

How to evaluate new inventions and technology

Valuing IP resources

Pacyinz Lyfoung:

This is Pacyinz Lyfoung, from Public Interest Intellectual Property Advisors (known as PIIPA). In this segment, we will be looking at valuation methods that focus on the whole of a company and the company's whole IP assets, as opposed to specific technologies.

So, in the alternative, instead of trying to value a specific new technology, valuation may seek to value a whole company and its IP resources. The value of the whole company is [evaluated] to reveal the input a company is investing – all its IP and physical resources, except for the technology being negotiated will be valued.

This method involves some complication as it needs to value non-formal IP, such as the know-how, the experience and the expertise that reside in the company and its employees, that are not protected by patents and trademarks.

The excess earnings/residual value approach:

This approach is appropriate if a company has just one major platform technology and its business is based purely on products related to that technology.

The excess earnings/residual value approach involves two steps:

Step 1. Using 5 years or more of historical data, a percentage return is assigned to the average annual value of tangible assets used in the business;

Next. This return is deducted from the average earnings of the business for the same period and the remainder - if any - is considered the average annual earnings.

This method is useful in the negotiation process to determine how much of an input one side is making.

However, the flaw in this method is that it assumes that excess earnings above and beyond the return of tangible assets are solely attributable to intangible assets. This is an error in valuation when the assumption is that business is maximizing all of its IP.

The technology factor method:

This is a modification of the income or excess earnings approach. It directly measures the contribution of the technology to the total revenue of a business.

When used for each technology at a time, it eliminates the limitations of the excess earnings method inherent in valuing and lumping together the whole set of intangibles.

This method is Applicable if more than one product is sold and the other products are low-technology, as the overall picture would not give a true value of the new technology.

The option pricing method:

It estimates the value of a technology at the point where it is considered to be successful, and then calculates the probability of its preliminary successes along the path to commercialization

The probability of success at each step is very difficult to calculate. However, the risk of failure diminishes with each step.

When used for early technology, the technology must be well-defined and the statistical analysis of historical data must be significant enough to assign probabilities

This method is applicable to start-up companies during their initial round of financing and to companies developing high risk technologies, such as pharmaceuticals.

The technology risk/rewards method:

This method uses the value of roughly comparable technology-based businesses as a proxy for the value of patents, then subtract from that number the amount of cash needed to further develop the technology to a commercial stage.

A decision is made based on that number as to whether to commercialize (and whether paying the university for the technology can be afforded).

The drawback is the assumption that the value of technology-based companies reflects only the value of a technology, ignoring many other factors.

A point to consider in valuation is the technology adoption issue:

The adoption process is the process of going from being new to being an established product.

Adoption is an important factor. It determines the market value of a product by how much the product is sold or used and at what rate the demand for the product develops and increases.

The product's success depends on the number of people who try it once and the number of people who are repeat users.

The reality check is that, at some point, competing products will replace the product completely.

Concluding remarks:

There is no universal method for technology evaluation.

Different methods will be used within one organization.

The method selected depends on the technology in question and whether one is a seller or buyer.

What matters the most is the accuracy of the estimations and assumptions related to success. It's also how much people will pay for the new product and, finally, it's also estimating the size of the potential market and the adoption rate.

Negotiating is a big part of arriving at a value - but it is not a zero-sum game.

This segment concludes this series on the basics of evaluating new technologies.