Considering intellectual property in acquisition pricing

Rachael Schwartz, senior manager at ipCapital Group, considers IP valuation as a crucial tool in acquisitions

Last year I received a call from the CEO of AutoCo, an early-stage company that makes software for car dealerships. The company develops innovative intellectual property (IP) protected software to help the dealerships save money. They recently launched its software product and subsequently received strong interest in the marketplace. The leading software company in their space took notice and tried to copy the software innovations. However, after evaluating the strength of AutoCo's IP, the market leader decided it made more sense to acquire AutoCo. AutoCo management and investors were pleased to sell to the market leader, but were concerned by the market leader's low initial offer as it was based on a multiple of sales. AutoCo's CEO felt that AutoCo was in its very early stages of the sales process and that its superior product, supported by its strong IP, would put

Table A			
	Comparable sale 1 Main Street	Comparable sale 44 Main Street	House being valued 78 Main Street
Number of bedrooms	3	4	4
Number of bathrooms	1	2	1
Square footage	2,500	2,800	2,600
Sale price	$400,000	$450,000	
Adjustment for number of bedrooms ($20,000/bedroom)	$420,000	$450,000	
Adjustment for number of bathrooms ($12,000/bathroom)	$420,000	$438,000	
Adjustment for square footage ($16,000/ 100 square feet)	$436,000	$406,000	
Value of house based on comparable			$406,000–$436,000

the company in a very strong position going forward. AutoCo wanted its strong IP and product accounted for in the sales price.

AutoCo's situation is not unusual. Many early-stage companies facing the prospect of being acquired wrestle with the concern that their IP and the future revenue potential the IP provides will not be reflected in the acquisition price. Similarly, many acquirers are unsure how to value the IP of a company they are acquiring, resulting in either overpaying for the acquisition, or risking killing the deal due to a very low offer. Even if the acquirers understand the value of an acquisition target's IP, without understanding how to quantify it, they have a hard time persuading their management to pay a premium for it.

There are three different approaches to valuation: market approach, cost approach, and income approach. The income approach is the most common method of valuing IP, but often the market approach or cost approach are used as a way to validate the results of the income approach.

Market Approach

The market approach establishes value based on sale prices of other similar items – commonly referred to as 'comparables'. This approach is often used for pricing used cars or houses. When buying or selling a house, the price of similar houses in the neighborhood is a major driver of price. Table A illustrates the use of the market approach in pricing a house. A buyer or seller finds comparable houses and then adjusts the selling price of the comparables based on differences in the attributes of the houses. For example, the price of a comparable is scaled down or up if it had more square footage or fewer bedrooms than the target house. With houses or cars, there are some standard ways to determine the value of an attribute based on a statistical analysis of house prices in an area and their attributes.

It is difficult to use the market approach in IP valuation as every piece of IP is unique and every deal is very different. Since most licences and acquisitions are not publicly disclosed, it is also hard to find good comparables. Nevertheless, it is a good idea to try to collect any information on the sale of similar companies and make adjustments to the selling prices based on differences between the companies. Comparables may include sales of companies or IP licences in a similar product, technology, or market space; or may include recent acquisitions by the target acquirer. The recent acquisitions by the acquirer are important, even if they are in a very different space, as those numbers likely represent the acquirer's price expectations. If an acquirer's past licensing deals all have a 5% royalty, it is likely that the acquirer will expect a 5% royalty in future licensing deals.

The recent International Financial Reporting Standard 3 (IFRS3) on Business Combinations has helped with finding comparable deals. IFRS3 requires that in a material business combination (merger or acquisition), the acquirer must report not only the total cost of the acquisition, but that part which is allocated to intangible assets, such as brands, IP, and customers. Therefore, if there are any material acquisitions by public companies that could serve as comparables, the acquirer must report the value of the intangible assets in the deal. It is up to the person doing the valuation to then determine what portion of that intangible asset value is related to the type of IP being valued. Large accounting firms have done global studies on acquisition price allocation which can help with assumptions of what portion of the acquisition price in a given industry, is related to a specific type of IP.

Table B shows the information that is desirable when identifying comparables. While in house sales, statistical analysis can help apply a value to key attributes like additional bedrooms, in IP sales, statistical analysis is more difficult to apply. This is why there is an art to determining the appropriate price adjustments.

Table B		Comp 1: In similar market	Comp 2: In similar market	Comp 3: By same acquirer	Comp 4: By same acquirer	Company being valued AutoCo
Facts	Company being acquired	Target 1	Target 2	Target 3	Target 4	AutoCo
	Acquirer	Acquirer 1	Acquirer 2	Market Leader	Market Leader	Market
	Leader					
	Date	2008	2009	2008	2008	
	Sale price	$44M	$29.5M	$45M	$48M	
	Type of company	Software	Software	Software	Software	Software
	Industry	Auto sales	Boat sales	Manufacturing	Logistics	Auto sales
	Revenues	$8M	$5M	$6M	$7M	$1M
	Fixed Assets (e.g. servers, computers, office equip.)	$1M	$.5k	$.75k	$1M	$.25k
	IP	Software	Software 2 patents	Software		
	20 patents	Software				
	2 patents	Software				
	15 patents					
Assumptions	Multiple of sales standard in industry	5x	5x	6x	6x	5x
	Multiple of sales allocation	$40k	$25k	$36k	$42k	$5k
	Fixed assets allocation	$1M	$.5k	$.75k	$1M	$.25k
	Remainder of sale price for intangible assets	$3M	$4M	$8M	$5M	
	Assumption: % of intangibles related to patents	0	40%	75%	30%	
	Value of patents in deal	0	$1.6M	$6M	$1.5M	
	Value per patent	0	$800k	$300k	$750k	$134k–$800k
	Value of all patents					$4.5M–$12M

Cost Approach

The cost approach estimates the total costs to build a replacement of the item being valued. The cost approach is typically not relevant in IP valuations as strong patents stop someone from copying protected technology. However, a company could copy the functionality of the patented technology using its own research and development (R&D). Additionally, if the IP being valued is software that is not patented, the cost of hiring programmers to rewrite the software is relevant. The cost approach would estimate the R&D costs or software development costs necessary to invent-around or replicate a technology and should be used as a value ceiling. The effects on the business of the delay created by an invent-around should be considered and quantified in the model.

Income Approach

The income approach is the most common approach to valuing IP, though it is still highly speculative. Using the income approach, the IP's value is determined based on the incremental profits it will provide to the acquirer.

The first step is to understand how the IP will provide value to the acquirer. It is important to read the patents and their claims to be able to understand what technology is protected by the IP. You must then determine if that technology will be beneficial to the acquirer. If it will not be beneficial, do not attribute value to it. In this case, the acquisition target should carve the non-useful patents out of the deal; these patents can be sold to a different company who can draw value from them. In my experience, I have found that a lot of money is frequently left on the table in acquisitions as acquirers take the target's entire patent portfolio, including patents the acquirer will not use. If the acquirer identifies that a group of patents do not provide value, the acquirer can use this knowledge as leverage

Case study: ipCapital Group conducted an IP valuation for AutoCo

With AutoCo, the acquirer expected to receive value in the acquisition by increasing market share in the auto dealer software market as a result of AutoCo's superior product.
- To quantify this number, we used market research reports and assumptions to determine the market size for the auto dealer software market, and projected the market growth throughout the life of the patents.
- Once this had been achieved, we scaled down those market size numbers to approximate the market size of the relevant market (operational software for used car dealerships).
- We then looked at the acquirer's current market share of the relevant market and forecasted how that would change over time if AutoCo remained in business as a separate competitor, and compared it to how it would change if it acquired AutoCo.
- By taking the differences between the market shares with and without AutoCo, and applying the acquirer's standard operating profit margin to that change in revenues, we were able to quantify the benefit of the AutoCo technology over time.

during negotiations to reduce the deal price by cutting out those patents. For IP that is beneficial to the acquirer, you need to quantify the value that the acquirer will derive from the IP. Common value drivers include: increasing market share; growing the total size of the market; allowing for price premiums; and decreasing costs.

The next step is to create a financial model to estimate the value of the incremental profits provided by the technology over the life of the IP. Note that we are only valuing the profits generated by the technology protected by the IP, so any additional technology that is acquired in the deal is not part of this model. This step includes gathering a significant amount of market data and generating numerous assumptions. Estimate the revenues and costs for the acquirer with and without the technology throughout the life of the patent. This may include looking at the acquirer's projections in the relevant market and estimating additional growth, price premiums or cost savings. Alternatively, it may include using market research reports on the size and growth of an industry, scaling back those numbers to estimate the size of the relevant market that the acquirer could achieve, and applying the acquirer's standard operating profit margin to those numbers. If you do not have access to the acquirer's financials, you can base the operating profit margin on the margins of similar companies in the industry.

Once the incremental profits over time are estimated, you need to calculate the value of those profits today (the Net Present Value (NPV)). To do this, you must apply a discount rate for future cash flows (or a Weighted Average Cost of Capital (WACC)). It is most effective to use the WACC of the acquirer, which can be found in market research reports if the acquirer is a public company. If the WACC of the acquirer is not available, the next best alternative is to apply the average WACC of the industry, which can be found by searching the internet, or in market research reports.

These calculations provide the value today (NPV) of the acquirer's incremental operating profits over the life of the IP as a result of the technology. Most IP valuations

Table C: Income approach example

Note: Not actual number			2011	2012	2013...	2020
Size of Auto dealership SW market			$100	$120	$140	$200
Portion of market relevant to used car dealerships	50%		$50	$60	$70	$100
Portion of market relevant to operational software	60%		$30	$36	$42	$60
Market share by acquirer without AutoCo			70%	60%	50%	35%
Market share that could be achieved with AutoCo			70%	72%	73%	80%
Difference in Market Share as a result of AutoCo			0	12%	23%	45%
Value of AutoCo technology			$0	$4	$10	$26
Operating profits attributed to value	**70%**		**$0**	**$3**	**$7**	**$18**
NPV of profits attributed to technology		$54				
NPV of IP attributed to technology (25% rule)		$14				
Risk adjusted value of IP (for example, used 60% discount rate)		$8				

Picture: Gary Paul Lewis / Shutterstock

by the claims and evaluate and quantify the risks of not achieving those benefits. With market risks, you may identify the different market risks (eg economic downturn, disruptive technology, supplier's applying market pressure) and quantify the likelihood of that risk and the effect it would have on key drivers of the model to determine a quantitative adjustment. This is the value that should be used in guiding IP pricing decisions.

sure to include any risks that can result in failing to achieve the targeted value from the IP; including technology risks, market risks, and IP risks. Regarding the AutoCo case study, despite the strength of the technology and the strength of the IP, in the end, the acquisition did not occur as the US auto market crashed and the acquirer realised that US auto dealers will not be in the position to purchase new software for several years.

> ## "It is important to effectively communicate, not just the final value of the IP, but how the value was determined to make the value believable and understandable to the acquirer."

use the 25% rule to quantify the value of the IP related to the technology. The 25% rule states that 25% of the incremental operating profit provided by a technology is related to its IP. The 25% rule is a rule of thumb that has been used in IP valuations since the 1960s and is based on a statistical analysis of outcomes of infringement cases. While a recent US court case questioned the validity of the 25% rule for calculating infringement damages, we believe it is still a valid method for determining value of IP for operational or licensing purposes.

The final step in the income approach is to adjust the value of the IP for additional risks. This is the part of the model that is most subjective and requires someone who is very sophisticated in identifying and quantifying IP, market, technology, and product risks. For example, with IP risks, you may read the claims of the patents, identify what benefits are being protected

A note for acquisition targets

While developing a valuation of its IP is an important step in assuring that a target achieves full value from its IP in an acquisition, a spreadsheet is not sufficient to communicate that value. In creating the valuation, a target will learn a lot about which of its patents are relevant to the acquirer and how they will drive value for the acquirer. It is important to effectively communicate, not just the final value of the IP, but how the value was determined to make the value believable and understandable to the acquirer. An effective method of doing this is to create a presentation that describes the IP, explains what technology the claims cover, demonstrates how that technology will create value for the acquirer and shows how that value was quantified. These types of presentations, known as IP Stories, are very effective in communicating the value of a target's IP to a potential acquirer.

Recommendations for acquirers

It is important for an acquirer to develop an IP valuation to understand what a reasonable price is to pay for the IP and to be able to communicate both to the acquisition target and to their own management why the offer is reasonable. However, the valuation model is filled with many assumptions that present many risks for not accurately accounting for the value of the IP. These risks can be reduced significantly through adjusting the final IP value by additional risk factors. Make

Summary

IP valuations are very effective for both sides of an acquisition involving potentially-valuable IP as the valuation provides its creator better information about the true value of the IP to the acquirer. If communicated effectively, this information can be used to strengthen a company's negotiation position and support key executive decision making.

Author

Rachael Schwartz is a Senior Manager for ipCapital Group, a premier IP strategy consulting firm that helps companies create, manage, and monetize IP. Rachael specializes in developing IP strategies and valuing IP and communicating that value. Rachael has 11 years of consulting experience and an MBA from The Wharton School.