange area. Sometimes the average value is quite low compared to the maximum, and other times it is quite high. The source portfolio can easily be compared to the average of all portfolios by displaying it as a dark red line with white dots, as seen in the figure below.

**Understanding exceptional performance**

In addition to comparing the source portfolio to other portfolios, statistical measures of value can be applied. The teachings of Edward Deming and the Quality Movement are helpful here. The average plus three standard deviations was often set as a limit to discern when a manufacturing process was statistically out of control and required immediate action.

In studying IP portfolios, it has been found that the average plus two standard deviations is a useful commercial cut-off point for understanding when a portfolio has exceptional performance, versus being merely above average. These portfolio attributes are worthy of special mention during the negotiation process.

In Figure 2, for example, the litigation frequency, re-examination frequency and opposition frequency of the source portfolio are truly outstanding when compared to those of other assignees. It is
no wonder that Acacia would be interested in such a battle-tested portfolio, which has been successfully vetted through a number of key parameters, including litigation, re-examination and opposition. During any negotiation, these are the points upon which a skilled negotiator could build value.

A slam-dunk portfolio
Moving to Figure 3, the next points to consider are technical strength and business utility. Here the individual axes rely heavily on citation counts, reference counts and examiner codes. Looking at the pattern created by the art that Acacia has acquired, there are no outstanding attributes on this figure.

However, there are over half a dozen attributes in the B+ range. This is important for negotiation. The sports analogy is that if you have one axis with outstanding performance, it would be like having Michael Jordan on your basketball team or Lionel Messi on your football team — you would design your whole offensive strategy around that strength.

However, if the portfolio — or sports team — has no single patent or player around which to build a strategy, you can still build a successful negotiation or a successful team around a solid B+ performance from a number of individuals.

Going back to Deming and the Quality Movement, if you have a trend line of over seven points increasing in value, this is an indicator that something outstanding is happening that deserves investigation, even though it has not yet approached the statistical control limit. The IP corollary to this is that if you find five or more single axes in the B+ range, you should build the licensing negotiation strategy around this pattern of B+ performances.

Swimming with sharks
Taking another look at Figure 3, we see that a key strength of Acacia’s acquired portfolio is the number of sharks and predators following it. ‘Sharks’ are entities with over 35% of the follow-on citations of a patent, while ‘predators’ have between 15% and 35% of follow-on citations.
Also unique in this portfolio are the number of international patent classifications, indicating a diversity of technology and uses that the patents cover. In addition, the portfolio scores a B+ for originality from both a scientific publication and patent standpoint. Completing the picture is the above-average performance of the portfolio on the generality (cited by) scale.

Thinking again about Acacia’s acquisition of this portfolio, it seems well suited for the company’s business model. There are entities following the portfolio that may want a licence to its core grandfather art. This is an indication of the portfolio’s originality and suggests that it may be licensable in a variety of different industries. Taking all of these elements together, this is a valuable portfolio to license.

Achieving high-quality negotiations

The chart axes give an indication of the strengths and weaknesses of a patent or portfolio. These can be leveraged by skilled negotiators. Each of the axes shown is an attribute of a patent or portfolio that many members of the Licensing Executives Society – the leading business community for IP professionals – use when preparing for patent negotiations. The specific axes most important for any one negotiation depend strongly on the industry, age of the art and hype-cycle position of the technology.

It is important not to wait too long to engage in licensing transactions because, as the technology starts to emerge on the far side of the hype cycle, market size builds along with market capitalisation. It is at this point that a company may be locked out or required to pay dearly for access to a key technology needed to secure an advantaged market position.

It is also noteworthy that, as companies start to pull out of the hype cycle, litigation of intellectual property starts to occur. A smart CEO will make sure that the intellectual property that was acquired early on has appropriate patent fences built around a strong core position.

The advantage of displaying many axes of a patent or portfolio is that both the licensor and licensee positions can be thought through in preparation for negotiation. Such insight provides the best chance of a fast, high-quality negotiation process.

The early bird gets the worm

Knowing when to act is as important as knowing how to act when the time comes. Early in the development of new technology, it is impossible to tell whether the technology will be robust and cheap enough, or whether the commercial applications will materialise in
Savvy CEOs are now using the hype cycle to map the emergence of new technologies and their market adoption. They understand that the key to profitable licensing is to identify breakthrough technologies that build on existing foundations already adopted by the marketplace. New business development managers focus in particular on identifying emerging applications where the first wave of commercialisation has been successful and the market is growing rapidly.

Looking at the hype cycle for LED technology, we can see that its adoption in the marketplace is underway, as shown in Figure 5. As the Acacia case study illustrates, the ideal time to buy or license technology is early in the hype cycle. The sub-licensing of these patents by Acacia comes later on as the market moves into adoption and maturation.

What remains for Acacia, having now acquired this technology early, is to wait until the hype cycle matures and the acquired art moves into the slope of enlightenment and plateau of productivity phases. Given the speed at which LED technology is moving, it is expected that these patents will be suitable for sub-licensing in two to three years’ time.

**Intellectual property is your secret weapon**
A well-developed patent strategy can indeed lead to sustainable profits. Patents that are effectively leveraged can establish a way that will support a return on investment.

**Figure 4. Markets covered by the Acacia LED portfolio**

**Figure 5. Hype cycle for LED technology and applications**
a powerful competitive advantage in the marketplace. In today’s global economy, patents belong not just in R&D, but in the executive toolkit of every CEO.

As the lynchpin of innovation and a gateway to vital new revenue sources, patent strategy is simply too valuable to be done poorly. By understanding and implementing the key patent analysis, timing, negotiation and acquisition concepts outlined in this paper, CEOs and their teams — with the help of patent attorneys — can outpace the competition and achieve game-changing results.

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*The views expressed in this article are those of the authors and should not be attributed to the authors’ respective companies.*

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**Action plan**

Companies that can rapidly identify and accurately value IP portfolios for acquisition are at a significant competitive advantage in today’s marketplace. Here is what to do when acquiring a patent portfolio:

- Compare the target portfolio to existing patents in the same technology field or application use area.
- Determine the value of the portfolio by analysing the patent’s validity/enforceability and technical strength, as well as the geographical markets that it covers.
- Understand which patent attributes are likely to play a central role in the negotiations, versus other attributes that are not a point of distinction or value.
- Use statistical measures to determine whether a portfolio has exceptional attributes, versus being merely above average.
- If the target portfolio has one outstanding attribute, design the entire offensive strategy around that strength.
- Track the number of sharks and predators following the portfolio.
- Leverage the hype cycle to identify emerging patent portfolios where the first wave of technology commercialisation has been successful and the market is growing rapidly.
- Do not wait too long to engage in licensing transactions, because as the technology emerges on the far side of the hype cycle, market capitalisation can soar.