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## Valuation Techniques For Intellectual Property Assets

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**A**s companies have developed and acquired more intellectual property (IP) over the years, the valuation of these assets has become more and more critical. According to ePatentManager.com, over 90 percent of the stock market value of large corporations such as Oracle, Coca-Cola, Merck and General Electric is associated with the IP these firms hold.

IP includes marketing-related intangibles such as tradenames and trademarks, artistic-related intangibles, such as music or video libraries, plays or operas, and technology-based intangibles, such as software source code, patents, information, data or production or process know-how. Some of the more common reasons for valuations include: financial reporting (purchase accounting and asset impairment analyses), tax reporting (establishing tax bases for acquisitions, liquidations and estates, and transfer pricing royalty rates), corporate planning (buying and selling of IP and corporate use of assets) and litigation associated with IP.

Recently, financial reporting requirements have changed, making IP valuation more prominent in acquisition accounting.

In order to appraise an IP, the first step is to understand the IP, its current and future uses and the market segments in which the IP will be utilized. The next step is to use a valuation technique or techniques to estimate the value of the IP utilizing the data collected in step one.

Finally, a valuation conclusion is reached synthesizing the estimates of value derived from the valuation techniques. In valuing IP, four primary methodologies are considered and/or used: the income approach, market approach, reproduction cost approach and the option-based approach. These methods are seldom used in isolation. Typically, more than one method is used to derive conclusions of value for the subject IP.



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### The Income Approach

The income approach involves estimating the free cash flow generating capacity of the IP or the cost savings over the IP's expected useful life. This method involves estimating future cash flows (revenues less costs), or realizable cost savings associated with the IP. Both management's estimates and, when available, comparable IP's cash flows, are used to develop the subject IP's cash flow or cost savings estimate.

The future cash flows or cost savings are then discounted to their present value by a discount rate. The discount rate accounts for the riskiness or uncertainty in achieving the cash flows or cost savings. Finally, the discounted cash flows are then summed together to yield a value for the IP.

Another income approach method is the relief from royalty method. Using this technique involves estimating a royalty rate, from either market royalty rates for similar IP, or from the amount of income a licensee could economically expect to pay for the IP, and then applying the royalty rate to an estimated future revenue stream from the products or

services utilizing the IP. The resulting future cash flow is then discounted to its present value by a discount rate.

The discount rate accounts for the riskiness or uncertainty in achieving the cash flows. Finally, the discounted cash flows are then summed together to yield a value for the IP. The main advantage of the income approach is the ability to discretely model the key value drivers of the IP value including profitability margins, taxes, capital expenditures and future growth. The main disadvantage is the requirement of developing a cash flow forecast, which may not be available or easily created and/or may be extremely uncertain.

This approach is useful in situations where the IP can generate relatively predictable cash flows. Examples include patents in mature markets. The data required for this method include estimates of future revenues and

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costs as well as the fair market value or royalty rates for other assets used in the generation of the product or service revenue.

## Market Approach

The market approach involves estimating the IP's asset value based upon transactions in similar IP assets. Analysis of the similar transactions provides benchmarks of value, i.e. valuation multiples, that can be applied to the subject IP. The benchmark valuation multiples are adjusted to reflect the differences in performance, quality, and transaction timing between the subject IP and the IP assets used to generate the valuation multiples.

The main advantage of the market approach is the use of data from actual IP transactions. The main disadvantages are the lack of available data available for IP transactions and the non-comparability of IP transactions to the subject IP asset.

This approach is useful in situations where good market data exists and similar IP assets are sold. Examples include music and film libraries. The data required for this method include transaction prices and attributes for the subject IP and the IP transactions.

## Reproduction Cost Approach

The reproduction cost approach involves estimating the cost to reproduce the IP. This approach requires the consideration of physical and functional deterioration and potential substitutes. One way to implement this approach is to estimate historical costs and apply obsolescence factors to the historical costs or to estimate the cost to reproduce the IP today.

The resulting IP value is a pre-tax value of the IP. In order to make this value comparable to the income and market approach estimates of value described above, taxes need to be applied to the pre-tax cost to estimate an after-tax value of the IP.

An advantage of the cost approach is the relatively low data requirements needed to determine the IP's value. The main disadvantage is that historical cost may have little relevance to the IP's future cash flow generating capability.

This approach can be useful in situations where the incremental cash flows that the IP provides to a larger

cash flow stream cannot be accurately estimated, the IP is in its very early stages and has no measurable future income stream, or the IP plays a supporting role in the generation of revenues from more valuable IP. The data required include either historical cost data or estimates of resources to recreate the IP asset today.

## Options-Based Approach

The option approach involves modeling the IP as an option security. This is especially useful if the development of the IP is in stages, where the ability to postpone or not to invest exists. An example is a drug patent in clinical trials with the FDA. If the probabilities of success/failure can be quantified at each option point, then a binomial option model can be developed to value the IP.

An advantage of the options-based approach is the ability to model the option characteristics of certain IP cash flows. The main disadvantage is the uncertainty in estimating some of the required input for this approach, mainly the probabilities of success/failure or asset volatility and an estimate of the future cash flows. The data required for this approach includes: an estimate of future development costs, probabilities of success/failure or asset volatility, and estimates of the IP's value depending upon outcomes of success or failure.

## Valuation Conclusion

Once the valuation methods have been applied, the results from either one method or of several methods are synthesized into a valuation conclusion. The valuation of IP is a challenging exercise; however, current and evolving financial reporting, tax regulation, corporate planning and litigation increasingly require an opinion of IP value.

In the wake of the Enron scandal, there will be increased emphasis by investors and other users of financial statements on the proper identification and reporting of acquired assets. More and more, IP is playing a prominent role among these assets.

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