

THE VALUE OF INTELLECTUAL PROPERTY, INTANGIBLE ASSETS AND GOODWILL Kelvin King, founding partner of Valuation Consulting¹

Intellectual capital is recognised as the most important asset of many of the world's largest and most powerful companies; it is the foundation for the market dominance and continuing profitability of leading corporations. It is often the key objective in mergers and acquisitions and knowledgeable companies are increasingly using licensing routes to transfer these assets to low tax jurisdictions. Accounting Standards are not helpful in representing the worth of intellectual property rights and intangible assets (IPRs) in company accounts.

The role of IPR's in business is insufficiently understood. It is probably under-valued, under-managed or under-exploited and there is little co-ordination between the different professionals dealing with an organisation's IPR. You probably need to have a better understanding about intellectual capital and its ownership, acquisition and use. You probably need a practical source of knowledge and guidance about intellectual property and other intellectual capital in a commercial context. You might be a chief executive of an intellectual capital-company or a brand based business or both. You might be a manager of such a business or a research director or academic. Maybe you are a student on a management programme or an accountant, a corporate finance professional, investor or a venture capitalist. In your studies intellectual capital will not have been a core subject. Whatever the reason, you need to understand intellectual capital especially IPR's to do your job better or to be more successful in your career. IPR's are both important and complex. Therefore the questions to be answered should often be:

- What are the IPRs used in the business?
- What is the value (and hence level of risk)?
- Who owns it (could I sue or could someone sue me)?
- How may it be better exploited (e.g. licensing in or out of technology)?
- At what level do I need to insure the IPR risk?

For the valuer, this process of understanding is not usually a problem when these rights have been formally protected through trademarks, patents or copyright. This is not the case with intangibles such as know how, (which can include the talents, skill and knowledge of the workforce), training systems and methods, designs, technical processes, customer lists, distribution networks etc. These assets are equally valuable but more

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difficult to identify in terms of the earnings and profits they generate. With many intangibles a very careful initial due-diligence process needs to be undertaken together with IP lawyers and in-house accountants.

Overall risk affects valuation analysis, corporate valuation must reflect risk and most importantly risk assessment should reflect IPR value.

One of the key factors affecting a company's success or failure is the degree to which it effectively exploits intellectual capital and values risk. Management obviously need to know the value of the IPR and those risks for the same reason that they need to know the underlying value of their tangible assets; because business managers need to know, or should know, the value of all assets and liabilities under their stewardship and control, to make sure that values are maintained. Markets (restricted or otherwise), institutions and shareholders need to be educated. Exploitation can take many forms, ranging from outright sale of an asset, a joint venture or a licensing agreement. Inevitably, exploitation increases the risk assessment.

Valuation procedure is, essentially, a bringing together of the economic concept of value and the legal concept of property. The presence of an asset is a function of its ability to generate a return and the discount rate applied to that return. The cardinal rule of commercial valuation is: the value of something cannot be stated in the abstract; all that can be stated is the value of a thing in a particular place, at a particular time, in particular circumstances. I adhere to this and the questions 'to whom?' and 'for what purpose?' must always be asked before a valuation can be carried out. This rule is particularly significant as far as the valuation of intellectual property rights is concerned. More often than not, there will only be one or two interested parties, and the value to each of them will depend upon their circumstances. Failure to take these circumstances, and those of the owner, into account will result in a meaningless valuation.

There are four main value concepts, namely, owner value, market value, tax value and fair value. **Owner value** often determines the price in negotiated deals and is often led by a proprietor's view of value if he were deprived of the property. The basis of **market value** is the assumption that if comparable property has fetched a certain price, then the subject property will realise a price something near to it. The **fair value** concept, in its essence, is the desire to be equitable to both parties. It recognises that the transaction is not in the open market and that vendor and purchaser have been brought together in a legally binding manner. **Tax valuation** has been the subject of case law worldwide since the turn of the century and is an esoteric practice. There are quasi-concepts of value which impinge upon each of these main areas, namely, investment value, liquidation value, and going concern value.

Methods for the Valuation of Intangibles

Acceptable methods of the valuation of identifiable intangible assets and intellectual property fall into three broad categories. They are either **market based**, **cost based**, or **based on estimates of future economic benefits**. In an ideal situation, an independent

expert will always prefer to determine a market value by reference to comparable market transactions. This is difficult enough when valuing assets such as bricks and mortar because it is never possible to find a transaction that is exactly comparable. In valuing an item of intellectual property, the search for a comparable market transaction becomes almost futile. This is not only due to lack of compatibility, but also because intellectual property is generally not developed to be sold and many sales are usually only a small part of a larger transaction and details are kept extremely confidential. There are other impediments that limit the usefulness of this method, namely, special purchasers, different negotiating skills, and the distorting effects of the peaks and troughs of economic cycles. In a nutshell, this summarises my objection to such statements as ‘this is rule of thumb in the sector’.

Cost based methodologies, such as the cost to create or the cost to replace, assume that there is some relationship between cost and value and the approach has very little to commend itself other than ease of use. The method ignores changes in the time value of money and ignores maintenance.

The **method of valuation flowing from an estimate of past and future economic benefits** can be broken down to four limbs; 1) capitalisation of historic profits, 2) gross profit differential methods, 3) excess profits methods, and 4) the relief from royalty method.

Discounted cash flow (“DCF”) analysis sits across the last three methodologies. DCF mathematical modelling allows for the fact that 1 Euro in your pocket today is worth more than 1 Euro next year or 1 Euro the year after. The account of the time value of money is calculated by adjusting expected future returns to today’s monetary values using a discount rate. The discount rate is used to calculate economic value and includes compensation for risk and for expected rates of inflation.

The capitalisation of historic profits arrives at the value of IPR’s by multiplying the maintainable historic profitability of the asset by a multiple that has been assessed after scoring the relative strength of the IPR. For example a multiple is arrived at after assessing a brand in the light of factors such as leadership, stability, market share, internationality, trend of profitability, marketing and advertising support and protection. While this **capitalisation process** recognises some of the factors which should be considered, it has major shortcomings, mostly associated with historic earning capability. The method pays little regard to the future.

Gross profit differential methods are often associated with trade mark and brand valuation . These methods adopt the differences in sale prices, adjusted for differences in marketing costs. That is the difference between the margin of the branded and/or patented product and an unbranded or generic product. This formula is used to drive out cashflows and calculate value. Finding generic equivalents for a patent and identifiable price differences is far more difficult than for a retail brand.

The **excess profits method** looks at the current value of the net tangible assets employed as the benchmark for an estimated rate of return to calculate the profits that are required in order to induce investors to invest into those net tangible assets. Any return over and above those profits required in order to induce investment is considered to be the excess return attributable to the IPR's and while theoretically relying upon future economic benefits from the use of the asset, the method has difficulty in adjusting to alternative uses of the asset.

Relief from royalty considers what the purchaser could afford, or would be willing to pay, for the licence. The royalty stream is then capitalised reflecting the risk and return relationship of investing in the asset.

Discounted cash flow analysis is probably the most comprehensive of appraisal techniques. Potential profits and cash flows need to be assessed carefully and then restated to present value through use of a discount rate, or rates. With the asset you are considering, the valuer will need to consider the operating environment of the asset to determine the potential for market revenue growth. The projection of market revenues will be a critical step in the valuation. The potential will need to be assessed by reference to the enduring nature of the asset, and its marketability, and this must subsume consideration of expenses together with an estimate of residual value or terminal value, if any. This method recognises market conditions, likely performance and potential, and the time value of money. It is illustrative, demonstrating the cash flow potential, 'or not', of the property and is highly regarded and widely accepted in the financial community.

The discount rate to be applied to the cashflows can be derived from a number of different models, including common sense, build-up method, dividend growth models and the Capital Asset Pricing Model utilising a weighted average cost of capital. This appraisal technique will probably be the preferred option.

These processes lead one nowhere unless due diligence and the valuation process quantifies remaining useful life and decay rates. This will quantify the shortest of such as the following lives: physical, functional, technological, economic and legal. This process is necessary because just like any other asset IPR has a varying ability to generate economic returns dependant upon these main lives. For example in the discounted cashflow model it would not be correct to drive out cashflows for the entire legal length of copyright protection, which may be 100 plus years, when a valuation concerns computer software with only a short economic life span of 1 to 2 years. However patent legal protection of 20 years can prevent infringement situations which may be important as often illustrated in the pharmaceutical sector with generic competitors entering the marketplace at speed to dilute a monopoly position when protection ceases. The message is that when undertaking the discounted cashflow modelling never project longer than what is realistic by testing against these major lives.

It must also be acknowledged that in many situations after examining these lives carefully, to produce cashflow forecasts, it is often not credible to forecast beyond say 4 to 5 years. The mathematical modelling allows for this in that at the end of the period

when forecasting becomes futile, but clearly the cashflows will not fall 'off of a cliff', by a terminal value that is calculated using a modest growth rate, (say inflation) at the steady state year but also discounting this forecast to the valuation date.

Valuation is an art more than a science and is an interdisciplinary study drawing upon law, economics, finance, accounting, and investment. It is rash to attempt any valuation adopting so-called industry/sector norms in ignorance of the fundamental theoretical framework of valuation.



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**STARTING AT THE TOP AND TRYING
TO BUILD DOWN.**

**THE LAWS OF PHYSICS
AND VALUATION
SUGGEST THAT THIS IS NOT
POSSIBLE.**



THE LICENSEE & LICENSOR

Four Calculations or Steps – ‘can Kelvin count’

- Intrinsic value of Licensor
- Intrinsic value of Licensee

PLUS

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The capital values calculated are an essential step to calculate a royalty rate or royalty arrangement - discuss



DEFINITION

&

IDENTIFICATION



INTELLECTUAL PROPERTY

THESE ASSETS WHOSE ESSENTIAL CHARACTERISTICS ARE DERIVED FROM THE LEGAL SYSTEM. IN THIS CASE THE UK.

- PATENTS (PATENT ACT 1977)
- COPYRIGHTS (COPYRIGHT DESIGNS & PATENTS ACT 1988)
- TRADE MARKS (TRADE MARK ACT 1994)
- REGISTERED DESIGNS (REGISTERED DESIGNS ACT 1949)
- DESIGN RIGHTS (CDPA 1988)



INTANGIBLE ASSETS

Rights

- **Contracts**

Relationships

- **Workforce**
- **Customers**

Group Intangibles

- **Goodwill**
- **Brands**

Characteristics of Economic Advantage

The spectrum of creative thought

Formulae, Recipes

Experience

Negative Knowledge

R & D, Information



BUNDLE OF RIGHTS

Privileges of ownership are the same as for any other asset

- Use
- Sale
- Merge
- Mortgage
- Gift
- Transfer Part of the Rights



OCCASIONS FOR VALUING INTELLECTUAL PROPERTY

- Mergers & Acquisitions
- Portfolio Review and risk assessments
- Arrange a loan - securitisation
- Tax purposes
- Licensing
- Balance Sheet purposes
- Joint Ventures
- Selling your Company
- Selling your IP
- Insurance



WHY ARE WE VALUING?

- Tax Valuation and Open Market Value
- Fair Value
- Fair Market Value
- Commercial Value
- Investment Value



Methods of Valuation

Market Based

- Comparable market transactions



COMPARABLE MARKET TRANSACTIONS

Caveats

- Few sales
- Lack of information
- Separate values
- Special purchasers
- Different negotiating skills
- Distorting effects of varying values
- Assets not always comparable



Methods of Valuation

Cost Based

- Historical or replacement cost



HISTORICAL OR REPLACEMENT COST

Caveats

- Economic Benefits Excluded
- Duration of benefit-economic life
- Obsolescence difficult to quantify
- Maintenance
- Time value of money



Methods of Valuation

Income Approach

- Future economic benefits
- Capitalisation of historical profits



***MODERN VALUATION ANALYSIS IS
EFFECTIVELY DCF APPLIED TO THE BUSINESS
ENTERPRISE UNDER CONSIDERATION***

- The Net Present Value (NPV) of a strategy or business is the sum of its expected free cash flows to a horizon (H) discounted by its cost of capital (r)

$$\text{NPV} = \frac{\text{Year 1 Cash Flow}}{(1 + r)} + \frac{\text{Year 2 Cash Flow}}{(1 + r)^2} \dots \text{to say } \frac{\text{Year 5 Cash Flow}}{(1 + r)^H}$$

PLUS

The terminal value which is the value of the business at a horizon (HV)

$$\text{HV} = \frac{\text{Cash Flow}}{(r - \text{growth})}$$

Also discounted back to present value



CAPITALISATION OF HISTORICAL PROFITS

DRAWBACKS

Profitability

- Problems of averaging
- Problems of extrapolating from past performance
- Decline & other key variables
- Net tangible assets not separately assessed

Multiple

- No reference point for price earnings multiple
- Often no regard to established marketplace
- Often no reconciliation with market capitalisation



HOW MUCH?
(CASHFLOWS)



- GROSS PROFIT DIFFERENTIAL METHOD
- EXCESS PROFITS METHOD
- RELIEF FROM ROYALTY METHOD



HOW LONG FOR?
(TIME PERIODS)



USEFUL LIFE

- Physical life
- Functional life
- Technological life
- Economic life
- Legal life



AT WHAT RISK?

(COST OF CAPITAL)



THE DISCOUNT OR CAPITALISATION RATE

Derive the appropriate cost of capital

- Risk free profile
- Risk factors



DCF

Caveats

- Immense difficulty in forecasting well into the future
- Future distant growth is often significantly discounted in the perpetuity calculation



MONTE CARLO

- Effectively a DCF multiplier
- Numerous DCF calculations accounting for various scenarios, say of revenue, market share, costs, internationality and other risks
- With just 4 scenario changes of the stated assumptions above this means 256 models!
- That is 4 values for each of income, different market share, costs, international penetration
i.e. $4 \times 4 \times 4 \times 4 = 256$



REAL OPTIONS

- Probability trees = snakes and ladders, develops the Monte Carlo analysis
- Develops terminations (snakes) if a route identifies problems to suggest failure



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LICENSING ECONOMICS & ROYALTY RATES

Why License

- Market penetration
- Increase profits
- Access another's resources
- Synergy with another
- Circumvent infringement situations
- Sell related products



REASON FOR LICENSING IN TECHNOLOGY

- Reducing reliance on in-house R & D
- Specialist R & D companies often more innovative and efficient than larger manufacturing/distribution companies
- Reduced product development time and costs
- Cost of acquiring technology may not have to be incurred until revenues commence



REASON FOR LICENSING OUT TECHNOLOGY

- Specialist R & D companies can concentrate on what they do best and use others for manufacturing and distribution
- Technology may not be of strategic importance for licensor but may be for licensee
- Use of existing production, marketing and distribution facilities can reduce costs
- Effective method of entering foreign markets
- Can accelerate cash flow and/or profits



ROYALTY INCOME

- Up-front payment
- Credits
- Earn out link
- Running royalty



ROYALTY INCOME

- Minimum or maximum royalties
- Frequency of payment
- Licensor conditions
- Licensee conditions
- Other considerations
- Currency of payment
- Duration
- Cancellation



CALCULATING THE ROYALTY RATE

Special Factors

- Relative dominance of the brand, patent etc
- Geographical area covered
- Rate of Return acceptable to all parties
- Probable level of continuing sales
- Commercial obligation of licensor(ee)
- Do not always accept 'market rates' 'industry norms' as gospel
- Royalties often represent mark-ups



STRUCTURING LICENSE AGREEMENTS TO MAXIMISE PROFITS



STRUCTURING DEALS

Year	Sales	Case 1		Case 2		Case 3	
		Cash	Profits	Cash	Profits	Cash	Profits
1	5m	100	100	75	225	75	300
2	10m	200	200	150	100	75	-
3	8m	160	160	120	70	75	-
4	5m	100	100	75	25	75	-
		560	560	420	420	300	300

Case 1

2% of licensee's sales every year

Case 2

1.5% of licensee sales with minimum of £50,000 pa for the first 4 years

Case 3

300,000 payable in 4 equal annual instalments



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