



Intellectual Asset Management

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Building IP value in the 21st century

How to get the most out of IP financing

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How to get the most out of IP financing

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What was the actual worth of Thomas Edison's patent on the incandescent light bulb? Apparently, enough to secure financing to start the General Electric Company. Using intellectual property as collateral to obtain finance is an increasingly common phenomenon.

Sources such as IP Nav and OceanTomo state that the proportion of tangible assets in the market value of Standard & Poor's 500 firms has declined from over 80% to under 20% in the past three decades. This clearly signifies the rising contribution of intangible assets such as patents, brands, customer goodwill and employee goodwill.

Digital service providers such as Google, marketplace operators such as Amazon and eBay and other social networking and digital media service providers hold no significant real assets, but have shown significant value creation over time, due to their intangible assets.

With companies' growing IP portfolios, financing against collateralisation of IP assets is increasingly seen as a realistic alternative to traditional financing. Many banks, non-bank lenders, government bodies and capital venture and financing arms of large corporate bodies provide IP-backed financing – some have been doing so for more than three decades.

However, herein lies the irony.

According to a survey conducted by the Federal Reserve System, in 2015 more than 98,000 business loan transactions (secured by collateral) were executed by all domestic and foreign commercial banks in the United States. However, intangible assets – primarily patents – were used as security in only about 4% of cases.

This chapter analyses what has kept IP-based financing from taking off and what can be done to change the scene significantly.

The roadblock

Over the years, large transactions in which intellectual property is used as collateral have been executed most often by companies in distress or under threat of bankruptcy. The transaction often takes place when all other options to raise loans against tangible assets have been exhausted.

This is largely attributed to the higher risks that intangible assets carry over tangible assets, as well as the consequent higher cost of financing that organisations bear due to their less reliable and marketable collateral.

Further, these transactions are also often initiated following an acquisition by a borrower. Such transactions, usually termed 'forced financing', are executed during difficult financial periods or specific situations (see Table 1).

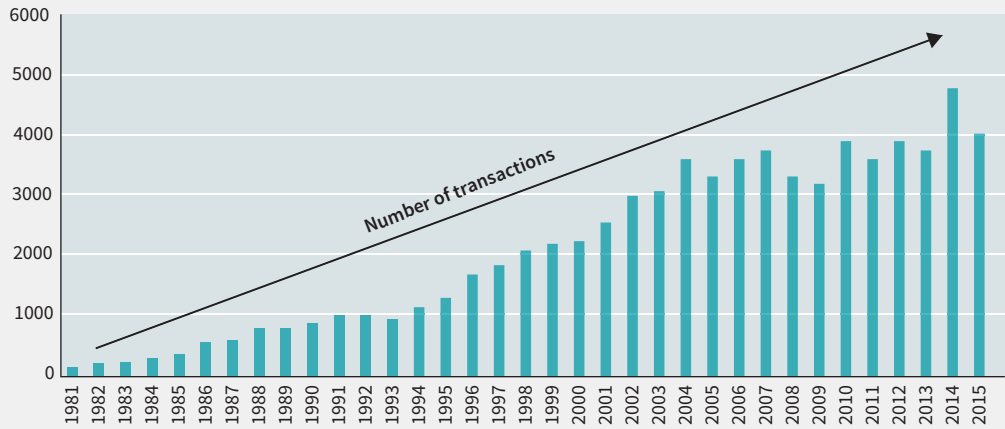
One of the prime reasons for the perception of high risk is a significant credibility gap in the valuation of IP assets. Valuation is a key tool in the process of financing based on IP collateral and a formal valuation must be carried out to examine the value of the loan that IP assets can support.

However, on several occasions it has been observed that a considerable gap exists between the value of IP assets examined for a collateralisation or internal evaluation exercise and the value attached to IP assets in an actual transaction (see Table 2).

Evidently, low creditor confidence in intellectual property as security and the lack of standards in the valuation of IP assets are two major impediments to seamless, progressive growth of IP financing.

Multiple variables (eg, arising from transactions, technology domains, target products, relevant markets and competition) affect the valuation of IP assets. Unfortunately, financial analysts typically

FIGURE 1. Increasing number of IP financing transactions



Source: USPTO

ignore or eliminate several technology parameters. The inability of software-based, automated valuation to consider subjective parameters adds to the problem.

A lack of standards further plagues the IP-based financing ecosystem. Several countries are yet to offer a robust legal mechanism to facilitate financing against intangible assets. This is a critical problem, since patent collateral is subject to unique legal issues that effectively create the need for a distinct set of creditors' rights.

A centralised database for IP collateral is available in the United States; however, this is not the case in all countries. Further, even in the United States, multiple conflicts remain between state and federal laws regarding IP rights and collateralisation-related issues, resulting in lack of confidence among creditors.

According to William Mann's January 2014

report entitled "Creditor rights and innovation: Evidence from patent collateral", it is relatively difficult to enforce collateral claims against patents in default compared to other asset classes. Mann further states that weak creditors' rights constrain access to collateral for innovative firms.

Fair valuation: the key accelerator

It is obvious that the regulatory framework for creditors' rights needs to be reformed to enhance creditors' confidence when extending loans (or services) for IP assets pledged as collateral. A centralised legal mechanism, integrating state and federal laws, needs to be created in order to achieve streamlined processes and transparent ownership.

This framework must also ensure a seamless flow of information and facilitate easy disclosure. This will help to eliminate fraudulent activity and boost creditor confidence.

According to Mann's research, stronger creditors' rights against IP collateral lead to increased fundraising, increased innovation and enhanced quality and diversity – which in turn lead to better economic benefits.

However, the most significant way to promote IP financing is to change the way that creditors conduct fair valuation of IP assets. The foremost change must be to consider worst-case scenarios when valuing intellectual property. This is a logical – yet frequently ignored – facet of valuation for IP financing.

Hence, a hypothetical scenario of loan default

“Revenue potential dies immediately after expiry of the patent in some industries, while it diminishes over time in others”

Table 1. Probable reasons for IP-collateralised transactions

Borrower	Period	Probable reason
Avago	2016	Acquisition of Broadcom
Kodak	2012 to 2013	Bankruptcy in 2012
General Motors	2008 to 2010	Bankruptcy in 2009
Kodak	2012 to 2015	Bankruptcy in 2012
LSI	2014	Possible financial distress in 2014 due to cost escalation
Xerox	2002	Financial fraud and certain distress in 2002

must be envisaged, either during the term of the loan or once the term ends. The value of an IP asset should never be derived while it is in the hands of its owner, since – as a defaulter in a distress situation – the owner would not be the right buyer of the asset. It also should not be derived in a normal situation where the owner is not in distress, because such assets can be overvalued, depending on the owner's capacity to monetise.

To get fair valuation right, several key factors should be observed.

Market participant perspective in normal business operations

Fair value measurement of IP assets presumes a

market participant perspective in the normal course of business. Fair value should reflect the price that the average hypothetical market participant would receive when selling the asset on the market with best use.

The foundation of fair value measurement is the average market participant's view. Such market participant assumptions must be considered, since a buying consortium or organisation cannot look only to its own intended use of an asset.

Further, the valuation of intangibles is often influenced by:

- company size – that is, whether it is a start-up or an established firm;
- target markets – which may not include the market of best use for the asset; and
- the state of operations – that is, whether the company is in distress or facing bankruptcy.

The valuation should be neither over-aggressive nor over-conservative, as either may later result in significant divergence from the value achieved in an actual transaction.

Appropriate commercialisation strategy

When valuing patents or intangible assets, all feasible commercialisation strategies should be examined in deciding on the most appropriate strategy for the company. Accordingly, the best strategy for the average company operating in the domain should be selected. This is critical, as the assets may need to be monetised in case of default and thus cannot be valued in the hands of a company that may fail to commercialise the assets.

Factors that influence this decision include:

- the type of intellectual asset involved (eg, technology or brand);
- the protection of those assets (eg, patent, copyright or know-how);

Table 2. IP asset valuation gap

Seller	Buyer	Actual transaction date	Patents and applications or IP count	Actual transaction value	Valuation
Nortel	Rockstar	July 2011	6,000-plus	\$4.5 billion	\$100 million to \$1.5 billion
Kodak	Consortium	December 2012	1,100	\$525 million	\$2.2 billion to \$2.6 billion
AOL	Microsoft	April 2012	925	\$1.056 billion	\$290 million to \$1 billion
Inter Digital	Intel	June 2012	1,700	\$375 million	23% lower than transaction price

“All that is needed to fuel the leverage of intellectual property as collateral among lenders and borrowers is a more robust and comprehensive approach to fair valuation of intangible assets”

- the probability of executing the strategy (eg, patents relating to a sub-process for enhancing oil well production are difficult to enforce); and
- other costs involved in the strategy.

Exemplary strategies include licensing through enforcement, selling the product and leasing the product and related services.

Technology lifecycle

The value of IP assets largely depends on where they reside on the technology maturity curve at the time of commercialisation. Technologies that are in the emerging phase require extensive analysis of market potential and feasibility of implementation, while the declining curve rate must be considered when the technology has reached a later stage of maturity.

When determining the monetisation potential, creditors should consider the technology’s maturity status in light of the product’s lifespan. For example, the technology lifecycle for IT products is much shorter than that for mechanical or pharmaceutical products.

Product lifespan is another parameter that may affect the technology lifecycle. The Global Medical Technology Alliance states that the commercial lifespan of medical devices is about 18 to 24 months, in comparison to a decade or two for pharmaceuticals. Hence, it is always important to assess the technology lifecycle to determine the term of a loan.

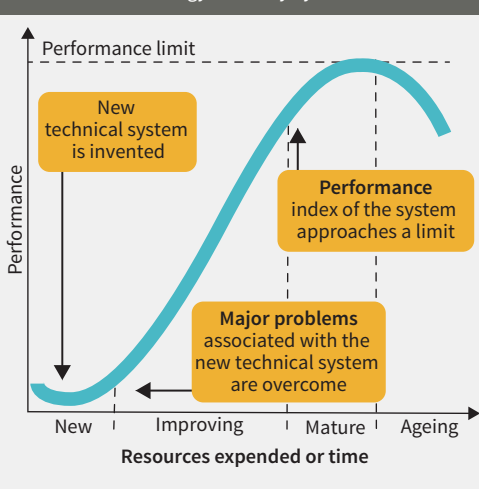
Market readiness assessment

Market need is a critical factor in determining monetisation potential. Technology that meets a long-established market need attracts a higher valuation, as it could have multiple buyers. However, if the technology caters to an underdeveloped market or merely provides minor benefits over existing solutions, the owner faces several challenges in demonstrating cost, efficacy and implementation advantages deriving from its widespread adoption.

For example, fuel cells were originally touted as the most promising automotive technology of the past two decades. However, this market forecast never came true, as consumers never really felt the need to obtain fuel cells for their vehicles. The only way that the technology could have gained consumer acceptance would have been if fuel cell vehicles of similar efficiency to standard internal combustion engine vehicles were made available at comparable prices. The availability of supporting infrastructure (filling or powering stations) would have augmented the market further. However, none of this happened until 2012. Therefore, a fuel cell-related patent portfolio that expired before 2012 would not attract much value if the company had not developed advancements before the time of commercialisation. Here, a patent pertaining to reducing the costs of a fuel cell system would naturally attract the maximum value.

Similarly, lithium ion batteries are the driving force behind the acceptance of electric vehicles, as they contribute to a large proportion of the cost. Therefore, patented technology that helps to minimise the cost of the battery in an electric

FIGURE 2. Technology maturity cycle



vehicle would attract a higher value than a technology providing similar solutions for the highly commoditised lead acid battery market.

Technology strength and competitiveness

This parameter relates to the assessment of market need. If the technology does not cater to any inherent market need, it must clear the competitiveness test: it needs to replace the existing solution at lower cost, higher efficiency or a combination of other benefits.

In the case of emerging technology that has yet to be commercialised, understanding the feasibility of implementation is critical. The example of fuel cells competing with traditional internal

combustion engines and advanced electric vehicles in the automotive sector illustrates this well.

Proton electrolyte membrane (PEM) fuel cells must compete with alternative technologies (eg, lithium ion batteries) and other types of fuel cell (eg, solid oxide fuel cells).

It is key to analyse competing technologies, especially in light of end-use applications. In the fuel cell scenario, PEM was found to be the most promising fuel cell technology for automotive and back-up power plants in telecommunications. PEM had not been used in distributed generation on a large scale until 2012; thus, distributed generation can confidently be considered as a target market for PEM fuel cells.



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Vinay Sharma has more than seven years of experience in technology analytics and business research advisory, with expertise in patent strategy, technology landscape, portfolio management, monetisation, market entry strategies, market sizing studies, industry analysis and competitive intelligence.

Before Aranca, Mr Sharma worked as a network system administrator and database administrator for a leading telecommunications service provider in India. His technical expertise lies in semiconductor fabrication, database administration, computer networking, computer hardware and algorithms, fuel cells and alternative energy.

He holds a master's degree in consultancy management and a bachelor's degree in electronics and communication, and is an Oracle-certified professional.



Rohit Nerurkar

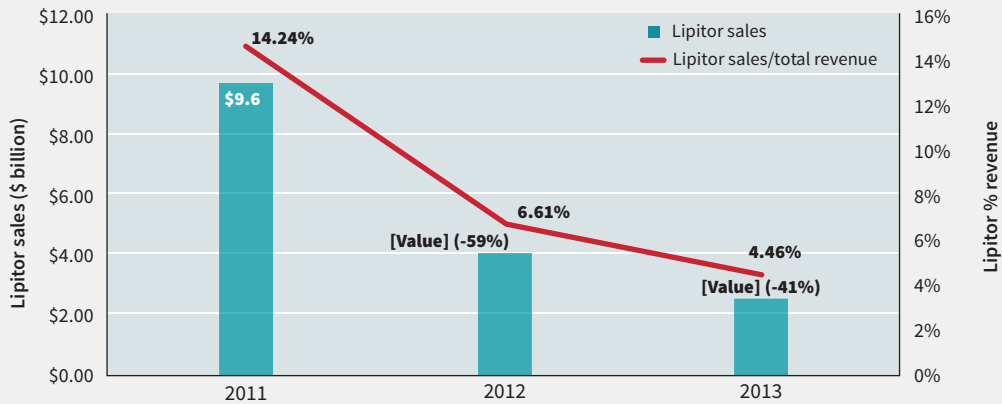
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Rohit Nerurkar has over four years of experience in business valuation and corporate advisory services, with expertise in valuation of early-stage companies, IP assets and intangibles. His experience lies in both traditional sectors (particularly manufacturing, energy and healthcare) and emerging sectors such as internet, media, clean technology and biotechnology covering the United States and India.

At Aranca, Mr Nerurkar has led multiple valuation appraisals for private equity/venture capital-backed companies, ranging from start-ups to advanced-stage companies. He has also been involved in appraisals of IP assets across diverse technology sectors.

He holds a master's degree in management with a finance specialisation and a bachelor's degree in engineering. He has also passed all levels of the CFA Institute, United States.

FIGURE 3. Impact of Lipitor's patent expiry



Source: AppliedClinicalTrialsOnline.com

Role of technology in end product

It is always desirable to ascertain what component of the end product is likely to be most affected by a specific technology or process and emerge as the driving force of the market. For instance, lithium ion batteries played a key role in furthering acceptance of less expensive electric vehicles. Therefore, patents that help to reduce the cost of batteries in electric vehicles would have a similar impact, as would those relating to powertrain technologies.

Also in the automotive industry, technologies relating to noise cancellation for music systems are more critical than enhancements in the resolution of multi-touch panels. The bottom line is that the criticality of a component decides the value of technology in a market.

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Patent lifecycle

Creditors need to consider the patent lifecycle in terms of the relevant technology domain. Revenue potential dies immediately after expiry of the patent in some industries, while it diminishes over time in others. For example, a company operating in the pharmaceutical sector may register a significant drop in revenue immediately after expiry of the patent.

Therefore, creditors should determine the remaining useful life of the patent before deciding on the term of loan. Further, lenders can value the assets based on the patent term or hypothetical default date. Any extension term should be factored into the expiry date.

Patent scope and coverage

The scope of claims and geographical coverage are important factors in the valuation of patents. Geographical coverage is most critical when the technology is easier to replicate. Therefore, technologies relating to information systems should be protected in key jurisdictions, since these can be copied easily.

Conclusion

By following these logical and achievable practices, both creditors and borrowers will gain confidence in the IP financing ecosystem. While lenders will experience a rise in IP-based loans, borrowers will not pursue loans against IP assets only during financial distress. In fact, borrowers may seek such

financing as a matter of course, along with tangible assets in reasonable proportions.

It is evident that the growing contribution of intellectual property to the market value of companies – especially in the United States – is primarily driven by the emergence of a new economy, in which core capital takes the form of technology patents, processes, know-how, customer reach and workforce talent. Thus, secured debt against IP assets can prove to be an important means of financing for innovative firms.

This shift is additionally aided by transformations in the business models of established organisations, which increasingly consider R&D and brand awareness to be crucial.

All that is needed to fuel the leverage of intellectual property as collateral among lenders and borrowers is a more robust and comprehensive approach to fair valuation of intangible assets. This begins with assuming the worst case of valuation for the best case of financing. *iam*

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