Intellectual
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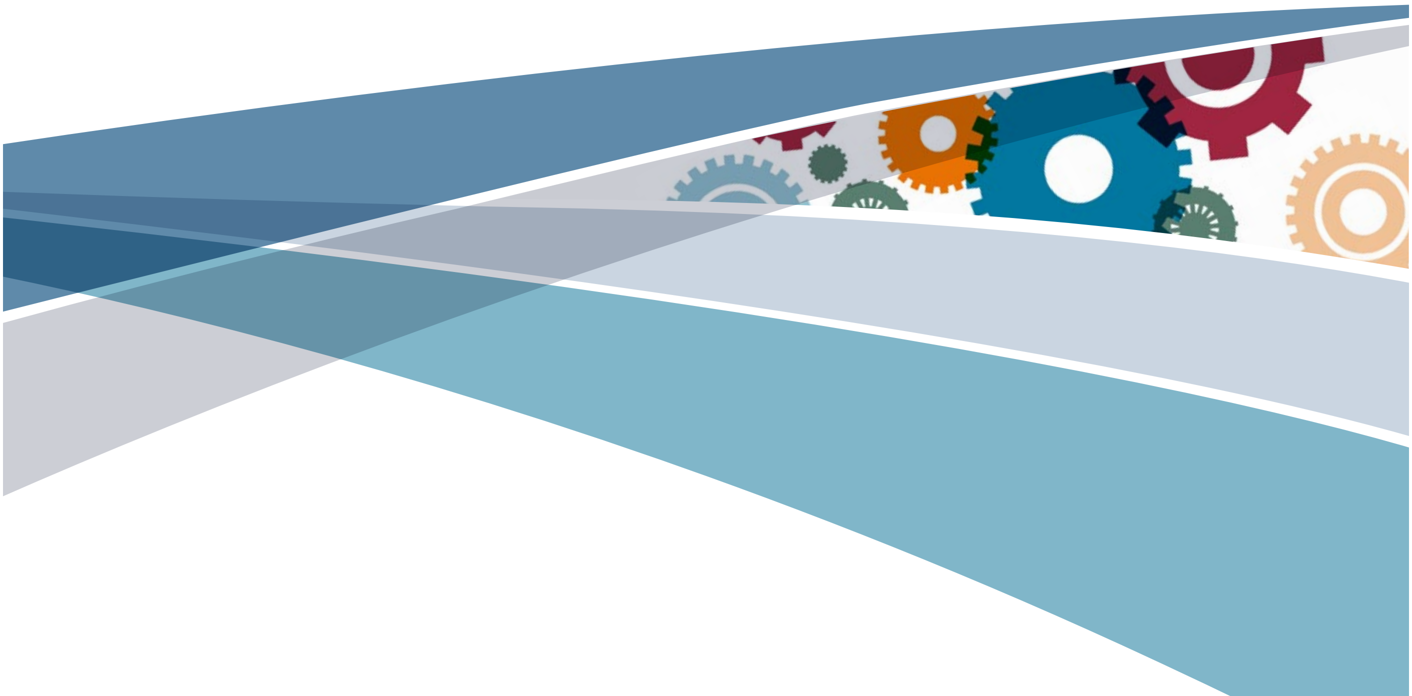
Office

Hidden Value:
A study of the UK IP Valuation Market



Research commissioned by the Intellectual Property and carried out by:

Martin Brassell
Jackie Maguire

August 2017

This is an independent report commissioned by the Intellectual Property Office (IPO)
Findings and opinions are those of the researchers not necessarily the views of the IPO or the Government.

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Martin Brassell is Chief Executive of Inngot, co-founded with Professor Iwan Davies in 2007 to develop innovative approaches to intangibles identification, assessment and value estimation, with a particular emphasis on unlocking asset value in the financing context. He is co-author (with Kelvin King) of the 2013 banking on IP? Report for the UK Intellectual Property Office, a comprehensive investigation of the link between intellectual assets and business finance.

Jackie Maguire is an independent consultant and business architect, having previously cofounded Coller IP with Jim Asher in 2006 and developed a full range of technical, legal and commercial services that help businesses to manage, value and monetise intangible assets. Jackie was appointed as an expert on the European Commission's Expert Group on IP Valuation and authored its report published in 2013. She has also served on numerous Government and professional body committees including those led by UKIPO, UKTI and CIPA, and has taken part in UK trade missions.

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About the authors

Martin Brassell is Chief Executive of Inngot, co-founded with Professor Iwan Davies in 2007 to develop innovative approaches to intangibles identification, assessment and value estimation, with a particular emphasis on unlocking asset value in the financing context. He is co-author (with Kelvin King) of the 2013 *Banking on IP?* report for the UK Intellectual Property Office, a comprehensive investigation of the link between intellectual assets and business finance.

Martin's career in the music, audio, retail finance and business information industries included responsibility for brand protection and management. He spent five years as a director of HPI, the leading database on tangible assets and their status for the automotive market. Martin has also served as an Enterprise Hub Director, supporting innovative early stage businesses and developing collaborations with the knowledge base, with a particular emphasis on intellectual property and fundraising.

Martin has worked extensively with national and international companies on realising value from IP and related assets, from start-ups to multinational corporations. In recent years this has included a particular emphasis on assisting public bodies with strategies to unlock IP value, across Europe and Asia, supporting the development of innovative approaches to IP management and leverage.

Other recent publications include the 2015 *Penalty Fair?* study of criminal sanctions for copyright infringement (also for the UK Intellectual Property Office), *Innovation, Intangibles and Integrated Reporting* and *Accounting for Innovation* (for the Association of Chartered Certified Accountants, in association with Nesta and Agensi Innovasi Malaysia, with Dr Benjamin Reid) and *Economic Approaches to Intellectual Property* (for Oxford University Press, with Dr Nicola Searle).

Jackie Maguire is an independent consultant and business architect, having previously co-founded Coller IP with Jim Asher in 2006 and developed a full range of technical, legal and commercial services that help businesses to manage, value and monetise intangible assets.

Jackie's career in the energy, environmental and IP industries has included director-level responsibility for operations, P&L management, sales, marketing and business development and she has over 25 years' technology transfer, commercialisation and consultancy experience, advising clients on how to realise value from their innovation and investments, manage business performance and mitigate risk.

Jackie works with a range of boardroom clients from start-up to multinational organisations, to develop and implement the strategies that allow businesses to grow sustainably. She is also a trainer and coach, designing and running IP workshops, IP clinics and providing one-to-one advice on all IP matters and negotiating contracts. Recent assignments include working with companies in a range of industries in the UK and on sites in Japan, USA, Sri Lanka, Thailand and Malaysia.

Jackie was appointed as an expert on the European Commission's Expert Group on IP Valuation and authored its report published in 2013. She has also served on numerous Government and professional body committees including those led by UKIPO, UKTI and CIPA, and has taken part in UK trade missions. Jackie has led a programme with masterclasses for SMEs in the Highlands and Islands, presented at International Business Congresses in Chicago, Boston, San Francisco and Portugal, and presented masterclasses and workshops for the World Intellectual Property Office, CASS Business School and GrowthAccelerator programmes.

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- The review panel, Nigel Swycher (CEO of Aistemos), Catriona Hammer (Past President of CIPA) and John Ogier (Chairman of IPAN)

Members of the study team conducting primary and secondary research into the valuation market included Jim Asher of Coller IP Management, and Dr Ian Goodyer of Inngot:

- Jim Asher is Director of IP Valuations and a founder of Coller IP Management. He has grown an IP valuation practice in Coller IP using his experience of leading IP valuation projects for over 15 years. Jim has carried out hundreds of valuations of a wide range of intangible assets, for a wide spectrum of businesses, for advisors and for investors, and for many different purposes, ranging from asset financing, asset transfers, licensing and sale to litigation and insolvency. Jim is also an experienced lecturer and trainer in IP valuation in the UK and overseas. For this project, Jim's primary role was to conduct individual interviews with organisations that had commissioned IP valuations

- Dr Ian Goodyer is Business Development Manager at Inngot. Ian has wide-ranging experience in IP and innovation, from working as a researcher and inventor for a multinational corporation to advising high growth SMEs. His postgraduate qualifications include a certificate in IP law from Brunel University. At Inngot, Ian specialises in technology evaluation reports for early stage businesses; his previous experience in policy work includes co-authorship of the 2015 *Penalty Fair?* report on criminal sanctions relating to copyright infringement for UK IPO. For this project, Ian's primary role was also to carry out individual interviews

Further thanks are due to Nicholas Page of Inngot, who led the survey analysis, and Melanie Mousley Jones of Inngot for project management and proof reading.

Individual terms that are highlighted in **bold** in the text of this report when first used are further defined or explained in the glossary.

Executive Summary

Introduction

Intellectual property (IP) is often referred to as 'the currency of the knowledge economy'. However, while a well-run business would be able to determine exactly what its physical assets are at any given point in time, a surprisingly small number of companies take the time and trouble to investigate what their **intangible assets** are worth – unless and until they have to do so. For the remainder of businesses, the value that these assets contribute remains hidden.

This research study has therefore been commissioned by the UK Intellectual Property Office (UK IPO) to understand why companies do not consider the hidden financial value of their intangible assets and particularly intellectual property (IP) on a more routine basis. The objective is to understand four aspects of the UK market for IP valuation:

i) The market structure: who the main participants are, and how they interact

ii) The drivers of behaviour: what motivates companies to value their IP

iii) Barriers to more efficient functioning of the market: what limits engagement with the valuation market

iv) Potential solutions to overcome these barriers

UK IPO also asked the researchers to examine three related aspects of the market, with reference to international benchmarks and recognised best practice:

a) The extent of IP valuation activity in the UK

b) Whether common and consistent IP valuation methods and approaches are being applied

c) Whether the market is working effectively from a competition perspective

It is important to note that the term 'IP valuation' is itself used in several different ways. In some cases, a valuation is quantitative and means an exact figure calculated to represent the value of specific registered (and/or potentially unregistered) rights in a business. In others, a valuation takes in all the intangible assets in a business, and while still quantitative, may be expressed as a range of values because there are uncertainties surrounding the use of key parameters used in the valuation process. Alternatively, the qualitative commercial attributes of IP and intangibles may be expressed in a process that might better be described as an 'evaluation'.

This study is focused on the quantitative valuation of intangible assets (including IP assets), as governed by a number of standards, regulations and guidelines that set out the valuation process and the methodologies and valuation techniques that either can or should be adopted. This should not be taken to mean, however, that less formal evaluations are not highly beneficial: they may well represent a more appropriate strategy, depending on the business purpose involved.

Over 250 individual primary contributions have been obtained and analysed, using a mixture of interviews performed by the researchers and online surveys distributed by the UK Intellectual Property Office and via **industry associations**. Together with extensive secondary research, and consideration of the standards, regulations and other drivers of custom and practice in IP valuation, these contributions have provided the evidence base for the conclusions drawn in this report.

Market structure

Given the perception that IP valuation is infrequently utilised by companies at present, the first, important aim of this study is to identify who the main participants in the IP valuation market are, how they interact with each other, and whether structural issues contribute to this perceived shortfall in business engagement.

- Around 40 companies have been identified that provide specialist IP valuation services in the UK, typically comprising 2-5 valuers but occasionally, in the case of the larger accounting firms, involving a team of up to 50. These companies can be categorised into accounting firms (who tend to specialise in valuation matters relating to financial reporting, taxation, **transfer pricing** and strategic options such as offshoring) and 'valuation boutiques' (who may specialise, for example, in handling contentious matters).

- There is some evidence of sector and subject matter specialisation (with some firms more actively targeting high tech enterprises or developing particular expertise in brand valuation, for example). Customer size appears to be another significant distinction. Interviews indicate that smaller, boutique firms will take on valuation work from smaller enterprises and early stage companies that are too reputationally risky and insufficiently profitable for the large accounting firms to undertake.

IP valuations may arise as a result of direct communication between valuers and prospective clients. Nevertheless, there is little doubt that **intermediaries** external to the company (who may well be specifying a valuation requirement for a particular purpose) play a very important role. They identify needs and provide signposting towards potential providers. This has emerged as a feature across all IP valuation contexts.

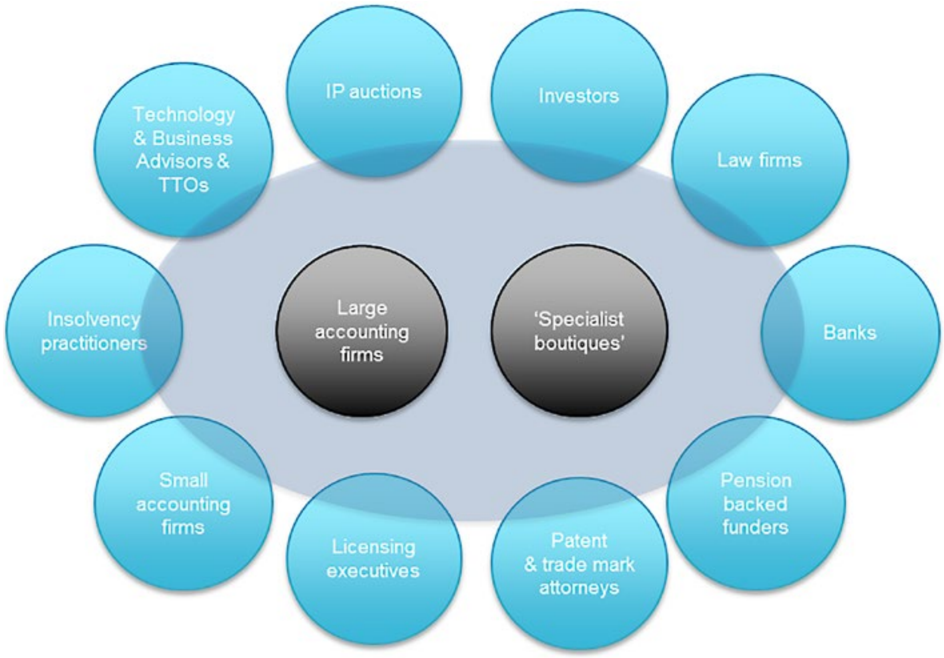


Figure S-1. A variety of intermediaries point clients towards IP valuation

Study responses indicate that on average, 55% of the valuers' work comes via intermediaries, particularly lawyers and accountants, and many intermediaries regularly outsource their valuation activities in order to gain an independent view.

In other industries, referrals and introductions of this nature are often linked to some form of reward or incentive. No evidence was found of these practices in relation to IP valuations during the research.

- The behaviours exhibited in the IP valuation market are generally consistent with market immaturity. However, two potential areas of concern emerge: vertical relationships and weak searching behaviour. These appear to be inter-related to some degree, as strong recommendations from advisers may well tend to suppress independent searching activity by both end users and intermediaries. Given that there is specialisation amongst valuers, however, it is concluded that recommendations from intermediaries are genuinely helpful for clients (provided they are given without bias).

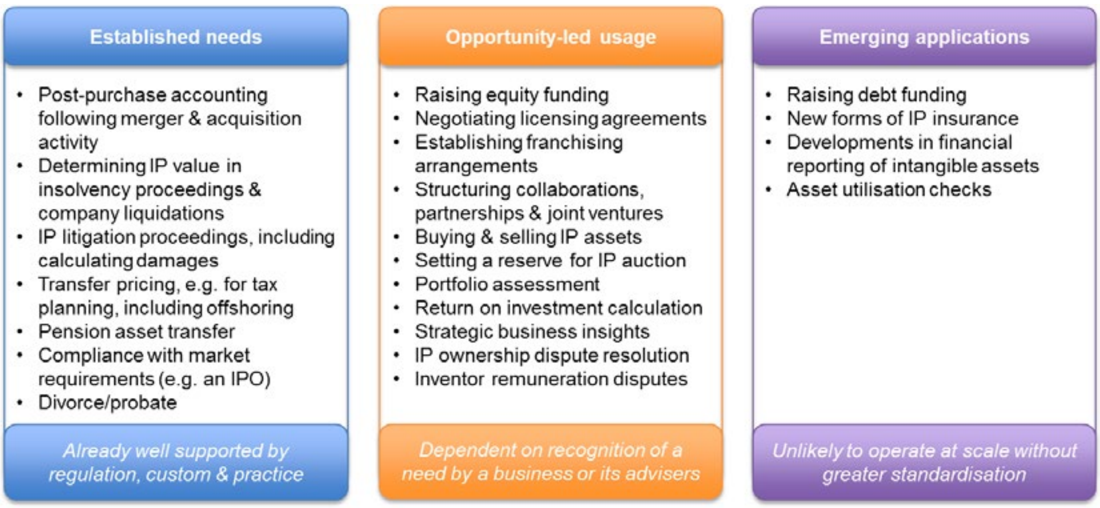
- Overall, this study concludes that market competition is not particularly intense. This is backed up by the finding that boutique valuers do not often find themselves in direct competition with each other. There are certain requirements for IP valuation, such as in **purchase price allocation** (PPA) work, where competition for business is much more evident and valuers compete on price with each other. This appears to have become more commoditised than other types of valuation, with less opportunity to differentiate services and provide added value.

- The market mapping and analytical work conducted for this study concludes that the number of companies formally valuing their IP annually is likely to be less than 5,000 in total at present. The market value associated with this activity is much harder to estimate, due to very wide price variations in evidence for different valuers and valuation requirements, but is at least £50m/year, and likely to be closer to the figure of £1bn that can be derived from mid-range pricing indicators. There appears to be significant capacity for growth.

The drivers of behaviour

Analysis for this study identified 22 reasonably distinct purposes for IP valuation, summarised in the following diagram. These can be further divided according to whether they serve established and recognised needs (i.e. where IP valuation is part of a necessary process); where it is done in order to grasp a particular opportunity, rather than driven by a specific legal or practical requirement; and where new applications are emerging for IP valuation (both in the UK and in other countries around the world).

Figure S-2. Segmentation of valuation drivers



All the information gathered from valuers, intermediaries and beneficiaries of IP valuation activity points in one direction: as things currently stand, the biggest motivation for companies to carry out an IP valuation is because it is suggested to them they should have one, or they are compelled to obtain one by virtue of some external event.

This does not mean that all valuations identified during the study were driven by a legal or regulatory requirement. As borne out in interview, some investors and boards are conscious of IP value; it is evident from interview feedback that the valuation process does offer strategic benefits, especially when it happens in what this study terms an ‘opportunity-led’ context; and there are plenty of examples identified by this study where as a consequence of an IP valuation, the company achieves a specific aim that benefits its access to capital, revenues or bottom line. However, it does mean that fairly strong incentives are needed in order to prompt companies to take action.

All valuers were found to follow a consistent process in carrying out an independent valuation. Three approaches to IP valuation are recognised by all valuers interviewed and are embodied within the relevant industry standards: ***cost***, *market* and *income*. Interviews with valuers for this study confirm that the primary drivers for determining which method is used relates to data availability and valuation purpose. The income approach (which is normally forward-looking in nature) is generally the preferred route in support of any preferred licensing, sale or IP financing transaction, and also features heavily in purchase price allocation valuation work.

Barriers to more efficient functioning of the market

A number of barriers inhibiting companies from carrying out an IP valuation were identified by market participants on both the supply and demand side. Those most frequently cited included cost; lack of awareness and understanding of the benefits and the process; lack of understanding of where and how to find a valuer; lack of information to make an informed choice; limited ability to use IP to raise finance; and other more pressing business priorities. Companies do not currently perceive (or rather, understand) that the valuation process adds value. In these circumstances, cost becomes an issue because the return on investment is not understood.

Most IP valuations are conducted as consulting assignments. Services provided by smaller specialists start from £1.5k-£2.5k, which suggests that the service is affordable from some suppliers for at least some purposes, if companies recognise the benefits. However, pricing varies widely. The minimum found (for an online indicative tool) is £350; the maximum values quoted for a bespoke valuation were £1m for complex transactions or **litigation**, with values of £100k-£750k not unusual for valuations during large company mergers and acquisitions (M&A) or litigation, where there is an element of risk/reward. Such higher figures are reached in special circumstances, but do have an impact on the perception of cost.

As the market is not yet mature, there are a number of intermediaries that have still to make full use of IP valuations. At present, IP insurers do not directly consider IP value (though they might in the future); their main focus is on estimating litigation risk and associated costs of pursuit and/or defence. Equity investors, on the other hand, do consider IP as important and wish to see evidence that it is being developed and safeguarded, but will always place assessment of the management team higher up their priority list, and most early stage companies seeking early investment are too cash-constrained to fund detailed valuation activity.

In the **venture capital** context, there is a focus on technology and the associated competitive advantage, though investigations are often conducted in-house and their main focus is to establish negotiating parameters rather than establish reliance on an exact value. Establishment of collateral value remains the key barrier preventing banks from lending against IP assets, and is a bigger barrier than trust in the valuation process. The banks' concern is, would this IP asset still be worth anything if the business that developed it became insolvent?

Recommendations for potential solutions

Recommendations that draw on the research conducted for this study, and the surveys and interviews that have focused on barriers and opportunities, are outlined below. It will be important to ensure that any new activities are co-ordinated as part of a strategic and wide-reaching best practice programme, working in partnership with professional and industry bodies.

The individual elements, which involve education and incentives to engage further in IP valuation activities, consist of the following steps:

- Highlighting the benefits to business of valuing their IP through a series of case studies

- Extending UK IPO's finance toolkit to include an open directory of IP valuers and their specialisms. This should be set within the context of formulating a sound IP strategy for a business, and should include the list of purposes for which valuation may be required or helpful

- Introducing a tailored UK IPO outreach programme of education and incentives, targeted individually for businesses and intermediaries, to include direct discussions with lenders and investors

- Conducting further research to gain a more sophisticated understanding of the links between intangible asset valuations and IP strategy, how valuations of the same assets have varied by purpose and/or over time, and a comparison of valuations carried out by buyers vs. sellers

- Initiating dialogue between UK IPO, accounting and industry bodies on the possible introduction of voluntary IP statements and/or labelling, potentially as part of corporate social responsibility reporting or in annual financial statements

1. Context, aims and methods of this study

Highlights
There is a prevailing view that the number of IP valuations conducted by businesses is not currently at an optimum level, considering the economic importance of intangible assets
There are three generally accepted methods of considering intellectual property value: cost, market and income
IP valuation takes different forms. The term may be applied to specific values for individual assets, general valuations of entire intangible asset portfolios, or qualitative assessments (these might be better termed 'evaluations')
Research questions have been posed to identify potential solutions that may overcome the barriers to IP valuation
Over 250 responses from a combination of IP-owning companies, valuers and intermediaries have informed the study findings

1.1. Introduction

This research study is concerned with understanding the Intellectual Property (IP) valuation market in terms of its structure, drivers and any barriers to the efficient functioning of the market.

In today's **knowledge-based**, **innovation**-driven economy, intangibles such as IP are accounting for an increasing majority of company value. It has been estimated that 70% of a typical company's worth lies in intangible assets[1], a percentage that continues to rise. Although the contribution made by intangible assets is now widely acknowledged, prior research by the Intellectual Property Office and others[2] has suggested that this value is still not visible to many business managers, raising concerns that the costs of innovation are not being appropriately balanced by a clear appreciation of the returns it produces. This is the reason why this study's title describes it as 'hidden'.

There are, however, business practices and specific external events that encourage the valuation of intangibles, whether these are assessed on their own, or as is often the case, conducted as part of considering the overall value of a business. These events are generally guided by professional service providers, who are appointed to value the IP on their clients' behalf.

The term 'IP valuation' is itself used in many ways. In some cases, a valuation is quantitative and means an exact figure calculated to represent the value of specific registered (and/or potentially unregistered) rights in a business. In others, a valuation takes in all the intangible assets in a business, and while still quantitative, may be expressed as a range of values

1 The Gowers Review of 2007 noted: 'In today's knowledge economy, IP has never been more important for securing Britain's prosperity and has never been more challenged by the changing context of innovation: it is estimated that 70% of a typical company's value lies in its intangible assets, up from 40% in the early 1980s.'

2 For example see research performed by Ocean Tomo – http://www.oceantomo.com/2015/03/04/2015-intangible-asset-market-value-study/

because there are uncertainties surrounding the use of key parameters used in the valuation process. Alternatively, the qualitative commercial attributes of IP and intangibles may be expressed in a process that might better be described as an ‘evaluation’ report: this need may arise, for example, from the **due diligence** needed to support a transaction, and in this context, it may be of greater importance than a numerical value.

The quantitative valuation of intangible assets (including IP assets) is governed by a number of standards, regulations and guidelines that set out the process that should be followed under particular circumstances, and the methodologies and valuation techniques that either can or should be adopted.

Key standards, regulations and guidelines are considered in Chapter 2 of this report, to illustrate the context in which IP and the wider intangibles associated with it are commonly valued by professional service providers (or sometimes by in-house experts).

1.2. Current Situation

1.2.1. Methods of IP valuation

There are three commonly used and approved approaches to IP valuation: the market, income and **cost approaches**. These are outlined briefly in the following table, together with some commonly held impressions of their advantages and disadvantages.

Methodology	Market Approach	Income Approach	Cost Approach
Method	Determines value by looking at the price paid for similar IP in the market. Typically two steps: (1) screening for comparable transactions and (2) adjustments for changes in valuation due to specific rationale	Determines value from the net present value of the asset – this involves discounting the expected future cash flow from the IP over its lifetime A commonly used income method is relief from royalty	Reproduction cost approach involves determining value by establishing the cost of developing a similar asset Replacement cost involves determining value by establishing what it would take to create or purchase an asset of equal functionality or utility
Commonly perceived advantages	Simple and accurate when closely similar comparators are available and adjustments are credible Useful for cross-checking	Useful when the IP generates a predictable income flow Concepts are widely accepted and understood Sensitivity analysis can be used to assess how changes to key assumptions affect results	Can be useful when income streams are hard to relate to the asset Regarded as important in balance sheet asset impairment Can be used to establish a 'floor' on valuation estimates Objective and consistent Usually relies on historic cost data, so fact-based
Commonly perceived disadvantages	Requires comparable data – unlikely for IP that is unique with few formal markets (e.g. patents for disruptive technologies). If many adjustments to the valuation are required, the method risks becoming subjective and therefore less credible	Can involve a lot of assumptions i.e. around future cash flows, lifespan of IP and discount rates Reliant on experience and opinion and therefore may become subjective Relevant information is not always accessible from internal reporting systems	Does not incorporate economic benefits of the IP (the novelty or uniqueness): expenditure on an asset does not correlate with its worth May not account for wasted costs (e.g. within some big investment expenditures on research in pharma) Risk of subjectivity in thinking about the costs of replacement Some IP assets are not necessarily replaceable (by definition of granting legal exclusivity)

Within these three broad headings (particularly within the income category), there are numerous variations and alternative approaches, which may add to confusion over which precise approach is best to use in given sets of circumstances.[3] Nevertheless, the three approaches provide a framework that experts follow to perform the valuations, using their experience and judgement to make decisions on the most appropriate valuation approach and how best to apply each methodology in practice.

1.2.2. Earlier studies and their findings

Previous studies have investigated how the IP valuation market works. For example, the European Commission Expert Group on Valuation[4] was commissioned in 2013 to research and report on the IP valuation market and to highlight the attitudes and barriers to the uptake of IP valuation.

The Expert Group comprised long-standing practitioners across Europe, so had the benefit of detailed knowledge on the approaches generally used to conduct IP valuations. It surveyed both the suppliers of IP services and also those in industry who might have a need to carry out IP valuations. It concluded that IP is generally not being valued unless there are particular regulatory requirements to do so. It further determined that:

- IP has limited liquidity due to less formalised markets for resale
- The cost of assessing risks associated with IP-backed loans to small firms is much higher than for other loans, partly because lenders may have less expertise. IP value may vary according to context and use, and can also change over a short time
- Intangible asset-based finance can only develop if the return on investment can compete with other asset classes, and mainstream firms get involved in the market

A number of recommendations were made by different market participants for the Expert Group's final report, which included:

- Establishment of a data source containing anonymous information on IP transactions, and potential fiscal incentives for doing so initially
- Creation of an organisation to oversee the IP valuation practice (including education and training). One option discussed was a regulatory body and/or register of accredited valuers
- Introduction of a risk-sharing loan guarantee scheme for banks to facilitate IP secured lending, which would reduce the cost to firms of raising finance, but also help build IP valuation knowledge and capacity in lending institutions

3 http://www.ipwatchdog.com/2015/02/11/alternate-approaches-to-the-valuation-of-intellectual-property/id=54651/

4 https://ec.europa.eu/research/innovation-union/pdf/Expert_Group_Report_on_Intellectual_Property_Valuation_IP_web_2.pdf

- Introduction of an additional reporting section for intangible assets and IP in financial reports, or a management IP report to supplement financial reports

For those not active in the IP valuation market, the manner in which the market operates can appear complex. The market and its valuers have sometimes been criticised for a lack of transparency. Questions have been posed as to whether the IP valuation market is operating as a free market and whether competition issues are present. This study therefore seeks to ‘demystify’ the industry and examine how the market is currently operating in the UK by addressing a series of relevant topics, set out below.

When investigating the IP valuation market, a broad definition has been employed. All applications that lead to the quantification of IP value, for any purpose, have been considered as falling within scope. The market has been examined in terms of three main constituencies:

- Companies who conduct valuations

- Companies whose IP is the subject of the valuation

- Intermediaries (of various kinds) who specify an IP valuation requirement (and may signpost the end user towards an appropriate provider)

1.3. Research questions

To provide greater clarity and transparency surrounding the IP valuation market and to build on the knowledge base of earlier studies, four main objectives were set for this study to investigate:

i) The structure of the IP valuation market in the UK, who the main participants are, and how they interact

ii) What motivates companies to value their IP and the key drivers of such behaviour

iii) The barriers to more efficient functioning of the market and what limits engagement with the valuation market, particularly in terms of company understanding. For instance, do they: recognise that IP is an asset with strategic value; have knowledge of the approaches to valuation; have knowledge of the potential providers of an IP valuation; and understand the business reasons for conducting a valuation

iv) Potential solutions to overcome these barriers

UK IPO also asked the researchers to examine three related aspects of the market in detail, with reference to international benchmarks and recognised best practice:

a) The extent of IP valuation activity in the UK

b) Whether common and consistent IP valuation methods and approaches are being applied

c) Whether the market is working effectively from a competition perspective

Research questions were formulated to address the four key objectives and also to examine additional aspects of the market in detail, as laid out below.

1.3.1. Mapping the market for IP valuation

In order to map the IP valuation market, six questions were addressed in detail:

i) Can the different providers of IP valuation be segmented into categories, and if so on what basis (for example, is there evidence of sector specialisation or differences in the types of service that are offered?)

ii) How intense is competition for business between different IP valuation providers; what are the key competitive dimensions, and what evidence is there of market power and its impact on price, choice and other market outcomes?

iii) In what ways do the communities of providers, specifiers and IP-owning companies currently interact, and how does this vary by context (for example, according to the purpose for which the valuation is being conducted)?

iv) What price variations are present in the market, and what are the main factors that affect the prices exhibited (for example, are any variations the result of differing requirements, methodologies used, valuation purposes, the type/size/maturity of the customer?)

v) What influence does the sector in which the end user operates have within the IP valuation market, and is this consistent or are other factors more important? For example, is there evidence that attitudes and approaches vary according to firm size or type of IP?

vi) To what extent do intermediaries including banks, insurance firms and equity investors already understand the methods and suitability of different IP valuation approaches, and have confidence in their rigour and accuracy?

1.3.2. The IP valuation process

In examining the IP valuation process itself, questions were asked to clarify the following points:

vii) What are the strengths and weaknesses inherent within each of the valuation methods, and is there a consistent view within the industry on these?

viii) Are there generally accepted principles regarding which methodologies should be used under particular sets of circumstances, and which are believed unsuitable in some or all contexts?

ix) Are there generally accepted rules of thumb within valuation methods that are consistently applied?

x) Are certain data sources commonly used, and are these readily accessible?

1.3.3. Market effectiveness

In assessing market effectiveness, further questions focused on a number of specific issues:

xi) There are a number of potential reasons for auditing and valuing IP, but which provide the strongest incentive to do so? What influences these key drivers?

xii) Under which sets of circumstances are the barriers to conducting IP valuation greatest, and why? Is there a general consensus on these barriers among market participants?

xiii) If it is assumed, based on the data available, that level of IP valuation is sub-optimal, what are the barriers to efficient functioning of the market? Is the problem primarily on the demand side, on the supply side, or both?

xiv) Are there clear areas where provision is either too great or too little, for example among SMEs or firms in a particular sector?

The study therefore aims to identify potential solutions and recommended approaches based on an understanding of the answers to these questions, with a view to increasing companies' engagement with IP valuation and addressing any barriers to its greater use. The features of possible options and associated risks are considered in the final section of this report, drawing upon examples from other markets and international evidence where relevant.

1.4. Methodology

1.4.1. A balanced approach

As well as being active in intellectual property research[5], both Inngot and Coller IP Management are existing participants in the IP valuation market. This provides the study team with first-hand insights into the processes, impacts and challenges of this process. However, as indicated above, IP valuation covers a broad and diverse range of activities, and these needs are met by a series of organisations ranging from the very large to the very small.

5 Martin Brassell, CEO of Inngot, is co-author of the 2013 Banking on IP? report for UK Intellectual Property Office: Jackie Maguire, former CEO of Coller IP Management, was a member of the EC Expert Group which produced the 2013 review of the IP valuation market.

In order to ensure that, within its design constraints, this study presents an unbiased and evidence-based view of the IP valuation market, an independent economist with experience of the UK policy landscape (Ken Warwick of Warwick Economics) was retained to review the methodology, questionnaires and findings and make comments and suggestions that have been incorporated into this final report. The authors have been most grateful for Ken's input and advice in seeking to provide an objective characterisation and assessment of a market that deals in highly sensitive information and is difficult to measure accurately.

In order to address the questions set out in the preceding section, a programme of primary and secondary research has been conducted between October 2016 and January 2017. Three techniques have been adopted:

- Desk-based research has been conducted into markets, participants, methods used, regulations and competition, examining the existing literature

- In-depth, qualitative interviews have been held with IP valuation market participants (including valuers, companies whose IP has been valued, and other organisations identifying the need for valuation to be done), to obtain detailed insights into the market's structure and operation, motivations and drivers, and valuation methodologies used

- Wider, quantitative online surveys have been used to obtain information from different groups of existing and potential participants in the IP valuation market, identified from secondary research and qualitative interviews. These surveys have been 'customised' for different categories of customer and specifier, and extended to groups with and without first-hand experience of the IP valuation process. This has enabled further data to be gathered on market structure, awareness of IP valuation, competition, motivations and barriers to the uptake of IP valuation

The questions that have been asked during these primary data gathering exercises were prepared in advance and discussed with project board members (including the study's independent reviewer) to target them at recognised gaps in the evidence base concerning IP valuation. In order to present a clear line of argument in this report, a separate Appendix has been compiled providing more details on the data obtained using all three sets of techniques.

1.4.2. Detailed sampling

To obtain evidence on the customs and practices of IP valuers, specifiers and those who receive IP valuations, primary data gathering has consisted of the following:

i) One-to-one interviews with a sample set of companies known to be actively delivering IP valuation services (15 in total), conducted face-to-face or by telephone. Secondary research suggests that this equates to around one-third of the providers actively engaging in the market (i.e. not counting those who may conduct 'informal' IP valuation activities from time to time)

ii) One-to-one interviews with companies who play an intermediary role (8 in total). This sample included law firms, insolvency practitioners, insurers, financiers and HM Revenue & Customs. The nature of this intermediation is variable, but includes instructing IP valuations and introducing their clients to valuers

iii) Telephone interviews with clients of Inngot and Coller IP Management who have previously received an IP valuation, drawn from a range of eight different industry sector groups (43 clients in total). This is not claimed to be a representative sample of IP valuation recipients (in terms of size, activities or reasons for valuation), but is intended to provide insights into the categories of IP valuation that fall outside the category of ‘established need’ (as defined in Chapter 4 of this report) where the drivers and motivations for receiving an IP valuation are already apparent

iv) An online survey of innovative companies at various stages of development that have received support from the IPO’s IP Audits Plus scheme and other IP-related support across England. This generated 49 responses

v) An online survey of intermediaries and influencers already engaged in providing intellectual property advice and support services to companies. This was facilitated with assistance from the Chartered Institute of Patent Attorneys, the Chartered Institute of Trade Mark Attorneys, and the Intellectual Property Awareness Network. This generated 131 responses in total

The client and intermediary interviews are not claimed to represent a statistically significant sample, owing to the very wide range of companies owning IP that might benefit from having it valued, and the large number of possible ‘touch points’ for these companies should a question over IP and/or business valuation arise. However, the authors believe that there is a sufficiently wide range of primary inputs obtained for this study (consisting of 90+ responses from individual IP-owning companies and 150+ from valuers and intermediaries) that the conclusions reached in this report can be considered well-evidenced, especially considering that the results obtained were relatively consistent.

Detailed results from these interviews and surveys are set separately in the Appendix. The pertinent points that have informed the study’s conclusions on the research questions are extracted and analysed throughout this report. Variations in the total number of responses reflect the fact that not every respondent chose to answer every question.

2. An introduction to the IP valuation market

Highlights
There are already some UK IPO initiatives under way which may prompt companies to consider their IP value, though these are not solely directed at IP valuation
There are established standards that underpin the process of IP valuation and cover the appropriate application of cost, market and income methods
Regulations are also important in the IP valuation market, particularly in respect of financial reporting and transfer pricing
As well as formal regulations, there are also customs and practices that have a market impact, such as those relating to valuation in business insolvency

2.1. The importance of IP valuation

2.1.1. Macro-economic impressions of IP value

In the case of quoted companies, research initiated by the Brookings Institute and continued by Ocean Tomo has demonstrated that more than 80% of enterprise value attributed by the stock market is not underpinned by **tangible assets** and is based around intangible assets[6].

The implied importance of IP for UK companies appears to be borne out by successive research reports. In 2011 the UK market sector invested £137.5bn in knowledge assets compared to £89.8bn in tangible assets; of this, just under half of knowledge based investment (£65.6bn) is thought to have actual or potential protection through the use of formal **intellectual property rights**[7]. The most recent version of this report, which includes some new measures of calculation, suggests that tangible asset spending has grown again, but confirms that intangibles still account for the majority of investment, at £133bn in 2014[8].

This high level of investment is indicative of a need for market-based mechanisms and risk/return based methodologies for valuing IP, to allow SMEs (which account for the vast majority of UK firms) in key sectors of the economy to manage and commercialise their innovative ideas, in the interests of UK economic growth.

There is a large and growing body of literature discussing different approaches to undertaking IP valuation. There is some discussion in the literature on the relative merits of the most commonly used approaches in different contexts, but there appears to be less by way of practical and technical guidance on how managers should value IP in their organisation, which approaches are favoured by banks and insurers, in which circumstances, and how best to set this information out. In fact, there is more literature on how to conduct IP valuation than there is on why a company would want to do it.

6 The latest research indicates that this proportion of 'implied intangibles' is now approaching 90%. See http://www.oceantomo.com/blog/2015/03-05-ocean-tomo-2015-intangible-asset-market-value/

7 IPAN Brief No. 18, 2016, 'Intellectual Property, Finance and the Economy.'

8 UK Intangible Investment and Growth: New measures of UK investment in knowledge assets and intellectual property rights, Goodridge, Haskel and Wallis, UK IPO, 2016

There is a growing international interest in the link between IP and financing from a wide range of quarters, as referenced in Chapter 4 and set out in further detail in this report's Appendix. The attitude amongst general lenders that intangibles do not make suitable assets for lending appears to contrast with that of equity financiers, from '**business angels**' to venture capital and private equity companies, who place a stronger emphasis on IP rights and their ownership, a discrepancy highlighted in investor discussions with Lord Young. The connection between patents and venture capital investments is noted in a BIS Economics Paper[9].

2.1.2. Current initiatives

Some initiatives are already under way to help firms become more aware of the value of their IP, so that it becomes a more intrinsic part of their business model, and they are better able to consider and articulate the strength of their IP in terms of its life span, duration of associated rights, potential market share, and ability to generate revenue. These include two existing public sector, UK IPO-led initiatives:

- The IP Finance Toolkit – offers guidance on how to set out an IP management and **commercialisation** strategy which details business background, IP assets, registered and unregistered rights, and how IP is managed both internally and externally. It also features an IP asset checklist and an extensive IP valuation checklist[10]

- The IP Audit Scheme – works on a referral basis and is available to businesses engaged on one of the IPO's partner's business support schemes. IP audits provide potential high growth, innovative SMEs with a tailored assessment of the IP within their business to help them develop IP management strategies

The latter can only assist a very small proportion of UK firms (approximately 300 UK IPO-funded audits have been provided during each of the last few years), so to generate a large-scale shift in awareness and engagement with IP valuation, it will be important to identify other activities that can establish momentum. The decision framework and incentives that drive demand for IP valuation, the extent to which market participants understand and trust valuations, and the market structure (for example, whether certain sectors are more likely to access valuation services) all require investigation in order to identify initiatives that can have a more substantial impact on unlocking value.

There are some recent market developments that may help to bring about an increased appreciation of IP value. These include a change in UK accounting regulations, which alters the way that intangible assets are to be recognised on the **balance sheet** following a **merger** or **acquisition**, and which apply to smaller and medium-sized businesses for the first time. There have also been developments in the private sector: new market entrants and online offerings have made IP valuation insights more affordable for small and early stage businesses, and moves are also under way to introduce new professional qualifications for valuers.

9 SME Access to External Finance. BIS Economics Paper No 16 January 2012
10 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/478929/ip-finance-toolkit.pdf

2.2. Valuation standards

2.2.1. International valuation standards

There are a number of valuation standards that govern the manner in which IP valuations are carried out. The best known and most widely adopted are those drawn up by the International Valuation Standards Council (IVSC). This publishes a Framework and Requirements document, and separately offers supporting guidance covering applications and technical information to cover most forms of valuation in business, including intangible assets. The Framework covers the generally accepted valuation concepts, principles and definitions, while the accompanying Standards explain their application for particular contexts and asset types.

Amongst the principles set out in the Framework are its working definitions of price, cost and value, which are as follows:

> Price is the amount asked, offered or paid for an asset. Because of the financial capabilities, motivations or special interests of a given buyer or seller, the price paid may be different from the value which might be ascribed to the asset by others.
>
> Cost is the amount required to acquire or create the asset. When that asset has been acquired or created, its cost is a fact. Price is related to cost because the price paid for an asset becomes its cost to the buyer.
>
> Value is not a fact but an opinion of either:
> a) *The most probable price to be paid for an asset in an exchange, or*
> b) *The economic benefits of owning an asset*
> *A value in exchange is a hypothetical price and the hypothesis on which the value is estimated is determined by the purpose of the valuation. A value to the owner is an estimate of the benefits that would accrue to a particular party from ownership.*

The Framework sets out the concept of a market value and draws a distinction between it and fair value. It defines fair value as being 'the estimated price for the transfer of an asset or liability between identified knowledgeable and willing parties that reflects the respective interests of those parties'. This is a broader concept than market value, which focuses on 'the estimated value for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion'.

2.2.2. Summary of IP valuation approaches, as set out in IVSC

The IVSC Framework (which is intended to cover many different valuation contexts and requirements) defines the three most common approaches to valuation as being cost, market and income (though it arranges its comments in the order market, income and cost). It particularly recommends the use of more than one approach if there are 'insufficient factual or observable inputs for a single method to produce a reliable conclusion'.

Its definitions of these three methods are as follows:

> *The market approach provides an indication of value by comparing the subject asset with identical or similar assets for which price information is available*
>
> *The income approach provides an indication of value by converting future cash flows to a single current capital value*
>
> *The cost approach provides an indication of value using the economic principle that a buyer will pay no more for an asset than the cost to obtain an asset of equal utility, whether by purchase or by construction*

The Framework's commentary makes some further points on each of the three approaches:

- The cost commentary makes the point that the asset actually being valued may be less attractive than an alternative that could be constructed, due to age and obsolescence, and that adjustments may need to be made to accommodate these differences

- It states that market valuations should start with prices for transactions relating to identical or similar assets that have occurred recently in the market, moving to advertised prices for assets (where relevant), before making necessary adjustments to account for differences in the transaction, basis of value and legal, economic or physical characteristics

- Income valuations should assess the income generated by an asset over its useful life and indicate value by expressing revenue streams as a net present value by applying a suitable discount rate to them.

It is noted that the standards do not specify the exact formula for conducting a valuation – this requires the expert interpretation of the valuer.

2.2.3. Other valuation standards

ISO 10668, first introduced in 2010, concerns requirements for monetary brand valuation. In its introduction, the standard sets out its aim to provide 'a consistent, reliable approach to brand valuation, including financial, behavioural and legal aspects', and it goes on to set out the main (general) requirements of transparency, validity, reliability, sufficiency and objectivity.

The standard lists some of the common purposes for valuation as management information, strategic planning, value reporting, accounting, **liquidation**, legal transaction, licensing, litigation support, dispute resolution, taxation planning & compliance and loan and equity financing – very much the same scope as described elsewhere in this report.

The concept of value, which needs to be specified in accordance with the purpose, is to represent the economic benefit conferred by a brand over its expected useful economic life. Assuming that the brand has not already reached the end of its life, this is indicative of a forward-looking, cash flow-oriented dimension to the valuation process, which may be based on earnings, economic profits or cost savings.

As is also the case with IVSC standards, the standard specifies that the income, market or cost approach shall be used, either individually or in combination, with the choice dependent on purpose, value concept and brand characteristics. Within each of these three methods, some further guidance is provided. Further analysis of the content of ISO 10668 is contained in the Appendix to this report.

Apart from ISO, a few other IP valuation standards have been developed internationally, including:

- DIN77100 – Grundsätze der monetären Patentbewertung (Monetary Patent Valuation)[11]
- Georgia Pacific Factors[12] (relating to damages)
- Austrian Standard Institute standards ONORM A6800 & A6801[13]

2.3. Regulations affecting IP valuation

2.3.1. The challenge of placing intangible assets on the balance sheet

Most commercial entities are driven by financial performance, and all are obliged by law to provide annual updates on these activities to Companies House. Whilst smaller, unquoted companies can and do generally file **abbreviated accounts**, which do not require them to disclose much detail on their trading performance (such as a detailed **profit and loss** account), these compressed formats still require a statement of the business's assets, which is contained on its balance sheet.

Statutory company accounting provides a fairly effective mechanism to indicate the presence and value of the tangible assets a business owns, such as property, plant and machinery. Leaving aside the regulatory requirement to file according to accounting standards, businesses would in any event be motivated to capitalise assets of this nature on their balance sheets. Such treatment reflects the associated cost profile (such assets are often paid for over time, in instalments); even where they are bought outright, it enables the cost to be spread over the income-generating lifetime of the asset.

Accounting for the value of intangible assets presents a different challenge. Many such intangibles are internally generated, and with few or no external transactions to evidence this activity, they are not readily discernible within a company's profit and loss account, and are often entirely absent from its balance sheet.

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11 https://www.beuth.de/en/standard/din-77100/140168931

12 A series of 15 factors to consider when valuing IP for damages as first outlined in Georgia-Pacific Corp. v. United States Plywood Corp., 318 F. Supp. 1116, 1119-20 (S.D.N.Y. 1970), and modified in 446 F.2d 295 (2d Cir.); Unisplay, S.A. v. American Electronic Sign Co., Inc., 69 F.3d 512, 517 n.7 (Fed. Cir. 1995)

13 A6801 relates to patent valuation (https://shop.austrian-standards.at/action/de/public/details/377604/OENORM_A_6800_2010_12_01) methods and A6800 relates to trade mark valuation (https://shop.austrian-standards.at/action/de/public/details/378393/OENORM_A_6801_2011_01_01)

These balance sheet statements of assets are important because they have long been used by other businesses, and especially by financiers, to gain insights into a business's capital base and viability. The increasing dependence of businesses on intangible assets for value creation, as researched and recently updated by Goodridge, Haskel and Wallis at Imperial College for UK IPO[14], illustrates why this method of accounting for assets may increasingly fail to give an accurate picture of asset utilisation.

While there are ways in which intangibles can appear on balance sheets, it is not permissible for a company simply to use an independent IP valuation as a basis for placing an asset value for intangibles into its accounts. This is because the applicable regulations consider that there is not a sufficiently liquid market in most categories of intangible asset to be confident that any such value is realisable, as is required by the concept of 'fair value' applied to tangible asset revaluations. There is a small number of permissible exceptions to this rule where regular trading can be demonstrated, but these relate mainly to forms of permission to do certain acts (such as the exploitation of natural resources or use of physical facilities). This point is explained in more detail in the overview of financial reporting standards content provided in the Appendix to this report.

The approaches set out in accounting standards, particularly International Financial Reporting Standard 3 (IFRS 3), have been helpful to IP valuers generally, in providing a model for recognising the identity as well as the value of intangible assets. In particular, the guidance notes accompanying the standards that detail the types of eligible assets (under five headings, set out in the Appendix) form a useful point of reference.

As a result of the recent changes to UK Generally Accepted Accounting Practice (UK GAAP), the way that intangible assets will be represented on balance sheets post-acquisition may now change, and transparency regarding the identity of assets transferred may improve. This is because a new regulation known as FRS 102 has dispensed with merger accounting under nearly all circumstances, meaning that balance sheets can no longer simply be combined.

However, it is important to stress that the cost of acquisition, reproduction or replacement, the estimated realisable market value, and

Stephen Robertson is the MD at Metis Partners, a boutique IP valuation & advisory firm.

Stephen has built the business over the last 13 years, which now employs a total of 19 staff with five in the IP valuation team which accounts for a growing share of Metis' turnover.

In growing his business, Stephen notes the recent impact that accounting standards have had on IP valuation work. *'The financial reporting standard FRS102 has driven interest in IP valuation and we have seen an uplift in M&A related IP valuations as a result.'*

'The insolvency practitioner guidelines, especially SIP16, have also been influential as they have required an independent valuation in the context of corporate recovery and pre-pack administration.'

14 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/561709/Estimating-UK-Investment-intangible-assets-IP-Rights.pdf

past, present and/or future income generation potential (the basis for the three methods employed by valuation practitioners) influence all individual valuers' decisions about the contributions made by intangible assets, including in cases where purchase price allocation (PPA) of assets is required.

2.3.2. Transfer pricing

Whilst IP assets do not generally change hands, on an 'arm's length' basis, independently of the business that owns them, there are occasions when companies find it expedient to transfer assets between entities, or create new special purpose vehicles to own them. This is a long-standing and legally permissible activity, albeit one that has attracted attention in recent years due to its ability to reduce effective tax rates for multinational corporations.

Large companies may hold the majority of their intangible assets in an entity registered in a low tax jurisdiction and charge their operating companies in higher tax jurisdictions a **licence** to access the firm's core intangible assets. This practice, known as profit shifting, reduces effective taxation by lowering the profits made in the high tax country and increasing the profits made in the low tax jurisdiction. The choice of country in which the IP is located will depend not only on corporation tax rates but also on the taxes applied to income from royalty streams, availability of 'patent box' reliefs and concessions available for research & development activity, among other considerations.

International treaties dictate that the transfer of assets from one entity to a related entity in a different jurisdiction (one with related owners) must occur according to the 'arms-length' principle. According to this principle, as set out in the OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations[15], the assets must be priced as though the enterprises were independent entities entering into a commercial agreement without duress. Although a useful principle, there remains a danger that intangibles can be transferred to the low tax jurisdiction for below market value or licensed to the corporation in the high-tax jurisdiction at above market value, particularly given the lack of transparency and therefore clear reference points to inform IP asset pricing.

To prevent such circumstances, The Organisation for Economic Co-operation and Development (OECD) has published an Action Plan on Base Erosion and Profit Shifting[16] (BEPS) that recommended 15 actions to ensure that tax is paid in the jurisdiction where the economic activity occurs. Action 8 reads as follows:

> *Develop rules to prevent BEPS by moving intangibles among group members. This will involve: (i) adopting a broad and clearly delineated definition of intangibles; (ii) ensuring that profits associated with the transfer and use of intangibles are appropriately allocated in accordance with (rather than divorced from) value creation; (iii) developing transfer pricing rules or special measures for transfers of hard-to-value intangibles; and (iv) updating the guidance on cost contribution arrangements.*

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15 http://www.oecd-ilibrary.org/taxation/oecd-transfer-pricing-guidelines-for-multinational-enterprises-and-tax-administrations-2010_tpg-2010-en

16 https://www.oecd.org/ctp/BEPSActionPlan.pdf

The rules to prevent BEPS by the moving of intangibles have been developed and are outlined in a document from 2015. It states that mere ownership of an intangible does not automatically entitle an entity to the returns from the exploitation of the intangible and that associated enterprises performing value-creating functions can expect appropriate remuneration. It also highlights the need for a rigorous pricing analysis (valuation) to be performed to ensure that assets are transferred at a fair value[17].

Whilst no specific IP valuation method is required, based on the methods set out in previous OECD reports, any method used must comply with BEPS principles. There is a further guiding note in section 8-15 of the same report[18]:

> *In situations where reliable comparable uncontrolled transactions for a transfer of one or more intangibles cannot be identified, it may also be possible to use valuation techniques to estimate the arm's length price for intangibles transferred between associated enterprises. In particular, the application of income based valuation techniques, especially valuation techniques premised on the calculation of the discounted value of projected future income streams or cash flows derived from the exploitation of the intangible being valued, may be particularly useful when properly applied. Depending on the facts and circumstances, valuation techniques may be used by taxpayers and tax administrations as a part of one of the five OECD transfer pricing methods described in Chapter II, or as a tool that can be usefully applied in identifying an arm's length price.*

17 Aligning Transfer Pricing Outcomes with Value Creation, Actions 8-10 - 2015 Final Reports. DOI:10.1787/9789264241244-en.

18 Aligning Transfer Pricing outcomes with Value Creation Actions 8-15; 2015 Final Reports, para D.2.6.3

FTI Consulting focuses mainly on contentious IP valuations, required for litigation, damages and ownership disputes, with many of its referrals originating from the legal profession.

Senior MD Mark Bezant has worked with industry bodies including ICAEW on valuation training, and has been wrestling with the question of appropriate professional standards for many years. *'The difficulty with the valuation arena is that it is very broad, encompassing everything from large and complex transactions down to limited advice to assist with a tax return. It's really hard to know what level of standards to apply that won't be exclusionary or burdensome. They are most likely to emerge in financial reporting, and to come out of the financial services arena.'*

Mark believes there might be too many IP valuations in some contexts. *'The exercise in financial reporting means a large body of valuations is required which many people do not find to be of use.'*

He quotes previous work by David Haigh of Brand Finance into analyst attitudes to IP value: *'None of them were remotely interested in the segmentation between assets that went on. It creates a false sense of precision and of the ability to separate value between assets.'*

'FRS 102 is going to place a governance burden on more companies. This will lead to cost pressures and somewhat standardised assumptions that are going to be less accurate. That doesn't mean there isn't value in understanding what your assets are and how those assets contribute to value. However, the whole point is that the assets typically provide some commercial advantage in combination. You don't normally work from individual assets upwards: you're working out the elements that are contributing to the end result.'

'Some of the education that is needed is about the natural limits of separating these assets for valuation purposes.'

This suggests that income methods are increasingly preferred by regulators to cost methods for the purposes of transfer pricing. The trend is also apparent in the US, where information supplied for this study indicates that new cost sharing regulations became effective in 2013 as a result of concerns regarding cost sharing regime abuse by some US firms. The Internal Revenue Code (Sec. 482-7) now outlines methods in connection with IP transactions in the context of cost sharing arrangements, effectively formalising the use of the income method for determining the value of the IP.

2.4. Professional standards

2.4.1. Qualifications relevant to IP valuation

There is no specific qualification required to practise IP valuation in the UK. The interview findings summarised in the Appendix provide information on the typical level of general qualifications that are held by valuers, virtually all of whom are educated to degree level. Numerically, the most prevalent experience and further qualifications relate to accountancy.

As well as the work of the IVSC briefly summarised above, many larger firms encourage their teams to seek professional qualifications in accounting. Some of the discussions under this heading take place in the UK under the auspices of the Royal Institute of Chartered Surveyors (RICS), which itself promotes a chartered qualification for Valuation of Businesses and Intangible Assets.

The two international organisations most widely referred to during study interviews are the American Society of Appraisers (ASA) and the International Institute of Business Valuers (IIBV). Of note is the fact that these three organisations (being the ASA in conjunction with IIBV and RICS) are seeking to introduce a new qualification offering the opportunity for valuers to be Certified in Entity and Intangible Valuation (CEIV), discussed further in section 6.2.2 below.

2.4.2. Manuals and literature

A number of studies have examined intangible asset valuation and its uses. Some of the reference works that have examined IP from an economic and policy dimension include:

- Banking on IP?[19]
- Final Report from the Expert Group on Intellectual Property Valuation[20]
- Study on the measurement of intangible assets and associated reporting practices[21]

19 Banking on IP? https://www.gov.uk/government/publications/banking-on-ip
20 European Commission Expert Group Report on IP Valuation. https://ec.europa.eu/research/innovation-union/pdf/Expert_Group_Report_on_Intellectual_Property_Valuation_IP_web_2.pdf
21 http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item_id=2775&lang=en

- Reporting Intellectual Capital to Augment Research, Development and Innovation in SMEs (RICARDIS)[22]
- Creating a financial market for IPR[23]
- Maximising Intellectual Property and Intangible Assets Case Studies in Intangible Asset Finance[24]
- Guidelines for managing and reporting on intangibles (intellectual capital report)[25]
- The Intangible Economy. Impact and Policy Issues[26]
- Understanding corporate value: managing and reporting intellectual capital[27]
- Economic Approaches to Intellectual Property[28]

In addition, practitioners and academics have written books on the subject of IP valuation, which provide varied and detailed insights into the theory and practice of the subject. A selection of works identified during research conducted for this study confirms that there is no shortage of reference points. Since it is not the intention of this study to explore the details of the IP valuation process, but rather the operation of the market, readers are referred to the (non-exhaustive) list included in the Appendix for deeper insights into methodologies.

2.5. Other drivers of custom and practice

2.5.1. FRAND

Whilst not a valuation approach as such, there is a principle that applies to IP licensing in specific contexts that the price charged should be Fair, Reasonable And Non-Discriminatory (hence the acronym of FRAND). This is relevant for IP valuation since it may limit the level of royalties that a business can command under certain circumstances; it is also referenced in an increasing number of court decisions.

In certain technology-intensive contexts where many different companies are working towards a single goal, it is relatively commonplace to encounter situations where permission to use prior IP rights (typically patents) is essential in order for any firm to be able to trade in a particular market. Some of these markets are governed by standards that are needed to ensure cross-industry compatibility (examples would include the standard ways to compress, encrypt and/or transfer digital files or videos).

22 http://ec.europa.eu/invest-in-research/pdf/download_en/2006-2977_web1.pdf
23 https://www.imw.fraunhofer.de/content/dam/moez/de/documents/Studien/study_ipr-in-europe.pdf
24 http://www.issuelab.org/resources/3304/3304.pdf
25 http://cordis.europa.eu/documents/documentlibrary/70781341EN6.pdf
26 http://cic.vtt.fi/projects/icci/deliverables/intangible_economy_hleg_report.pdf
27 http://www.cimaglobal.com/Documents/ImportedDocuments/intellectualcapital.pdf
28 Economic Approaches to Intellectual Property, Searle, N and Brassell, M, Oxford University Press 2016

In this context, 'standards essential' patents become very valuable assets that can be used to charge premium licensing fees and/or exclude competitors. However, since many other firms' IP is generally involved, and still more firms need access to the collective body of IP, such behaviour would have the potential to create stalemate. Introducing the FRAND concept prevents a company with essential IP from using unfair or unreasonable negotiating tactics towards anyone who needs to use it.

'Reasonableness' is particularly important from a valuation perspective. Royalties are often only considered reasonable if the aggregate sum of all the royalties needing to be paid by a licensee would not be so high that it renders the industry uncompetitive. When valuing 'standards essential' patents, it is therefore important for valuers to note that typical industry rates that could be commanded in one-to-one licensing deals are unlikely to be representative indicators. However, the upside of a 'standards essential' patent family is that the volume of licensing payments is likely to be large.

2.5.2. Statements of insolvency practice

Most insolvency practitioners – some of whom are also departments or divisions of accountancy practices – are members of the Association of Business Recovery Professionals (R3) which provides copies of the relevant Statements of Insolvency Practice (SIPs) on its website. These are, in effect, regulations, as they are enforceable by a practitioner's recognised professional body (which might be the Law Society, an accounting association such as ACCA or ICAEW and its other regional equivalents, or the Insolvency Practitioners Association).

Some of these SIPs include specific provisions that cover asset valuation, including intangibles. One example is SIP 13 covering

Michael Charles is the MD at Amco Agency, a boutique business specialising in the realisation of value from assets in administration.

Amco receives instructions from insolvency practitioners to value the full range of assets that are encountered in businesses in administration including plant and machinery, goodwill, future order book, office equipment, software, IP and wider intangible assets. To assess if a process of administration would yield an overall benefit, the practitioner needs to understand how value in the IP might be lost if a different route is taken: Michael is called in to value, market and dispose of the assets when an assessor has identified assets of value.

Michael comments: *'IP valuation can be very integral to a contentious insolvency situation that involves a wide asset inventory. On other occasions the IP valuation might be carried out separately.'*

Michael highlighted the importance of purpose for an IP valuation. *'Considering the value of IP can be tricky in some insolvency cases. For instance, one national online tyre retailer went into administration because competitors successfully started to offer products at a reduced price. Even though there were continued online enquiries to the retailer, there was no one to service them. The web traffic reduced considerably and the value of the domain name and goodwill in the brand fell very quickly.'* The value of the IP was considerably different when the purpose was to dispose of the assets in administration compared to that derived for the ongoing business. CONTINUED...

disposal of assets to connected parties. Point 7 of this document states:

> *An insolvency practitioner should exercise professional judgement in advising the client whether a formal valuation of any or all of the assets is necessary. Where a valuation is relied on, other than one undertaken by an appropriate independent valuer and/or advisor with adequate professional indemnity, this should be disclosed. The rationale for doing so and an explanation of why the officer holder was satisfied with the valuation should also be disclosed[29].*

The other example is SIP 16 (last updated in November 2015), which deals with the sensitive area of 'pre-pack' sales ('under which the sale of all or part of a company's business or assets is negotiated with a purchaser prior to the appointment of an administrator and the administrator effects the sale immediately on, or shortly after, appointment').

CONTINUED...

The importance of correctly valuing the IP for pre-pack administration in accordance with SIP16 was also exemplified. *'We were instructed to assess 1000 domain names and websites during a corporate recovery exercise where there was a potential deal on the table. The offer that had been made to the Insolvency Practitioner for the full set of IP assets was £25k, but we were able to secure £125k for just 50 out of the 1000 domain names.'*

'Securing the assets, source codes, retaining key people and taking control of ownership in these situations is a number one priority.'

Transparency of dealings is particularly important under these circumstances, and SIP 16 specifies that creditors should receive a specific statement setting out the basis for adopting the pre-pack route. The Statement says that companies are to be advised that all valuations conducted 'should' be carried out by appropriate independent valuers and/or advisors holding adequate professional indemnity insurance for the valuation performed. It also states that where goodwill is valued, an explanation and basis for the value given should be provided.

However, the standard leaves room for a practitioner to conclude that a valuation has not been necessary if the administrator can use other methods to become satisfied about the asset value (which might include concluding that the assets are of no value at all). None of the statements specify how valuation should be conducted or what assets should be valued (or specifically feature wording on intellectual property or intangible assets).

Given the absence of a liquid market for most intangible assets like IP, which also forms the basis for the cost-based treatment applied to them in accounting standards, there may be scope for an insolvency practitioner to argue that there is no realisable value in the IP. This emerges as a particular issue in pre-packs, where the 'phoenix' business needs the intellectual assets of the business entering administration, but there is no liquid market for them.

29 Statements of Insolvency Practice 13 (E&W): Acquisition of Assets of Insolvent Companies by Directors, Insolvency Practitioners Association (and others)

3. How the IP valuation market functions in practice

Highlights
In total, data was gathered from 15 valuer organisations representing around one-third of the estimated UK market. Responses were received using surveys and interviews from 139 intermediaries and 92 existing and potential end-users of IP valuation services
Overall, respondents were very positive about the benefits of IP valuation and offered a number of suggestions on how volumes might be increased
All of the specialist valuers interviewed (including those in accountancy firms) received referrals from lawyers and 82% received referrals from accountants
On average, 55% of the specialist valuers' work comes from intermediary referrals, but for some valuers, up to 90% of their work comes via intermediaries
Views on the provision of valuation services vary. 42% of the innovators surveyed online considered there to be more than 50 providers of IP valuation services in the UK (the rest selected 'don't know'). By contrast, 28% of CIPA members who responded to the online survey considered there to be less than 10 IP valuation providers and 51% thought less than 25
Lack of awareness and education is perceived to be the main barrier – not in terms of how valuations are done, but more fundamentally, why they are beneficial

3.1. Introduction

3.1.1. Approach

As discussed in Chapter 1, secondary research together with a series of interviews and surveys has been conducted to assess how the IP valuation market currently operates.

In order to investigate the supply side of the market, secondary research, together with the knowledge of the market provided by the authors of this report, identified over 20 specialist providers of professional IP valuation services covering a range of valuation purposes. These in turn identified further valuers and intermediaries who play a role in IP valuation market. Around 40 individual specialist IP valuation firms were identified in all, alongside numerous intermediaries. Either directly or via industry bulletin boards and professional associations, market participants were invited to engage in interviews, discussions or online surveys to answer the research questions.

To investigate end-user attitudes, companies were identified that had recently carried out an IP valuation, and detailed interviews were held with firms spanning a range of eight industry sectors. In addition, a unique sample of IP-owning innovative SMEs was identified via discussions with the manager of UK IPO's IP Audits Plus scheme, to obtain further, independent soundings on the experiences and attitudes of SMEs to IP valuation. These companies were sent an online questionnaire.

The following sections summarise the primary research findings and the data behind the analysis is provided in the Appendix to this report.

Since not every question was answered by every respondent, the total number of responses (expressed as 'n' in the following sections) varies on occasion.

3.2. General characteristics of those sampled during the primary research

3.2.1. Sample distribution and general characteristics of the valuers and intermediaries interviewed

As well as the 23 valuers and intermediaries that agreed to in-depth interviews, and provided answers to a pre-prepared questionnaire (being 15 specialist valuers and representatives of 8 intermediaries), informative discussions were held with a number of other market participants on an informal basis. All interviewees generally participated at partner/director level.

The interviews were mostly held with participants in the South East of England, particularly London, where many of the key valuer organisations and intermediaries are head quartered, though some have offices and/or regional offices in Scotland and Wales, and a few have a global presence. On the basis of further secondary research, the 15 specialist valuers interviewed were found to be broadly representative of the 40 specialist valuation providers identified, in terms of their size and activity focus.

The specialist valuers described themselves in two categories: boutique practices, and in-house practices of larger firms, specifically accountants. Although some of the larger

At interview, Michael Burdon was a partner in the IP Group and Head of the European Patent Litigation team at Olswang LLP, which was founded in 1981 and headquartered in London. With a team of almost 700 people, including 100 partners across seven international offices, Olswang has particular expertise in Technology, Media and Telecoms.

IP litigation can involve a long and complex process. Michael explained that the concept of proportionality drives the case, which can affect the procedural steps the courts will order. Commercial accuracy and reliability are key. *'There is a need to obtain the most suitable verifiable range of numbers in the valuation which can be substantiated in evidence and still give room for manoeuvre on negotiation. The availability of funding and insurance, and value-based court fees also bring value into sharp focus.'*

Michael commented that, 'Clients have often spent so much on the liability phase of IP litigation that they don't want to underspend on costs in the damages part of the process when the independent valuation will arise. Consequently they will wish to appoint those valuers that have proven experience and expertise, as they don't want the valuation undermined in court. Clients who are instructing don't always have the detailed financial understanding to question the suitability of valuation experts and often rely on their external lawyers to guide them in their decisions.'

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accountancy firms are well established, many of the IP valuation practices, both boutique and in-house, were found to be established in the early 2000s when intangible assets started to represent a higher proportion of the value in businesses as the percentage of physical assets declined. Interviewees made reference to the introduction of IFRS 3 in 2005 as a precipitant for the establishment of their practices and with the introduction of new financial reporting standards, the focus on intangible assets continues to develop. Two of the practices interviewed have been set up since 2011, indicating the continued confidence in the potential for market establishment and growth.

The intermediaries interviewed have included representatives of the insurance industry, accountants, lawyers, investors, lenders and pension providers.

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Michael considered that more companies and institutions could benefit from the wider use of IP valuation activities. *'There is an increasing awareness of IP as an asset class. IP valuation activity goes hand-in-hand with awareness of IP asset value. However, the absence of a secondary market and a lack of understanding or complexities surrounding IP are barriers. There is a limited market for trading IP assets (including licensing) which impacts on liquidity and accounting, and tax standards often don't effectively recognise IP assets.'*

From the interviews conducted, the turnover of the IP valuation practices is generally between £1m-£3m (although some are lower) typically with 2-5 staff working on IP valuations. In contrast, the larger accountancy firms, within which valuers are involved in a wider range of valuations (such as share and PPA), may have a team of up to 50 people mostly based in London who would respond to an instruction for an IP valuation.

Many of the specialist valuers interviewed tend to provide a spectrum of activities within the firm, and these may vary widely. Aside from IP valuations, their activities may include specific strategic IP consultancy, IP courses, due diligence activity, litigation support, arbitration for value, financial reporting, advisory services including M&A, shares and business valuation, share option pricing, corporate finance, accountancy, forensics and insolvency & business recovery.

Valuers interviewed have entered the IP valuation market from different disciplines and tend to be educated to degree level. Many have further professional qualifications and experience in a range of subjects. Some have a technology bias, some financial, some legal and others focus on marketing/brand, but generally the valuers provided services to value the full range of intangible assets found in business.

Valuers interviewed were asked to provide a breakdown of the size of firms that they were serving. Clients of all sizes were covered within the survey set, albeit some firms have a tendency to serve larger clients and some have a stronger focus on SMEs.

3.2.2. Sample distribution and general characteristics of the consumers interviewed that were known to have instructed a valuation

43 companies that have used valuation services have been interviewed. These companies were geographically distributed (with 12% in Scotland, 7% in Wales and the remainder operating from England), though 18 out of the 43 responding companies (42%) were located in London or the South East. The companies cover a range of sizes and development stages, and operate in a variety of markets. They were selected from eight sectors: food & drink, energy, engineering, software/IT, creative industries, medtech/pharma, apparel/clothing/fashion and services.

The telephone interview sample included some public sector valuation recipients and representatives from technology transfer departments in UK-based universities. 59% of the businesses surveyed were relatively early stage, with 16% and 23% respectively falling within each of the 'growth' and 'established' categories.

The majority of those interviewed were either directors or owners of the businesses requesting the valuations. 67% of the respondents had recently had their first experience of commissioning an IP valuation (so this should have been reasonably fresh in their mind). In the majority of cases, the valuation had been approved and authorised by the head (CEO, founder, MD) of the company.

David Barron is a partner and Head of Head of Technology Patent Litigation at Gowling WLG, an international law firm with well-established roots in the city of London.

Gowling WLG provides legal services especially related to intellectual property, construction and commercial litigation, international disputes, particularly in the areas of fraud and asset tracing, contentious trusts and insurance/reinsurance.

David comments that whilst Gowling WLG will guide the valuer, it will rely on the valuers that they appoint to understand the valuation process and to define the necessary standards that should be adopted. When asked if he had any concerns over the credibility of outsourced reports, David replied, *'Not at all, we have experience of working with the valuers – they would not be chosen if we had any concerns.'*

In relation to any drivers relating to price pressure, David commented: *'Certainty is a key factor for clients. We would like a fixed price for the valuation so that costs can be managed.'*

David felt that more companies could benefit from wider use of valuation activity but commented, *'It is difficult to persuade a board to think about valuing IP. If they don't need to, then they won't do it. We have tried to encourage board directors to put securitisations of IP rights onto their balance sheets, but it has been an uphill struggle.'*

3.2.3. Sample distribution and general characteristics of innovators responding to an online survey

49 responses were received from innovators and the sample contained a wide range of business age ranges and activity sectors. The businesses were from a variety of development stages, with 35% identifying themselves as established, 33% in the growth stage and 28% being early stage. 16% of respondents

employed one person and 43% employed 2-10 people, demonstrating the innovators to be relatively small in size, albeit broadly typical of the size of companies in the UK (89% employ less than 10 people). Most respondents were CEOs and worked in general management.

All respondents were founded and based in the UK with only 11% having offices in other countries. The majority of businesses surveyed (71%) served the UK, European and/or rest of the world markets, 2% served the UK and other European countries and 2% only traded outside the UK (with the remaining 25% serving solely the domestic market).

Most respondents had created their IP themselves rather than buying or licensing it in. When asked to identify the types of IP and intangibles that were most important, built-up know-how and registered trade marks were among the most pertinent, with 66% and 64% of innovators selecting them respectively. Filed patents and pending patent applications were the third most developed IP asset, owned by 60% of respondents (clearly this profile is not representative of the wider business population, but shows that the sample is relevant to consideration of the applicability of valuations among genuinely 'IP-rich' businesses).

74% of innovators responding had not had an IP valuation: 9% had valued it only internally, and 17% externally.

3.2.4. Sample distribution and general characteristics of intermediaries responding to an online survey

131 responses were received in total from CIPA, CITMA and IPAN members.

Of the 115 respondents who participated by clicking on the link distributed by CIPA, the majority (77%) describe their firms' main activities as patent, trade mark and/or design attorney services. The remaining 23% are drawn from a range of over 10 different business activities.

The businesses surveyed were generally large in size with 43% employing over 100 full time staff (20% of them employ over 200). Additionally, only 24% of the businesses surveyed employ 1-10 people and 6% currently have no employees. Furthermore, 32% stated they turned over more than £10m annually. 60% of the respondents held senior positions in the firm: 20% were middle managers and 20% were other members of staff.

94% of businesses surveyed were founded and based in the United Kingdom, with 51% based solely in the UK. 72% serve clients based in the UK, Europe and/or the rest of the world, with only 23% serving solely the United Kingdom.

The clients of those surveyed were made up of around 25-50% of small, medium and large enterprises and less than 25% microbusinesses.

The survey received seven responses from the link distributed by CITMA. These respondents started trading over a variety of timescales with 2/7 being comparatively young businesses (starting in the year 2015-2016). The majority (5/7) of respondents described their firms' main activities as patent, trade mark and/or design attorney services. None of these firms employed more than 25 full time staff, with 3/7 employing 11-25. All of these respondents were founded and based solely in the UK.

The remaining nine responses came from a link distributed by IPAN. These respondents commenced trading over a variety of years, but the majority (4/9) started in 1991-2000. Only one of the respondents described the area of their firms' activities as patent, trade mark and/or design attorney services, with 3/9 of them defining their activities as commercial IP services. The respondent's firms are a mixture of sizes, with the largest groups (2/9) each fitting into the bracket of employing 2-10 or 11-25 people. All respondents are founded and based in the United Kingdom and 3/7 of them have offices in other countries. IPAN respondents also stated that they serve less than 25% small and medium enterprises, and 4/8 answered that they serve more than 75% large enterprises.

3.3. The purposes for which valuations are instructed

Interviewees and respondents were asked which purposes drove their IP valuation to be instructed and by whom.

The responses from valuers and intermediaries covered most of the motivations for valuation listed in the introduction of this report, although IP auctions and access to insurance were rarely recognised as a reason for instructing a valuation.

12 of the 15 valuers said the valuation was integral to other activities (such as a transaction or litigation process), but some said that it was also instructed as a separate stand-alone activity. None of the valuers interviewed solely provided valuations as a purely stand-alone business activity.

Mike Thornton is partner specialising in valuations at Grant Thornton UK LLP, a leading accounting firm.

Intellectual property is a consideration in most of the work that the team does, though it may not necessarily require the IP to be formally valued.

As well as financial reporting and tax-related work, Mike's team also considers IP valuation in transaction and insolvency work: *'In insolvency, IP valuation is more frequently being required, as the insolvency practitioner has to understand what value might be in the business.'*

'PPA work is not seen as very high added value if it is post-transaction, as the deal has already been done. FRS 102 has widened the net of companies needing to value the intangibles on acquisition, but clients are saying it's quite a complex exercise and they are not sure where the benefits lie.

'In the UK, quite a few companies take on much of the financial reporting in-house. In the US, the financial reporting regime tends to be more demanding on companies to seek independent valuation advice.'

'A more interesting area for IP valuation is in considering the best structure for a deal or for a group of companies.'

In terms of general prompts for IP valuation, Mike observes: *'People do think about their IP, in terms of what makes their business tick (design, technology or brand), but don't feel the need to place a specific value on it unless there is some kind of transactional or strategic prompt or may be a financing need.'*

In addition to the legal and regulatory motivations for carrying out a valuation as listed in Chapter 2, a number of the end user clients of Coller IP and Inngot that had been in receipt of an IP valuation had been motivated by an opportunity. Some had wished to transfer assets into a pension fund, while others were looking to raise funds, sell their business or license their IP and required an independent valuation to assist with the negotiations.

58% of innovators responding to the online survey who had instructed a valuation said that they had done so primarily to license the IP to another party. Quantifying the worth of the IP portfolio for internal stakeholders, access to equity funding and IP sale, auction or assignment were also reasons stated.

Intermediaries (primarily patent attorneys) completing the online questionnaire cited all of the motivations listed in the introduction; M&A activity, IP sale, auction or assignment, access to equity funding, licensing and IP management/strategy all appeared as purposes for discussing a valuation.

The tendency to instruct the valuation does not appear to relate to the size or sector of the client firm – no particular patterns were evident, other than the fact that there was usually a specific and identifiable reason for engaging with a valuer. From the industry viewpoint, one specialist valuer summarised the general sentiment: *'It's about the value of the IP, not the size of the firm. However, valuable IP does not tend to be owned by the smallest companies'.*

3.4. The route by which the valuation is instructed

Intermediaries have been shown to play a key role in the instruction of valuations. All of the specialist valuers interviewed (including those in accountancy firms) received referrals from lawyers and 82% received referrals from accountants. Insolvency practioners, patent attorneys, tax advisors and investors were also cited as influential. Other categories of referrers were also mentioned, such as large pension schemes in relation to funds in deficit, banks, other lenders and specialist insurers.

On average, 55% of the specialist valuers' work comes from intermediary referrals, but for some valuers, up to 90% of their work comes via intermediaries.

42% of the 43 end users interviewed who had instructed a valuation said that it was as a result of influence from an intermediary. Separately, 49% of the innovators surveyed that had instructed a valuation did so as a result of the intervention of an intermediary.

Of the innovators who had carried out an IP valuation, it is interesting to note that 5/12 had previously commissioned IP or intangible asset valuations in other companies and it appears reasonable to conclude from the responses to the innovators' online survey that organisations are more likely to engage in IP valuation once they have already experienced the benefits.

All intermediaries interviewed directly, which included lawyers, pension providers and insolvency practitioners (but excluded the large accountants who were interviewed as specialist valuers) outsourced 100% of their valuations. Either the purpose for their valuations requires the services of an independent expert valuer to meet standards, regulations or practice, or alternatively they wished to have the additional opinion of a valuation expert so that risks to their own investment or lending might be mitigated and/or professionally assured.

While most intermediaries do not attempt to provide a valuation themselves, the exception is large firm accountants. These firms may outsource specialist valuations, but particularly in the case of post purchase allocation (PPA), are more likely to carry out the work themselves within their in-house valuation team. In this sense, they are acting both valuers and intermediaries. Some patent attorneys, law firms and insolvency practitioners may also carry out informal valuations in-house prior to commissioning an expert, and informal discussions confirmed that specialist asset-backed lenders have developed their own ways of considering IP value which may or may not involve the services of an independent specialist.

Of the 115 members of CIPA who took part in the online survey, IP valuation had been discussed with 85% of their clients, indicating that patent attorneys play a role in the IP valuation market. However, 74% say the frequency of the discussions is low, typically less than 10 times a year.

Unlike other intermediaries interviewed (except for accountants) that all tended to refer and outsource the majority of valuations, only 61% of CIPA respondents said that they would refer to valuation providers. Also, 24% of the respondents to the CIPA survey stated that they would assist the client by carrying out the valuation themselves.

3.5. The IP valuation market

The programme of interviews confirmed that there are around 40 valuation companies that are well known (to varying degrees) in the marketplace. Some were cited as being known for their general valuation capabilities, such as the Big Four accountants, and others have fewer resources and fill a niche position, sometimes specialising in particular types of intangible asset valuation. In this sense, the market was considered by valuers to be somewhat polarised: split into the large accountant firms that are carrying out mostly PPA and transactional work, and the niche valuers that have technical, sectoral and/or expert witness skills and reputation to deal with specialist bespoke IP valuations.

The vast majority of specialist valuers said that the market was very or mildly polarised. The majority of intermediaries who had a view said that the market was polarised. Where consumers had enough knowledge to express a view, they also felt that it was mildly or very polarised.

Respondents were asked to name other valuers. The specialist valuation practices of large accountancy firms were often cited first by the intermediaries and valuers that focused mostly on M&A or litigation activities.

All the following specialist valuers were named by one or more of the other valuers: Alvarez Marsall, Amco Agency, BDO, Brand Finance, BRG, Campbell Dallas, Charteris, City Valuation Services, Clearview IP, Coller IP, Crow Clarke Whitehall, Deloitte, Duff and Phelps, Ernst & Young, French Duncan, FTI, Global View, Grant Thornton, Great American, Inngot, Intangible

Business, Interbrand, IP 21, IP Value Added, Johnston Carmichael, KPMG, Mazars, Metis Partners, Millward Brown (Optimore), Moore Stephens, Navigant, NERA, Oxfirst, PwC, RSM, Smith and Williamson and Valuation Consulting (for completeness, Aranca UK was also identified by the authors.)

Valuers and intermediaries felt that on average there were enough suppliers to meet demand, although the sample included respondents that felt that there was an oversupply, and some that felt there was an undersupply. Consumers and end users of valuations in general did not feel informed enough to give a view. 38% of the respondents from CIPA members said that there are only a few providers of these services, characterising it as a ‘seller’s market’, 21% said that there are a number of valuers who can deliver for a similar quality and price, and 40% had no clear picture of how much competition there is. IPAN members predominantly felt there was a medium level of competition in the market, but all CITMA respondents either believed it was low, or did not know.

When asked specifically about market competition, the specialist valuers generally felt that there was a medium level of competition with some price sensitivity evident, such that they were competing on quality and price. Whilst they sometimes knew whom they were competing against for a particular piece of work, this was generally not the case. The exception was in relation to PPA work, where competition was deemed to be higher, particularly amongst the larger accountancy firms.

End users interviewed who had received a valuation felt that there was a low level of market competition and 78% only knew of one or two providers. 74% selected their valuer from the recommendation of their advisor/intermediary and 81% did not seek competitive quotes. When the valuation recipients were asked to name valuers other than their own, the majority were unable to name any, and the majority went with the one company that was recommended to them from a trusted intermediary. This all appears to be indicative of low levels of competition or awareness, or of market immaturity. There were exceptions, however: for example, one representative of a UK university who specialised in commercialising biotechnology-related innovations named a number of the other specialist providers who were interviewed, and also sector specialists in IP commercialisation who perform valuations as part of their wider services, namely Propharma Partners and PharmaVentures.

42% of the innovators surveyed online considered there to be more than 50 providers of IP valuation services in the UK (the rest selected ‘don’t know’). However, when selecting their valuer, 33% only considered one firm and 33% selected the person recommended to them. 55% chose according to the perceived quality and/or professional reputation of the valuer.

28% of CIPA members who responded to the online survey considered there to be less than 10 IP valuation providers and 51% thought less than 25. 34% did not know how many providers there were and there were 5% who thought there were more than 100. CITMA responses were broadly in line with CIPA, but by contrast, IPAN members generally thought there were far more (5/8 respondents estimated the number at over 50). This suggests that there is a lack of clarity on who is operating in the market. Indeed, 49% of the CIPA members felt that there is not enough information about IP valuation providers to make an informed choice.

3.6. Evidence of the standards adhered to and methodologies used

The results of the primary research summarised below and detailed in the Appendix indicate that specialist valuers by and large follow similar standard methodologies (Cost, Market and Income based) and abide by the relevant standards required to carry out the valuations. Some also set their own frameworks. Some intermediaries require a full independent, quantitative valuation to be carried out whilst others, e.g. investors, find the qualitative aspects of a due diligence 'evaluation' to be most informative.

Figure 3-1. Unprompted and prompted responses from specialist valuers regarding the standards used

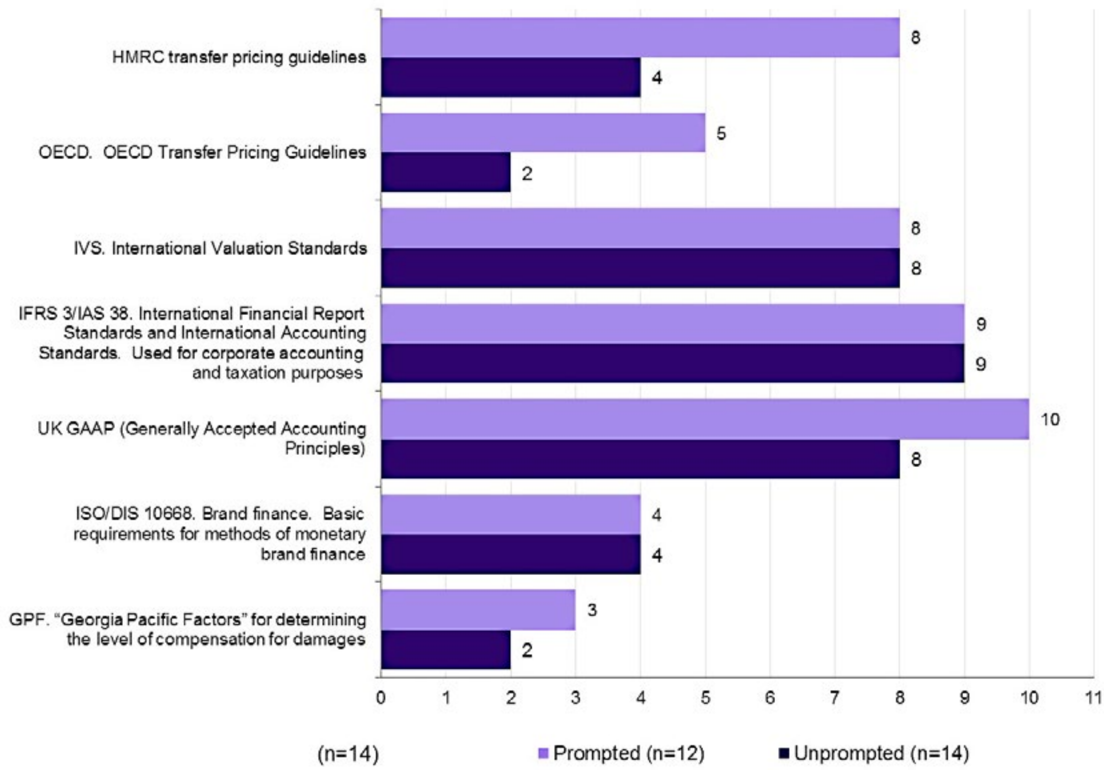


Figure 3-2. Intermediary responses from CIPA, IPAN and CITMA regarding the standards seen as most important

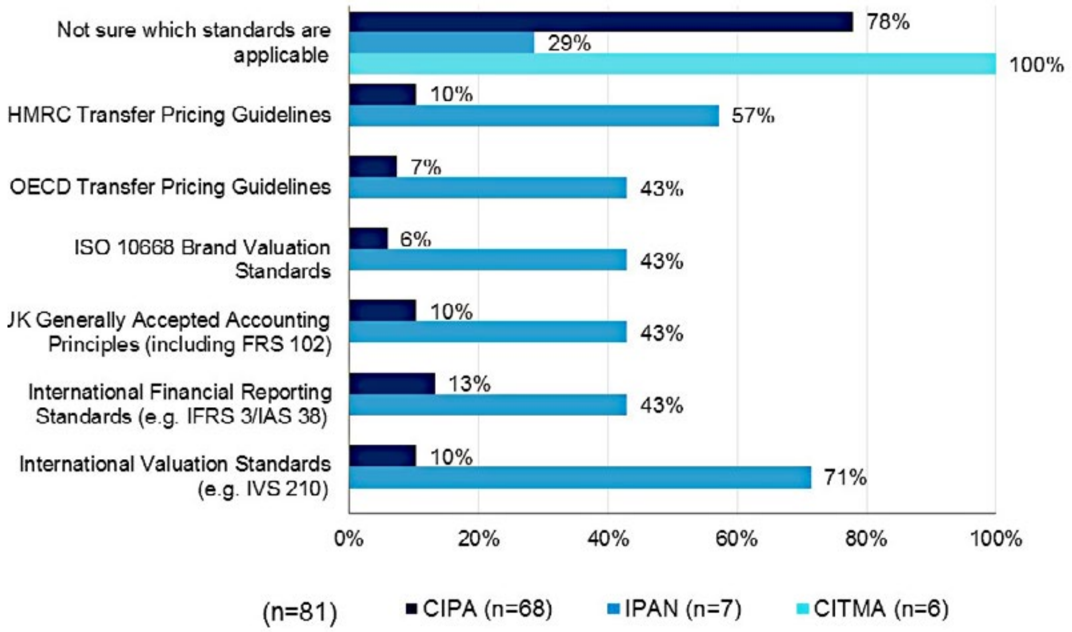
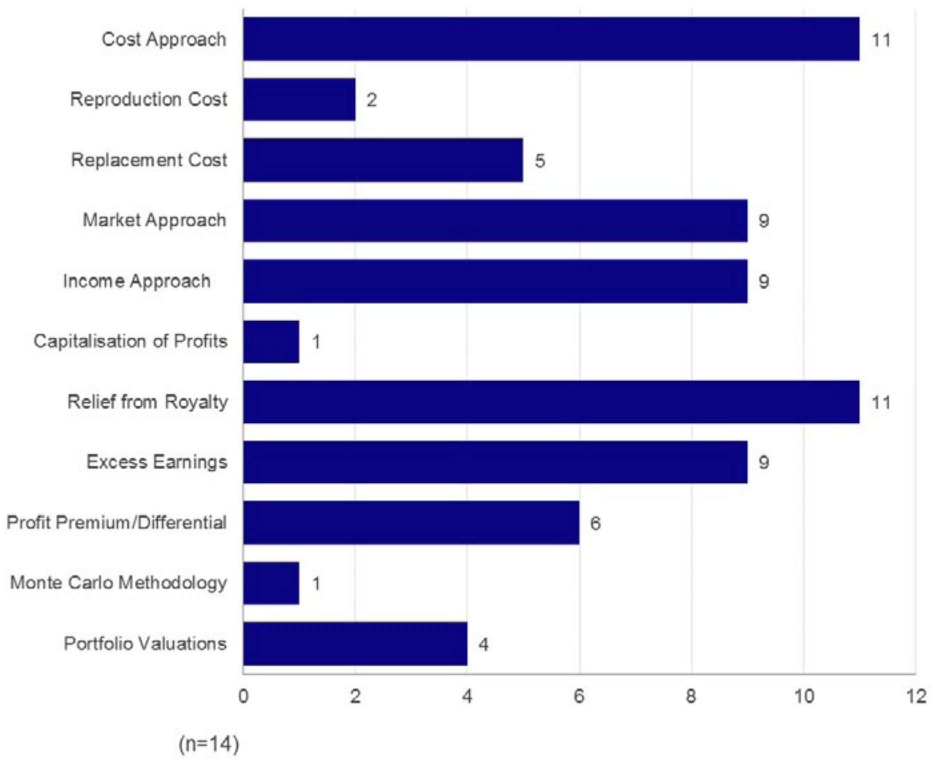


Figure 3-1 shows the standards that are followed by the specialist valuers interviewed, prompted and unprompted.

Figure 3-2 by contrast is indicative of a general lack of knowledge/understanding of the standards by some intermediaries during their response to the online survey. This same lack of understanding was reflected during the face-to-face interviews with intermediaries (other than the large accountants) who stated that they relied on the valuers to understand the appropriate standards to use. While intermediaries do not need to be IP valuation experts, this appears to be an important area to address, considering that they are responsible for a large proportion of referrals.

Not all valuers are engaged in transfer pricing and therefore the guidelines were referenced by fewer valuers than the other standard documents. Georgia Pacific factors which are relevant for assessing damages were only mentioned by 3/12 of the interviewees answering this particular question, and only after prompting. The ISO standard (*ISO/DIS 10668. Brand finance – basic requirements for methods of monetary brand finance*) was also referenced by fewer respondents.

Figure 3-3. Responses from specialist valuers regarding the methodologies used. Note that reproduction cost and replacement cost are subsets of the Cost Approach and that capitalisation, relief from royalty, profit premium and excess earnings are subsets of the Income Approach. These subsets were however terms used by those interviewed



When asked which methodologies they used, the specialist valuers gave a combination of cost, market and income based responses in accordance with the standards. The data presented in Figure 3-3 are those terms mentioned specifically by the valuers. In some cases, reference was made directly to a specific subset (e.g. **relief from royalty**) rather than the headline method (e.g. income approach). The data has been presented 'as stated'.

The income-based relief from royalty approach and cost approaches were cited most frequently by 11/14 of those valuers interviewed, with other methods referenced, but tending to be used for sensitivity testing and reality checks (See Figure 3-3). Monte Carlo techniques were used less for IP valuations, although some valuers used them to value share options.

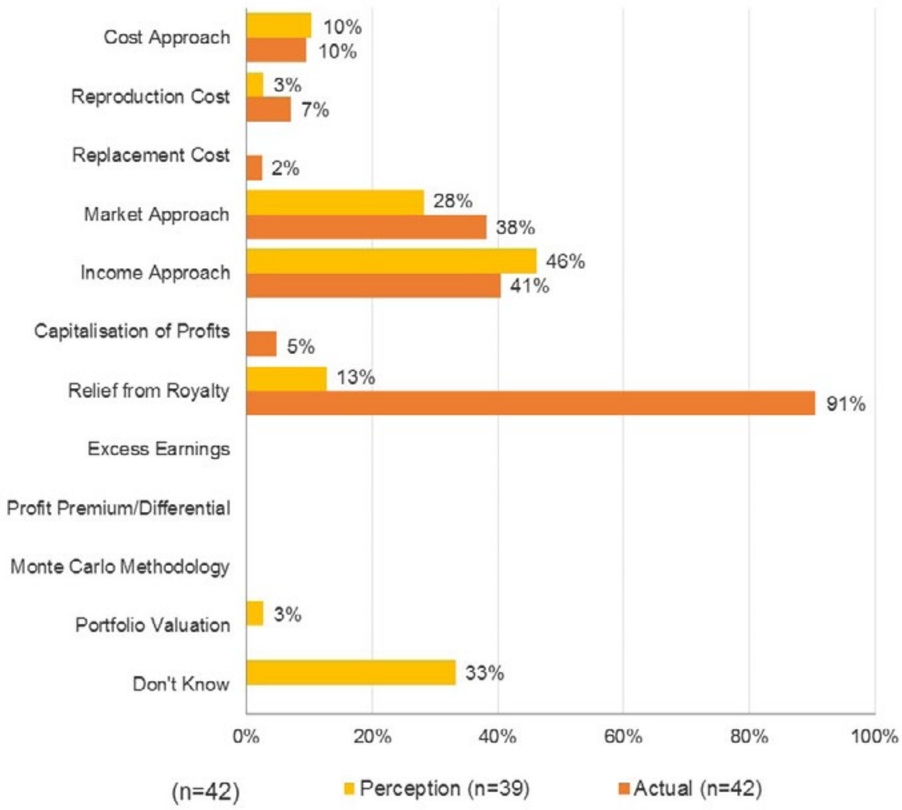
Those members of CIPA responding online that carry out valuations used a range of methods with income based being most cited (14/21), closely followed by cost based (10/21).

Andrew Robinson is a partner and Head of Valuation at Deloitte, one of the "Big Four" accounting firms and the largest professional services network in the world by revenue and number of professionals.

Andrew comments that there is a range of purposes for which his clients carry out IP valuations. *'These include: (i) valuations for business combination accounting, (ii) for transactional reasons, such as M&A, access to finance or for related party arrangements that require additional scrutiny (iii) disputes or arbitration and (iv) tax planning.'*

Deloitte favours using more than one valuation approach (income, market, or cost approach), depending on the facts, and to corroborate findings. *'The approach to valuing IP for business combination accounting or a dispute are not fundamentally different, as financial reporting rules and standards are trying to get as close to economic substance or market reality as possible.'*

Figure 3-4. A comparison of the clients' perception of the methods used and those that were actually used in the valuation (N.B. more than one method may have been used within each valuation, so numbers do not add up to 100%)



The end users interviewed who had received a valuation were reasonably familiar with the high level methodologies used in their reports (in terms of cost/market/income), which is encouraging compared with the general findings of the primary research that indicates that companies lack understanding of IP valuation. Figure 3-4 shows a comparison of the clients' perception of the methods used and those that were actually used in the valuation. Their detailed knowledge is less robust, as can be seen by the variance between the actual level of relief from royalty usage, and their perception of it.

Both valuers and the intermediary categories interviewed said that a wide range of intangible assets are valued using the standard methodologies, including registered and unregistered rights and the broader intangible assets relating to areas such as know-how, brand and customer relationships. When asked, 'To what extent are other key intangible assets (that are not formal IP rights) important in establishing an appropriate IP value?' 85% (11/13) of the specialist valuers interviewed said that they had a large impact and 15% (2/13) said they had a minor impact. They all felt that they had relevance.

74% of the end users interviewed who had received a valuation said that other intangibles had a large impact; however, some of those interviewed had been focused on patent valuations and this may have been the reason they considered other intangible assets to be of less relevance.

The CIPA members were asked via the online survey if they thought it was important for IP valuation also to consider the other intangible assets that a business owns. 57% replied yes, 11% replied no and 32% were not sure. Again, those focusing on patents may consider other intangible assets to be of less relevance.

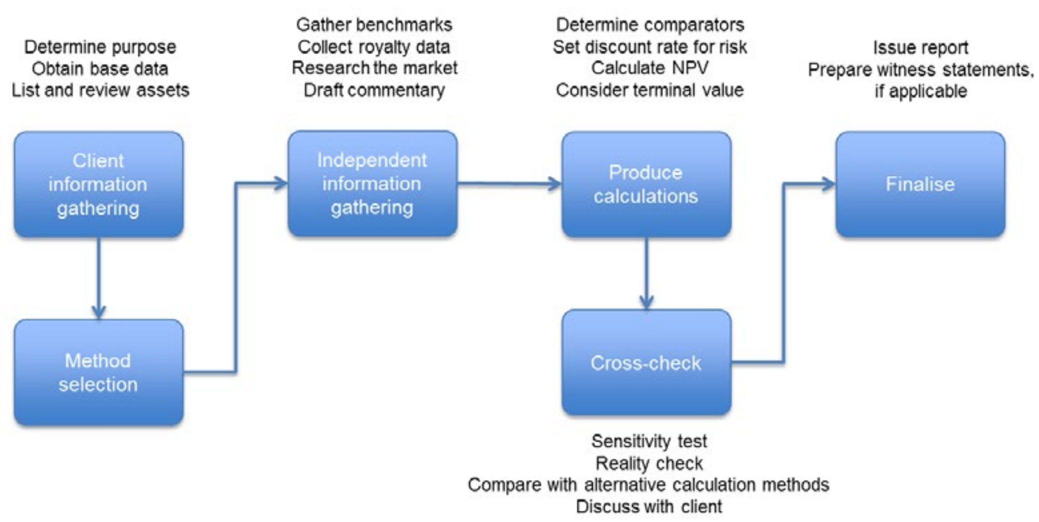
Valuers were asked to list the steps that they took in carrying out a valuation. A similar process was used by the majority of those interviewed, up to the point of issuing a final report where it is appropriate to do so. In most cases the process broadly follows the sequence set out in Figure 3-5 below:

Mark Bezant of FTI Consulting offers some observations on the question of valuation standards and approaches.

On the question of standards, Mark notes that this is context-driven: *'There are times that they specifically apply, and other times when you are mindful of what they say. For example, the Georgia Pacific Factors (which are US rather than UK in terms of their reach) are focused on the level of compensation in damages. They are really an articulation of things to think about; you might refer to them to show that you are doing things properly and ensure you are not open to criticism, but there may be little value in going slavishly through all 15 factors.'*

On methodologies, Mark observes: *'I think people understate the use of the cost approach. It is sometimes is a good guide to value; people can be a bit quick to apply the relief from royalty method without thinking about the commercial context in which the IP is being priced, such as by reference to the alternatives available to the licensee.'*

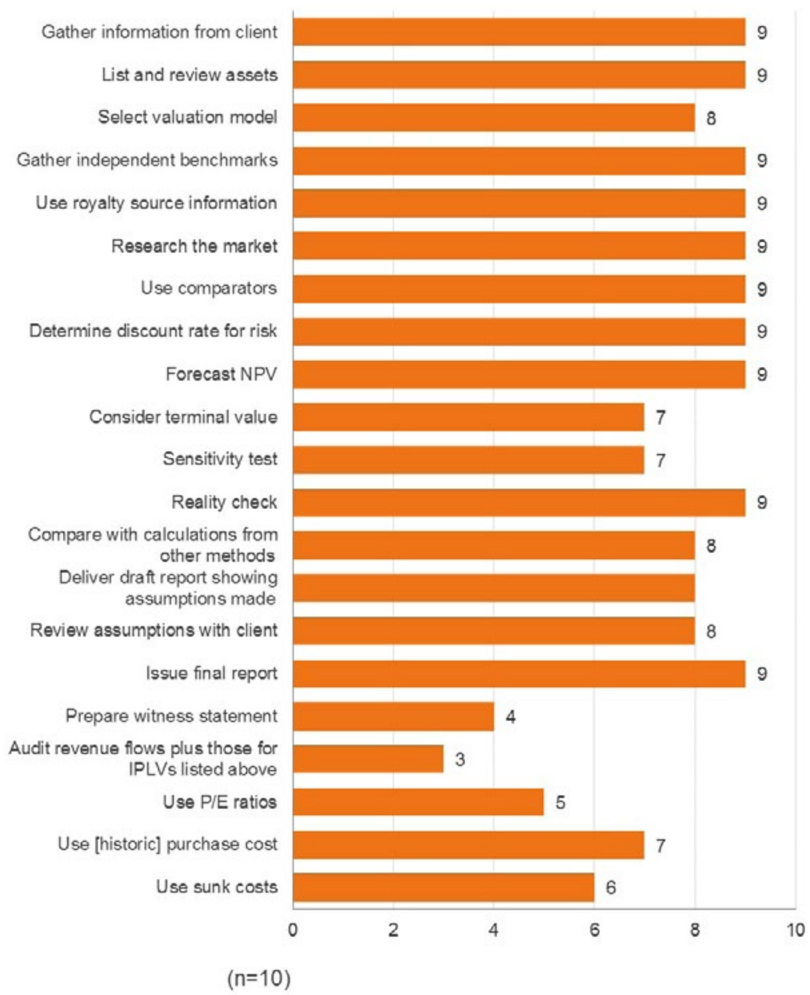
Figure 3-5. General IP valuation procedure



Valuers follow similar processes to determine the purpose of the valuation, obtain information from the client and list and review the intangible assets that are appropriate to the business. The valuer then selects the most appropriate valuation method for the assets and the purpose concerned. Independent research is undertaken to secure and analyse benchmarking data, such as royalty rate information, to supplement proprietary benchmarks that the valuer will have within its own database.

Having determined comparators where applicable and studied the data provided by the client and the market conditions, the valuer will run the valuation calculations, applying appropriate discounting factors to accommodate the risks that s/he will have assessed.

Figure 3-6. The process steps followed by the specialist valuers interviewed



The majority of valuers (7/10 responding to this question) then consider terminal values and carry out sensitivity testing, sometimes comparing the values obtained using different methodologies.

The results are discussed with the client and usually a draft valuation will be produced to ensure that any assumptions made are agreed to be reasonable and well founded. Where appropriate to do so, a final report will then be prepared.

Witness statements are required primarily where the value of the assets is required to be evidenced during the process of dispute and/or litigation. An expert witness, in England, Wales or the United States, is a person who by virtue of education, training, certification, skills or experience, is accepted by the judge as an expert. A witness statement is not available from all valuers, as many lack the experience, ability or desire to present themselves as expert witnesses.

Only 3/10 of valuers specifically indicated that they got involved in auditing the revenue flows for clients, tending to rely on the data provided directly by the clients. However, it appears likely that this finding is an understatement, as valuations provided by accounting firms may (under certain circumstances) do this as a matter of course.

As shown in Figure 3-6, terminal values and sensitivity testing is undertaken by many valuers but not all, and not always. Some use Price/Earnings (P/E) ratios in sensitivity testing.

When asked to comment on the strengths and weaknesses of methodologies, the specialist IP valuers in the industry tend to prefer to use income-based methods for most purposes, of which the relief from royalty approach emerges as the most commonly adopted route. However, given the diverse reasons for which valuation may be required and the variable availability of information to drive the process, a ‘one size fits all’ solution is not generally regarded as possible or desirable. Each case is investigated separately and the appropriate method is chosen based on the purpose, availability of data and level of commercial risk.

Valuers use a range of data repositories to obtain comparators and (where appropriate) relevant royalty rates. Sources specifically mentioned by multiple respondents were Royalty Source, KTMine, Capital IQ, Bloomberg and SEC filings. Academic institute publications, Lexis Nexis, SEC Edgar database, London Business School Risk Management Service, Duff and Phelps valuation handbook, Morning Star, Infinancials, Debtwire and Reuters were also mentioned. In relation to due diligence, resources referenced included the British Library and Frost and Sullivan reports (for market insights), Companies House for individual company insights, and Espacenet, WIPO’s Patentscope, Google Patents, TM View and Design View for IP information. All of these sources are accessible commercially.

In addition, some valuers have access to their own unique data repositories. An example is ICAP Patent Brokerage, which has access to the data obtained in both public and private auctions of IP assets, including historical sales data acquired from Ocean Tomo (which has been reported to have recently recommenced some IP auction activity). This market data is used by ICAP to set reserve pricing for auction, and is not more widely available.

Rules of thumb, such as the 25% rule are used cautiously by some valuers, and a few made use of average prices per patent/domain/trade mark, but mainly for sensitivity testing. The comments from the specialist valuers were that rules of thumb were to be used ‘with a pinch of salt’.

3.7. Views on the usefulness and accuracy of the valuation

End user interviewees were asked about the quality of the report they received. 17/40 (43%) of the respondents thought that their report was 'excellent' and only two recipients thought that their report was 'satisfactory'. No one said their report was of 'poor' quality. Furthermore, when asked what confidence they have in the valuation, 86% of those questioned had either a high or medium level of confidence in the answer.

27 out of the same 43 respondents (63%) had either a clear figure or ballpark figure in mind when they requested the valuation. Their high levels of satisfaction do not therefore appear to be a direct consequence of a lack of knowledge of IP valuation or choice of valuer.

Tickly Whiskers, a rapidly growing early-stage publishing company, commissioned a valuation of its intangible assets for an asset financing arrangement.

Barry Walsh, the MD, said: *'It has been great for us – it enabled us to raise the finance we needed for working capital. It was near-impossible to raise finance elsewhere, as banks are not interested in our type of company. It made the difference between survival/growth and closing down the business'*

Looking back at their IP valuations, companies listed a number of benefits that they received as a result of obtaining their reports. The most important benefits were understanding the return on investment of the IP valuation process itself, or satisfying various stakeholders of the value of the IP within the organisation. Many recipients said that the valuation was useful in negotiations; 26% had managed to complete the transaction intended, and 52% said they had a greater understanding of IP valuation as a result of having undertaken it.

Valuers offered some additional opinions on valuation quality, as circumstances can arise fairly frequently where they see one another's work. These discussions did raise some concerns about the quality of the valuation work performed, mainly concerning the level of research and investigation that had been performed, or whether the level of explanation provided was sufficient to justify the view taken. However, valuers seem generally to acknowledge that because the process of IP valuation involves an element of judgement based on the risks identified and uncertainties in the data available, their conclusions will not always coincide with other valuers.

Building on the lack of knowledge regarding valuation standards evidenced among intermediaries, as discussed above, they were asked if they had concerns over the credibility of outsourced reports. Generally the responses were neutral, although one intermediary noted that he had seen low quality reports in court: he commented that some valuers understand the market that they are working in and some don't and there are variabilities in the approach to carrying out the job in hand.

Of the 96 CIPA members responding to the relevant online survey question, 35 respondents felt that the quality of delivery appears variable. The proportion was higher amongst IPAN members, with 7/8 respondents agreeing that there are variations. The predominant response amongst CITMA members was that there was insufficient information available to make a choice.

3.8. Views on the levels of IP valuation activity occurring and barriers to growth

Valuation recipients interviewed for this study were asked a series of questions about whether they thought other companies could benefit from an IP valuation and if so, what factors were preventing companies from valuing their IP and what could be done to correct the situation. Here, a very high degree of consensus was apparent (95%), with all but two of respondents stating that more companies should perform an IP valuation. There was also a large level of agreement on the reasons for the lower than optimal uptake, with almost unanimous recognition that there is a lack of awareness (or if there is awareness, a lack of precise knowledge) of the benefits of IP valuations. Over 40% of end user respondents who had carried out a valuation thought that cost was a barrier to further uptake.

Interestingly, 21% (9/43) of interviewees thought that a company would not know where or how to find a valuer and that therefore more awareness of the service and its benefits would help increase the level of uptake.

IP rich businesses that had not performed an IP valuation responding to the online survey were asked the reasons why. The three main reasons for not getting a valuation were 'We have other more pressing priorities' (58%), 'We are still considering it, but the timing is not right' (42%) and 'We don't know who we could instruct' (33%). It was made clear that companies will generally only obtain an IP valuation for a specific purpose (see Figure 4-10 in the Appendix) and not out of mere curiosity.

Of the IP-rich businesses surveyed who had not received a valuation, 60% agreed with the

Peter Gouw is a partner and director at BDO, a global accountancy and business advisory firm generating revenues of $7.3bn. In the UK, BDO operates from 18 offices, covering all major business centres, across the country, employing 3,500 people offering tax, audit and assurance services, and a wide range of consulting and advisory services including IP and business valuation.

30 staff, mostly based in London, are involved in providing share, property, infrastructure and business asset valuation services.

'Our clients typically have a tax or accounting need when requiring IP valuations,' comments Peter. 'Although the need is sometimes driven by a contentious matter, we don't often have people asking what the value of their IP is for strategic management purposes, but demand for this is increasing.'

'Technology businesses tend to have more IP to consider than other clients. However generally, it is not the size or sector of the business that drives the need for valuation – it tends to be an event that initiates the requirement and these can be wide ranging from a sale or merger to a contentious issue.'

When asked about the main barriers to more businesses carrying out IP valuations, Peter commented: 'There are less barriers nowadays. We are seeing an increasing demand for valuations, so more businesses are clearly seeing the benefit that it can add. In the past, we sometimes struggled to engage senior management and there was a lack of interest and understanding unless it needed to be done to satisfy HMRC or an equivalent demand, but that's no longer the case.'

statement that ‘there isn’t enough information about IP valuation to make an informed choice’ and 40% agreed that ‘there isn’t enough information about providers to make an informed choice’ (multiple selections were allowed).

The detailed reasons they think that other businesses are not doing so can be summarised as follows (with their quotes in italics):

- Companies only expect to obtain an IP valuation if there is a specific need for it. They will not undergo the process out of mere curiosity or in the hope of general (unspecified) benefits

- If the purpose of the valuation is not (for whatever unconnected reasons) fulfilled, the valuation is regarded as less worthwhile, even if it is respected as an expert assessment

- Where the purpose is fulfilled, they are more enthusiastic, with representative quotes including, *‘We found it an interesting process’ and ‘Newer companies are increasingly being bought/sold on their IP. People need to understand better how IP is used to buy/sell businesses’*

- Cost is an issue for companies, not just in relation to valuation, but in relation generally to investment in IP, they do not always see the immediate benefits. The following quote is typical: *‘SMEs cannot afford many patents or registered trade marks, so they are of limited value to SMEs; other intangible assets are more important. If subject to a take-over by a corporate, IP becomes more important to the acquirer’*

- Some people may respect the valuation outcome, but still not understand the valuation mechanics, even if it is explained in the report (they may not have taken the time to read a valuation report fully – which accords with other findings documented above)

- Finance Directors seem to be more sceptical than CEOs (perhaps not a surprise), and larger companies appear to express more doubts regarding the validity or applicability of the findings than smaller ones

- Awareness-raising needs to focus on the benefits to business of doing a valuation, with case study examples, rather than on the mechanics of valuation. Quotes here include: *‘You need to spread knowledge in a manner that business can relate to’* (with reference to case studies that describe the problem; how the valuation was done; and what the business was able to achieve with the outcome). *‘Also, it is important to understand where valuation is not appropriate’*

- Some see advisors as key and where awareness-raising should be focused. Quotes include: *‘This is a niche area – no one would take notice of a blanket campaign; people will go to advisers if they think they need an IP valuation’*

- If IP could be more easily used to raise finance, that would help many companies. Quotes include: *'[Conventional] Finance does not work efficiently for most SMEs', '[Pension asset financing] has been great for us', 'It enabled us to raise the finance we needed for working capital', 'It was near impossible to raise finance elsewhere, banks are not interested in this type of company', and 'It made the difference between survival/ growth and closing down the business.'*

11 out the 12 specialist valuers responding felt that a lack of awareness and understanding was the main barrier to further IP valuation activity and in particular that managers/directors do not see that the process of valuing IP brings benefits to the firm.

All of these barriers may be contributory factors in explaining why the market for IP valuation is not as large as it might be.

In summary:

- Suppliers consider the main barrier to greater uptake to be: *end users only have assets valued when they need to. They don't see the general benefits of valuation, as they don't see (understand) that the valuation process adds value*

- End users that have experienced valuation can see the benefits, and say: *lack of awareness and knowledge are the main obstacles to more companies undertaking an IP valuation exercise* (though this does not mean that their initial interest in having a valuation completed was not triggered by a specific event)

- End users that have not experienced a valuation say: *they have little knowledge of the market, and there isn't enough information [about either the process or the benefit]*

3.9. Suggestions for encouraging IP valuation

To help address this perceived unmet need for valuation insights, the valuation recipients had a number of suggestions. By far the most common suggestions were to increase knowledge of IP valuations and its uses through sponsored information programmes and case studies.

Where education/awareness-raising is considered, interviewees believed it should focus on case studies that show the benefits to the companies of valuation. Companies thought that there was a need to spread knowledge in a manner that business can relate to. For example, case studies that describe the problem; how the valuation was done; and what the business was able to achieve with the outcome.

Several end-users indicated that awareness needs to be raised amongst the intermediaries, who should encounter the potential need for valuation more often than the companies they work with.

Education and wider promotion of case studies that demonstrate how IP has added to business/enterprise value were among the suggestions made by specialist valuers for enhanced IP valuation activity, together with the availability of grant schemes that support IP valuations and/or tax incentives.

All the intermediaries responding at interview thought that more companies could benefit from the wider use of IP valuation activity and saw lack of awareness and knowledge as the main barriers.

A number of respondents were opposed to making compulsory changes to accounting or financial reporting standards (or even requiring a qualitative listing of intangible assets in the annual accounts), fearing an increase in 'red tape.' No enthusiasm was apparent for tax incentives, with comments received that these may not work well for early-stage companies who are loss-making in their early years.

There was also not much appetite amongst end users for the establishment of a professional body or the introduction of additional, formal qualifications for IP valuers. In general, the valuation recipients trusted that their valuer had performed a competent piece of work and so did not see the need for formal qualifications or regulations in the sector. However, this was not a question that was asked of regulators, and recent developments in the US (summarised at 5.7.4) suggest that some additional form of professional oversight may be desirable for other reasons.

One interviewee felt strongly that, where government is intervening in innovation to provide grant support, there should be a requirement attached to the grant (and allowance within the funds) for a valuation of the IP generated to be provided. This has some similarity to the approach used in SE Asia, where IP valuation is required to underpin applications for government loans to early-stage companies[30], commented on in greater detail in the Appendix.

A popular view among end users was that if IP could be more easily used to raise finance, it would help many companies and would drive the IP valuation market. Although addressed in the *Banking on IP?* report[31], which led to a response from the IPO[32] and a toolkit[33], IP is still not routinely considered by lenders in their dealings with SMEs. Some of the issues and opportunities have recently been studied in WIPO's magazine in a contribution from IPAN[34].

When intermediaries were prompted, other barriers were mentioned (as was the case for the specialist valuers) including companies having too many other higher priorities, the perceived risk of lending against intangible assets, the lack of uses to which the valuation output can be put, the cost of valuation, and the absence of secondary markets where IP value found can be realised.

30 For example see http://www.channelnewsasia.com/news/singapore-approves-first/2839066.html
31 https://www.gov.uk/government/publications/banking-on-ip
32 https://www.gov.uk/government/publications/banking-on-ip-an-active-response
33 https://www.gov.uk/government/publications/banking-on-intellectual-property-ip-finance-toolkit
34 Intellectual Property, finance and economic development, John Ogier, WIPO Magazine, February 2016 (available at http://www.wipo.int/wipo_magazine/en/2016/01/article_0002.html)

Intermediaries that responded online were asked to select the top five obstacles that they perceived were stopping companies from carrying out valuations, from a given list of 11 reasons. Their first choice clearly stood out above the others - 35/95 respondents selected *'companies seldom have a specific need to get a valuation.' Other similar responses, 'They do not consider it to be a strategic priority at board level', 'They are not convinced an IP valuation would be credible' and 'they have other more pressing priorities'* also scored highly.

Intermediaries responding online were also asked to select preferred **incentives**. The top choices considered likely to be most effective in encouraging clients to consider IP valuation were: *'availability of financial incentives to value (e.g. grants)'; 'ability to place the value found on your balance sheet'; 'facility to use IP value in support of borrowing'; and 'improved access to equity finance.'* The feasibility of voluntary rather than mandatory inclusion of IP and its value in company reporting is considered further in the final chapter of this report.

3.10. Views on pricing

The specialist valuers and intermediaries were asked questions either at interview or via the online survey about pricing. Table 3-1 shows the valuation costs they referenced.

Table 3-1. Pricing estimates from valuers and intermediaries interviewed

Individual respondents arranged in order of mid-point on price	Minimum price quoted by firm	Maximum price quoted by firm	Mid-point of high and low prices quoted by firm
	(£000s)	(£000s)	(£000s)
1	1.8	3.5	2.65
2	2.5	5	3.75
3	1.5	7.5	4.5
4	5	10	7.5
5	5	20	12.5
6	2.5	45	23.75
7	2	50	26
8	8	100	54
9	2	100	60
10	7	150	78.5
11	1	500	250.5
12	1	1,000	500.5
13	5	1,000	502.5
14	2	1,000	510
15	4	1,000	520

All those interviewed stated that the prices for valuations vary widely with purpose. The minimum values for an IP valuation from the smaller specialist firms generally start at £1.5-£2.5k and range from £1k to £40k overall (with the exception of one online indicative valuation service, provided at £350, not included in the above table). The maximum values quoted were £1m for complex transactions or litigation, with values of £100-£750k not unusual for valuations during large company M&A or litigation where there is high risk and/or reward. The pricing ranges provided by the valuers and intermediaries are shown in Table 31 and graphically displayed in the Appendix.

Those intermediaries responding online gave a variety of responses when asked,
'How much would you expect an IP and/or intangible asset valuation report to cost?'
Their responses varied

from less than £500 to more than £50k, as shown in the table below, with a small majority expecting the process to cost £5k or less. Of those providing answers, only 33% were basing their responses on any quotations that they had seen or applied themselves – others were making 'informed guesses'.

Table 3-2. Pricing estimates from intermediaries responding to the online survey

Answer Choices	Response %	Response Count
Less than £500	2.7%	2
£500 - £1,000	6.9%	5
£1,001 - £2,500	12.3%	9
£2,501 - £5,000	30.1%	22
£5,001 - £7,500	15.1%	11
£7,501 - £10,000	4.1%	3
£10,001 - £15,000	16.4%	12
£15,001 - £20,000	5.5%	4
£20,001 - £50,000	5.5%	4
More than £50,000	1.4%	1
(n=73)		

Whilst the price ranges are not precise, those intermediaries that were interviewed indicated that a straightforward valuation to inform negotiations, or a decision to be made within the end user company, may be priced within the £2.5k-£5k band, those that were still non-contentious, but more complex may be priced within the £10k-£20k band, and that values of £100-£750k are not unusual for valuations during large company M&A or litigation. £1m might be expected for large entity complex transactions or litigation.

4. Market mapping

Highlights
Intermediaries play an important and complex role within the IP valuation market
There are some ‘hotspots’ of competition in the IP valuation market, particularly amongst accounting firms for PPA work
The drivers of IP valuation activity can be segmented into three categories: established need, opportunity-led and emerging applications. Of these, established need currently accounts for the majority of valuation activity identified
Some of these drivers are more likely to occur when a company is at an advanced stage of growth or maturity. This may affect the extent to which valuation cost is a barrier – at least in cases of established need

4.1. Defining the market

As part of the market mapping exercise, it is first of all important to define the market. In the context of its market study activities, the Office of Fair Trading (OFT) offers the following guidance[35]:

> *Market definition usually includes two dimensions – product and geographic… The product dimension comprises those products (or services) that are close enough substitutes for the price of one of the products to be constrained by the prices of the other products comprising the market*
>
> *Products are close substitutes if a significant number of customers are able and prepared to switch their purchasing from one to the other on a change in their relative prices. This is referred to as demand-side substitutability*
>
> *A market may also be defined from the supply side, recognising the fact that a competitive constraint will apply wherever firms who do not currently supply a particular product could speedily, and at little cost, switch their facilities to the production of that product, should it become profitable to do so following a change in relative prices*
>
> *The geographical area that constitutes the relevant market will also be determined by reference to demand-side substitutability and, where it is appropriate, supply-side substitutability. This geographic market may be a lesser or a wider area than that of the UK*

35 Market investigation references (OFT 511), Office of Fair Trading, 2003

To analyse the IP valuation market in the UK, the following approaches have been taken to accommodate the main points raised by this guidance:

- All the purposes for which IP valuation is typically required have been deemed to be in scope. In some cases, substitution for the customary IP valuation report (produced using the methodologies described earlier) can occur – for example, equity investors may be content to 'evaluate' a technology that represents a company's core IP without necessarily attaching a value to it – but in most cases the only way to satisfy a particular need is to obtain an IP valuation report that conforms to a cost, market and/or income-based opinion

- Consideration has been given to the point in the development cycle at which a business might typically first perceive a need for an IP valuation to be conducted, which in turn is linked to purpose. The actual segmentation of customers served and their level of awareness and insight into the IP valuation process is set out in the interview and survey responses

- The role intermediaries may play has been studied in some detail. It is clear that a range of potential and actual specifiers/introducers exist that will, or may, encourage companies to consider IP valuation

- Examples of the legal and regulatory framework that applies to the IP valuation market have been set out in Chapter 2. These may influence the nature of competition within a market and be relevant to consideration of remedies. These competition aspects are further considered in Chapter 6, where there is further discussion on industry practices

4.2. Market participants and market influencers

A wide range of organisations participate in different ways in the IP valuation space. At a high level, as set out in Chapters 2 and 3, they fall into three categories:

- Providers of IP valuation and related services

- Intermediaries who may identify the need for, specify, and/or refer on valuation work

- Consumers (in the language of competition economics) or **users** of valuations – which will generally be companies or other organisations, but occasionally individuals (for example, high net worth individuals who own IP and wish to value it for tax purposes)

The research programme has covered all three of these categories.

The findings confirm that of these three groupings, the intermediaries play a particularly important, but rather complex role, since some intermediaries are also themselves valuers under certain circumstances, and are not merely introducers, but also recipients of the completed valuation reports. Also, while there may be no direct financial benefit to intermediaries from the valuation itself, it usually enables another event to be pursued to a successful conclusion that does produce rewards.

4.2.1. Intermediation in IP valuation

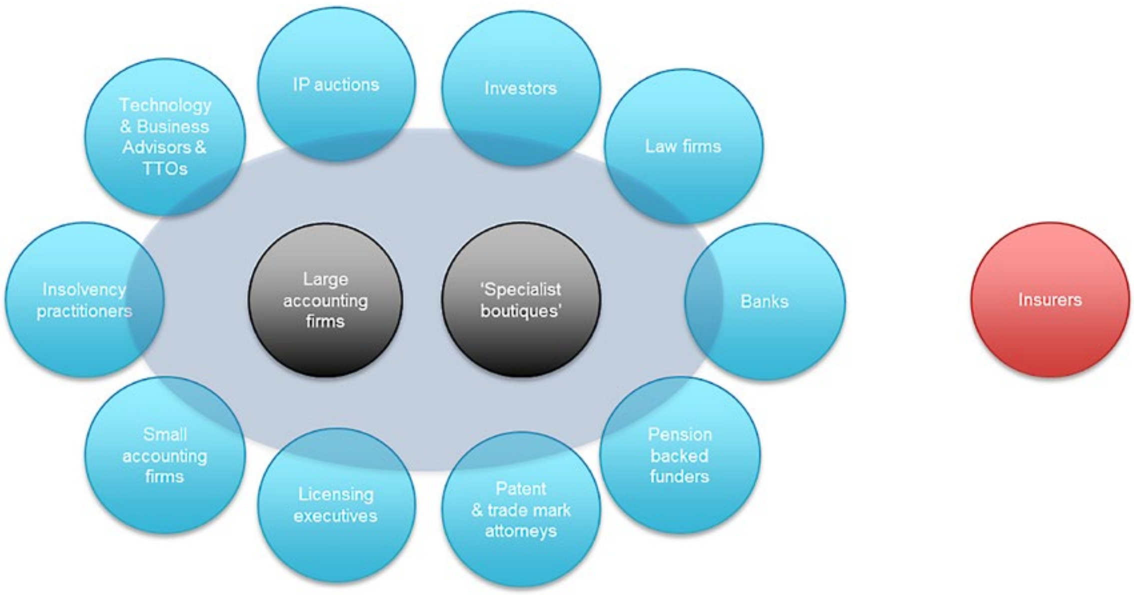
The main groups of actual or potential intermediaries agreed to fall within the scope of the study's interview programme are:

- Accountants
- Banks
- Insolvency practitioners
- Insurers
- Investors
- Law firms
- Pension providers
- Licensing executives
- University technology transfer teams

The formal and informal study interview programme also included representatives of analytical tool providers and professional organisations as well as the HMRC Share and Asset Valuation team, together with surveys with other potential influencers (such as patent and trade mark attorneys). Findings from informal discussions with other specialists in the IP commercialisation field, primarily licensing specialists and IP auctions, have also been included for completeness.

It is immediately apparent that apart from specialist valuers, the other group that actively markets IP valuation as part of its service offering is the accounting profession – primarily larger accounting firms. Their activities are separately summarised in section 4.2.2 below.

Figure 4-1. Participants in the supply of services to the IP valuation market



Depending on how broadly the concept of 'IP valuation' is defined, it can be said that almost all the intermediary groups, identified by blue circles, engage in some degree of IP value assessment (though this may not lead to a formal report). For example, working from top centre in fig 4-1:

- IP auctions have a need to set reserve pricing to assist the bidding process. Discussions with international IP auction houses indicate that this will generally be done by drawing comparisons between the assets being put up for auction and previous sales (though as with other types of auction, sellers' decisions may be influenced by other factors too). Whilst the market will determine the ultimate value, an estimate will normally be made in advance

- Informal discussions with investors confirm that they often give consideration to the business contribution being made by IP and intangible assets when evaluating opportunities, although their focus is often on share value rather than IP value. Larger investors (such as venture capital and private equity companies) will often make their own in-house assessments of the IP, which may be backed up by specialist technology due diligence. Smaller investors such as business angels will usually go through a less formal process, but as the interviews for this study confirm, they sometimes suggest to companies that they should have their IP independently valued

- Law firms will sometimes make their own preliminary assessments of IP value, at least in terms of estimating scales of damages, though will refer work out to specialists if evidence needs to be provided in court and/or settle a dispute

- The few banks that are currently engaged in active consideration of IP for finance (including asset finance) have developed procedures for considering value, though will also engage with specialists

- The survey findings confirm that some patent and trade mark attorneys offer in-house services to assess IP value for companies, though this is not their core activity. Others refer all enquiries out to their respective contact networks

- Licensing executives make an assessment of IP value when conducting negotiations on behalf of their clients

- Insolvency practitioners will make their own judgements regarding the likelihood of IP and intangible assets having any realisable value – though when they consider it does, an external specialist will usually be engaged, particularly in the case of a ‘pre-pack’ as required by the industry’s code of conduct

- Technology consultants and technology transfer officers will conduct informal value assessments prior to entering into negotiations internally and with third parties, though any formal requirement for valuation reports will generally be outsourced

The main exception (coloured in red for this reason in Figure 4-1) is insurers, for whom the business value of the IP is generally not relevant – their focus is on the costs of defending or asserting it.

4.2.2. Intermediation in accounting

The main points of complexity regarding whether intermediaries are direct referrers and/or valuers and/or specifiers, relate to accountants. These include larger and smaller firms that tend to interact in different ways.

According to the Accountancy Age 2016 survey[36], the top 10 fee earners in accounting (in descending order of UK fee income) are as shown in Table 4-1 below:

Table 4-1. Top UK accountancy firms (by fee income)

Ranking	Firm	UK fee income £ms
1	PwC	3,083
2	Deloitte	2,714
3	EY	2,010
4	KPMG	1,958
5	Grant Thornton UK	534
6	BDO	425
7	RSM	292
8	Smith & Williamson	222
9	Moore Stephens	164
10	Mazars	158
	Top 10 total	11561

When viewed through this lens of fee income, there appears to be a degree of market concentration around the top accounting firms. The survey shows that the total fee income for the top 50 firms was £12.8bn, of which the Big 4 firms accounted for more than 75%. If the top 10 are added together, they account for over 90% of total top 50 fee earnings in accounting.

Interview responses indicate that whilst competition between valuation suppliers in general is only moderate at most, competition between the accounting firms for valuation work is quite intense: whilst there could be switching costs in moving between accounting firms, the presence or absence of historical IP valuation work does not appear likely (of itself) to represent a large barrier to switching, given that valuation reports have to 'show their workings'.

These firms offer a broad and diverse range of services. On reviewing their websites, all the above firms have teams that specialise in a range of services including accounting, transaction support and insolvency proceedings, and all also specifically reference offering IP valuations to clients (as part of a broader valuation offering). Nine of the ten refer to support for merger and acquisition activity on their websites. If acting for the acquirer, the M&A activity would generally lead to a Post Purchase Allocation (PPA) exercise to determine future balance sheet treatment, a particular form of IP valuation activity.

This could be an indication of vertical integration with possible negative effects on competition (a point considered further in Chapter 6). However, it is also likely to deliver efficiency benefits (because the accounting firm will already have familiarised itself with the assets being acquired, had discussions about their likely balance sheet impact, and may also have led due diligence on them). Also, interviews indicate it does not necessarily follow that

36 See https://www.accountancyage.com/static/top50-this-year

the same firm will handle valuation matters pre- and post-acquisition, as noted in section 4.3.2 following.

Although they offer IP valuations, data gathered confirms that even the most active accounting firms do from time to time refer this work to external independent specialists. Interviews indicate that the motivation for this relates primarily to avoiding conflicts of interest (occasionally it may be to access specialist advice or skills not kept in-house, but the largest firms already have access to a broad base of internal expertise). Smaller and more specialist firms emerge as being more likely to cross-refer.

Clearly, the intermediary interaction is not simple. For instance, some accounting firms incorporate insolvency practitioners, but some do not – and not all insolvency practitioners are within accounting firms (many are specialists, and some are within law firms). Moreover, the accountants with which SMEs typically deal (some SMEs interviewed during this research having specifically commented that they would not use the services of the Big Four) would in the past have been considered less likely to have in-house IP valuation expertise. However, the changes to accounting regulations contained in the newly introduced FRS 102 (explained in Chapter 2) may lead more small firms to take a closer interest in balance sheet accounting for intangible assets. Accordingly, size of firm is not necessarily predictive of valuation involvement, and may be even less so in future.

John Hull is a Visiting Professorial Fellow at Queen Mary, University of London and previously a partner in two leading law firms.

In relation to quality of an IP valuation, John commented that: *‘approach to quality is essential in court, so how a valuer is instructed and how the lawyer sticks to expert witness protocols are crucial elements.’*

John has noticed that the quality of some reports presented by those acting on the other side in court have been variable. In relation to the valuers, he said: *‘Some can understand the market and others don’t. Also there are variabilities in the approach to carrying out the job in hand.’*
John said that it is important to set an exact figure for the value of the IP in question. *‘Precision is more of a requisite in litigation and disputes, but estimates are occasionally sufficient in transactions.’*

When considering outsourcing an IP valuation in relation to litigation, John commented that: *‘Proportionality and cost are issues to consider. The value and the complexity of the dispute, the status of the valuer and the need to appear as an expert witness all influence price. I have tended to look at past experience in particular fields and past experience as an expert witness, personal connections and personal chemistry.’*

‘There is no typical price – it is entirely dependent on the size and complexity and nature of the case, how long the expert is likely to be involved, and so on. Constrained budgets are an issue particularly in the context of due diligence. As proportionality is also an issue, the size of the transaction needs to be considered, as does the purpose of the report. For example, a report used to inform the client has a different purpose to a public document for use in court.’

4.3. Triggers for IP valuation

4.3.1. Events and valuation requirements

Our study confirms that in the overwhelming majority of cases, IP valuation is **event-driven**. Valuations are performed when it is necessary to agree a figure that should be ascribed to a particular set or subset of **intellectual capital** (a term used specifically to include wider intangible assets, to acknowledge that all valuers questioned to date regard surrounding and supporting intangible assets to be important when assessing the value of 'core' IP).

Sometimes the nature of the event or transaction requires a single, specific figure to be arrived at. Examples of this practice include the need to determine an overall amount that will be attributed to intangible assets placed on a company's balance sheet following an acquisition (and subsequently amortised), or a value placed on one or more identifiable assets that are to be transferred (for instance, by being moved offshore, or assigned to a pension fund).

Different types of judgement are required here, as the valuer in a PPA scenario has the benefit of knowing what the total price paid actually was and that the intangible element is necessarily a subset of this figure, though interviews indicate that the process nevertheless involves 'bottom-up' calculations based on identification of the contributory assets. However, the fact that the valuer's interpretation and opinion produces a single figure does not necessarily imply increased precision, as there are almost invariably some uncertainties in the key parameters used to derive the value calculation.

On other occasions, the purpose of the valuation is to facilitate negotiations by providing a reasonable indication of the level of value that exists within an identified set of assets. Under these circumstances, it is assumed that the actual value or price ultimately attributed (if any) will be arrived at via further discussion. Examples of this practice include estimating the IP value within an early stage or growth stage business, in order to facilitate equity fundraising discussions; evaluation of the potential sale value that might be achieved for a family of patents that are to be sold or auctioned (for instance, to set a reserve price); settlement of a dispute over ownership; or dividing co-owned business assets in divorce.

4.3.2. Scope for repeat IP valuations

There are some circumstances under which intangible asset values do need to be revisited on a periodic basis (for example, it may be necessary to re-value assets that have been placed in a pension fund in order to observe regulatory requirements or industry best practice). However, it is unusual for companies to have a regular requirement for IP valuation (i.e. for re-valuation), unless they are on an income/ profit or loss trajectory that means that they are engaging in a series of transactions.

This absence of the opportunity to establish a long-term relationship and conduct repeat business with individual end-user firms is in contrast to other professional services that an IP-rich company may consume. It may be having an effect on the range of services that IP valuers offer (some are large and therefore diverse accounting and consultancy practices; even the smaller valuers interviewed for this study are likely to combine valuation with other services that enable customer relationships to be developed, such as rights management or asset recovery). It seems likely also to bring about different effects on the balance of market power between consumers and suppliers, and the importance of intermediaries as points of concentrated demand.

To illustrate this point, all UK registered companies are legally required to provide a set of accounts to Companies House each year, for which they will generally need the services of an external accounting firm. Similarly, while it is not a legal requirement, it is a well-established practice for companies to have an arrangement with one or more banks in order to process payments.

While the frequency of engagement between the parties in these two sets of business relationships will vary, the existence of an identifiable, contractual connection means that the supplier is in a position to influence the probability that the relationship will continue. By contrast, the transactional arrangements generally entered into by one consumer in respect of IP valuation do not naturally lend themselves to ongoing contracts.

The effects of this on competition in the market are not clear-cut. On the one hand, where there is no longer-term relationship between client and valuer, it seems unlikely that high switching costs would play a prominent role in customer decision-making (there is no cost to switch). On the other, with fewer opportunities to switch, and given the specialised nature of the service, it might be argued that companies will be more inclined to stick with an existing supplier should the valuation requirement re-occur. However, this purchasing decision will also be affected not only by the perceived quality of the prior service delivery, but also whether it was ultimately associated with a desired business outcome (i.e. not only ‘was it good?’, but also ‘was it successful?’).

Vertical integration of IP valuation with other services provided by accounting firms, needed in order to complete a merger or acquisition transaction, could make it unlikely that companies would seek to source their purchase price allocation (PPA) services separately. However, interviews with a number of top ten firms have confirmed that despite the theoretical attraction of sourcing a ‘joined-up’ solution, the market for PPA activity turns out to be more commoditised than might have been anticipated, exhibiting strong competition and downward price pressure.

In terms of repeat business, the most conclusive finding from the information obtained through primary interviews is the importance of intermediaries. In a market where it is not easy for sellers to identify possible buyers, and buyers frequently need prompting by an intermediary (in the context of a transaction) before searching for a suitable provider, it is not surprising if the intermediary ends up wielding significant influence over the buying decision. Despite not being the actual client, therefore, valuers find it worthwhile cultivating longer-term relationships with intermediaries most likely to have work to refer.

4.4. Market characterisation

4.4.1. Market drivers

When mapping the market according to the purposes for which users seek to obtain IP valuations, the data obtained suggests that the market is best understood (at a high level) as falling into three segments or categories in terms of drivers:

- *Established need:* where a combination of regulatory requirements, industry codes of conduct and long-standing custom and practice mean that IP valuations are generally performed as and when they are needed for transactional purposes. This is the primary domain of operation for large accounting firms, insolvency practitioners (some of whom are also accounting firms) and law firms, and it is also served by some, but not all, of the specialist valuation firms, especially when it comes to areas where detailed consideration of the IP and its value is required, such as when ‘offshoring’, transferring assets or litigating

- *Opportunity-led:* where a company may elect to have an IP valuation performed either of its own accord or when persuaded that it will deliver business benefits by an adviser. In the absence of regulation or custom and practice, the valuation will happen as and when a business strategy identifies the need for it. This includes, for example, having IP valued prior to a possible business sale or exit

- *Emerging applications:* where new developments in wider markets increase demand for IP valuation. Here, the need for the valuation will arise from outside an organisation. New financing applications fall under this heading, as would new IP insurance applications (which have historically been based on the anticipated costs of defending the IP against infringers and counterclaims, rather than grounded in protecting the underlying asset value)

Figure 4-2 illustrates the category into which this research suggests each of the main IP valuation drivers generally falls:

Figure 4-2. Categorisation of valuation drivers

The colour coding adopted in this figure – blue for established need, orange for opportunity-led activity, and purple for emerging applications – is repeated in the following diagrams for clarity wherever the context requires.

4.4.2. Frequency of engagement with IP valuation

Using the data obtained from interviews and surveys, the various suppliers and intermediaries (or in some cases specifiers) can be spatially mapped. Their positioning is intended to indicate the extent to which engagement with the subject of IP valuation is core to their activities, and the likelihood that valuation will be conducted in-house (formally or informally) rather than being referred to specialists. Here, small and large investors are separated to differentiate between their behaviours more clearly.

Figure 4-3. Frequency of valuation and propensity to conduct in house for different IP valuation intermediaries (not to scale)

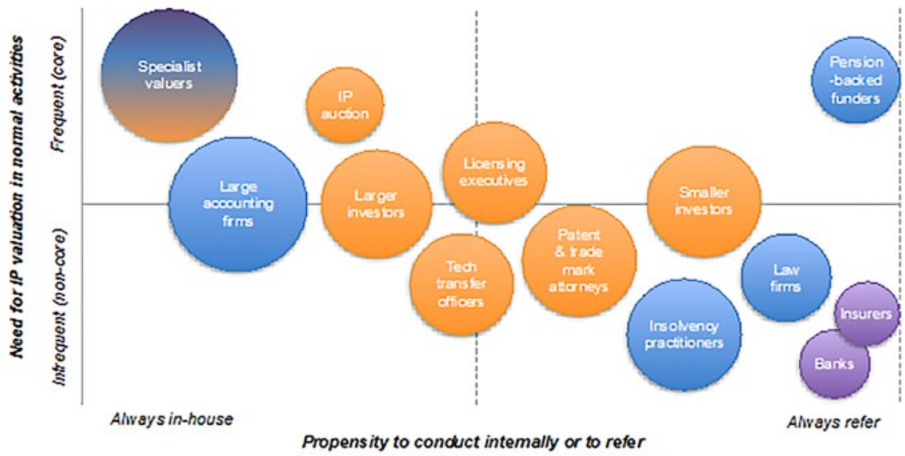


Figure 4-3 follows the same colour coding as that used for Figure 4-2 above (blue for established valuation need, orange for opportunity-led activity, and purple for emerging applications). Specialist valuers are multi-coloured, reflecting the fact that they are involved in all valuation applications. The different sized circles are not to scale but assist in highlighting areas where valuation activity is more likely to occur at present (emerging applications are not sized).

The valuers and intermediaries shown in blue are all primarily or solely connected with valuation activities that serve established needs in financial reporting, transfer pricing, litigation, insolvency and finance, based on regulation, custom and practice. Large accounting firms are the only group which will routinely conduct valuations in-house: the size and positioning of their circle reflects the fact that IP valuation accounts for a comparatively small proportion of their overall activities.

Investors, technology transfer departments, IP auctions and patent & trade mark attorneys appear more likely to become involved with IP valuation in an opportunity-led context (rather than as a result of regulation or litigation). IP auctions have the data in house to produce value estimates, and both larger investors and tech transfer officers are known to do evaluations (if not formal IP valuations) as part of their assessment processes. Patent and trade mark attorneys will generally refer work onto a valuer, though around one-quarter of survey respondents indicated that they offer some evaluation services in-house.

Interviews confirm that IP valuation does not currently feature in insurer thinking and only in very specialist banking applications, but generally would not be done in-house if required.

4.5. Company development stages at which valuations are required

4.5.1. Matrix of drivers and development stages

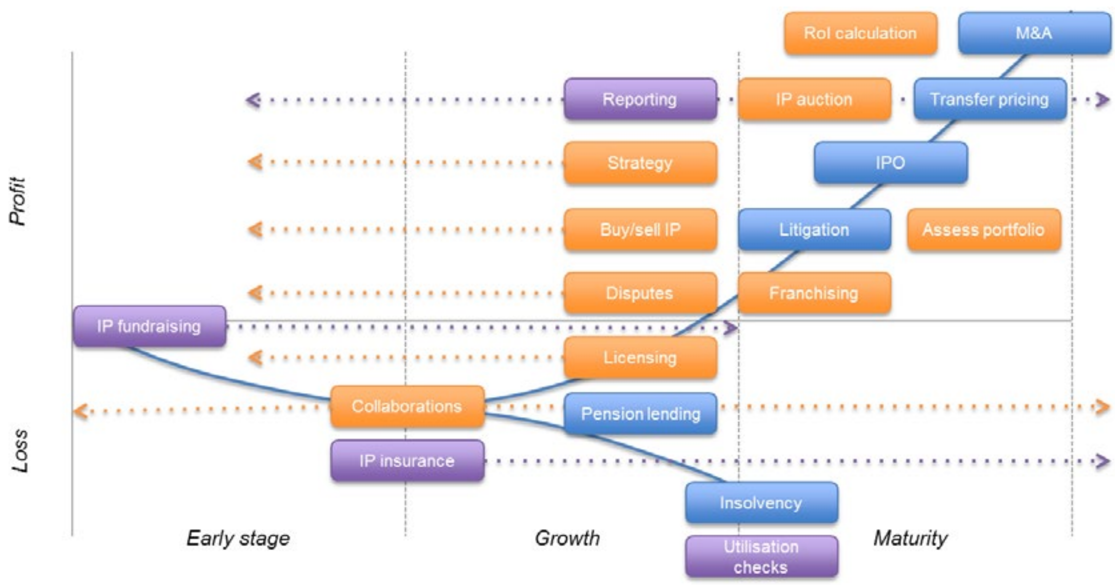
One of the possibilities that needs to be considered, in the light of the various references to price sensitivity identified in Chapter 3 above, is that price is acting as a barrier to the further growth of the market.

As this research has confirmed, IP valuation starts at a comparatively affordable level (£1.5k - £2.5k from some specialists: less in the case of the online indicative tool). There are some activity-specific costs associated with particular IP valuation approaches (for example, relief from royalty calculations require reference to industry databases to identify points of comparison). However, most of the cost element is associated with the amount of time-cost likely to be spent by the valuation team (and of course the associated overheads). It is therefore unsurprising to find significant variations in price (set out later) between different firms that appear to relate to company size and reputation. With top 10 accounting firms and large boutiques, there is a price below which it is simply uneconomic to do business.

Price sensitivity is related in part to appreciation and understanding of value, which is context- and purpose-related. Companies will see far more value in an exercise that supports the achievement of a significant business objective (such as an acquisition) than they will in the necessary process of accounting for the assets obtained afterwards.

However, price sensitivity is also linked to ability to pay. The extent to which this is a market driver is likely to depend on the point in a firm's development stage that it may be required to invest in an IP valuation, a point considered below.

Figure 4-4. Valuation drivers at different stages of company maturity



In Figure 4-4, the drivers described above (each of which is represented in the colour appropriate to its category, as set out in section 4.4) have been mapped onto the point in a company's lifecycle where each appears most likely to occur.

When this exercise is performed, a pattern becomes apparent. Most of the valuation drivers which fall into the established need category appear most likely to occur when a business is more mature (the main exception being insolvency, which may occur at any time). In more detail:

- A company is most likely to 'come onto the radar' and become a litigation target when IP reaches a point of maturity (e.g. patents reach a point in the granting process that they have been published and are available for search; copyright is published or released). There may also be an incentive, where a company is believed to be infringing existing IP, to only take action once it is profitable and successful enough to be able to pay damages (though where infringement is sufficiently serious a company might opt to seek injunctive relief). Similarly, if a company considers another party is infringing its rights, it will have to wait until these are granted before it can pursue them (and in the absence of insurance, it is unlikely to have the financial resources to take action until such time as it is profitable)

- An **Initial Public Offering (IPO)** is generally only possible once a company has started to demonstrate strong market traction

- Transfer pricing can potentially happen at any time (for example, it could be required when a company is first established, in order to move assets from the ownership of an inventor to a firm). However, one of the main drivers for asset transfer (excluding IP sales to third parties) is tax efficiency, and this is not likely to be an issue until a company is generating substantial profits

- A company might choose to have its IP valued in expectation of being acquired, in order to support sales negotiations. However, the main driver for M&A-related valuation activity is not so much being acquired, as acquiring other companies (because this is the event that, under international financial regulations and updated UK GAAP, requires a value to be placed on the balance sheet for identifiable intangible assets and amortised). While acquisitions will not necessarily be funded from retained profits it is unusual for a business to acquire others while it is loss-making

4.5.2. Implications arising from alignment with differing levels of maturity

It follows from this analysis that with the exception of insolvency (to which different rules apply), the majority of the valuations that meet an established need are likely to occur at a point when price sensitivity may be less, for three reasons:

- Firstly, by virtue of having reached a more mature stage (and not remaining loss-making or becoming insolvent), the company will have an improved ability to pay

- Secondly, in each of the contexts described when the IP valuation occurs, there is the expectation that a quantifiable value-producing event is imminent (or has already happened). Damages will not be independently assessed until a case is won; an IPO, if successful, leads to substantially improved access to capital; asset transfer unlocks profitability improvement via tax benefits (though these may be offset by crystallising a tax liability at the time of transfer); pension asset valuation is generally done in the course of agreeing a loan to provide working capital or support growth; and an acquisition will have already provided the buyer with quantifiable expected benefits

- Thirdly, because of this level of expectation, the risk and reward question is heightened. The risks of adopting an inappropriate, or poorly substantiated, IP value could result in failure to raise the required capital, an HMRC investigation, or other demerits. For this reason, companies will have an elevated need for a quality outcome and may be prepared to pay extra to ensure that they receive it

There are some commonalities, and some differences, when this distribution by company profitability and maturity is compared with the valuation drivers that fall under the heading of opportunity-led use. Here, the likely timing is (as explained above) less likely to be driven by external events and more dependent on a firm self-identifying the need for IP valuation, or having it drawn to their attention by an external adviser.

Some opportunity-led prompts do appear more likely to fall at a later rather than earlier stage in a business's development. Portfolio assessment and the desire to calculate a return on IP investment are, by definition, likely to become more pressing issues (or opportunities) for a company once it has had the time to assemble a significant number of rights, which takes time. Most, though not all, companies who take their IP to auction are multinationals and large local enterprises who are disposing of rights that are surplus to requirements, or medium-sized companies that see an opportunity to profit from the fact that their rights, in other hands, could be used to drive litigation or limit exposure to it. It might also be argued that **franchising** is more likely to happen successfully once a company has established that its business model is successful and profitable (as this is one of the first things an incoming franchisee will want to know).

The timing of other opportunity-led use 'triggers' for IP valuation is less certain, as indicated by dotted lines. Discussions on strategy, on purchasing additional IP assets and on licensing could happen at an earlier stage of a company's development, and it could find itself having to settle ownership disputes at any time. Similarly, while collaborations quite often happen at a relatively early stage of a company's development (in fact, the company itself may be created as the result of a collaboration), they are also associated with businesses that recognise that their internal R&D efforts need to be supplemented.

Given the unpredictability of many of these triggers, it is difficult to say anything concrete about inherent user price sensitivity. However, it is likely that the earlier the stage at which this happens, the more sensitivity there will be. The evidence from the user interview process set out in Chapter 3, where concerns about price were expressed, may well reflect the fact that a high proportion of these companies were smaller and at an earlier stage of development than those who would be requiring IP valuations for the reasons that fall within the established need category.

Lastly, considering the emerging applications for IP valuation, current policy discussion around the role that IP can play in unlocking financing has been primarily directed at the needs of younger and growth businesses which are yet to establish sufficient cash flow surpluses and/or balance sheet strength to support their borrowing requirements under normal lending criteria. This positions the need for IP valuation at a comparatively early stage, and if extended to equity investment, it can go back as far as incorporation (or even earlier). It is evident from the research findings that IP owners, intermediaries and valuers all regard the possible use of IP in lending as being a potentially powerful driver of valuation activity; however, given the slim margins currently available in commercial lending, cost pressure would be considerable.

IP insurance is arguably most beneficial for companies who do not have the cash reserves to absorb the funding requirements typically associated with pursuit or defence activity (though very few start-ups buy it at present). Current IP insurance applications focus not on intrinsic value but on likely costs of defence. However, recently introduced insurance variants are starting to cover (for example) the financial consequences to a company of having their IP invalidated, and as both the *Banking on IP?* report and the EC Expert Group concluded, there is also an opportunity for insurance to be used to provide lenders with greater security regarding the recoverable value of any IP used as collateral. This latter application (yet to gain traction) would certainly require an insured value to be agreed.

The question of possible changes to reporting standards (discussed further in Chapter 7) is a more speculative one, as no specific proposals are currently on the table in this respect. Too little is known about what might be required from future reporting requirements to be clear about its positioning, though it could be assumed that companies will be more motivated to comply with any non-mandatory requirements when they are seeking to support a growth story. There are voluntary reporting approaches (such as Integrated Reporting) that do seek to articulate the contribution being made by a company's intellectual assets, albeit not in a way that necessarily fixes a value for them.

It does not appear likely that significant new incentives to capitalise IP assets on company balance sheets under standard accounting rules will materialise when businesses are generating most of them internally, as there is no external basis in fact to confirm what they are worth. However, were there to be a more active market in particular types of IP assets, such that independent external evidence of resale value could be readily obtained, this position could change.

As noted in further detail in section 5.7.4 below, there is increasing interest in the US regarding asset utilisation – borne in part from the realisation that even in bankruptcy, patent assets can have significant resale value. In the case of Nortel Networks, this value was so significant that if leveraged more effectively, it has been speculated that it might have prevented the collapse of the business[37]. This particular activity is therefore positioned on the downward curve of financial performance shown on Figure 4-4, though it should of course be considered much earlier.

37 See for example http://www.ipeg.com/nortel-shareholders-case-for-ip-mismanagement/

Given these factors, it appears reasonable to state that most of the emerging applications for IP valuation require two things which the market may, or may not, be in a position to provide at the moment: a high degree of standardisation and consistency, such that valuations are comparable across a potentially wide range of businesses, and low cost to accommodate the slender margins associated with financial and insurance transactions.

4.6. Mapping the market

4.6.1. An indicative model

As part of this study's investigation into the role of intermediaries, the map below has been developed, reflecting common pathways from referrers to valuers. The red lines which link the categories (colour coded in accordance with section 4.4 above) to the sources of referral have been modelled to indicate what appear to be the most likely pathways for each valuation driver, while the blue lines indicate the likely direction of subsequent onward referral.

Figure 4-5. IP valuation referral relationships

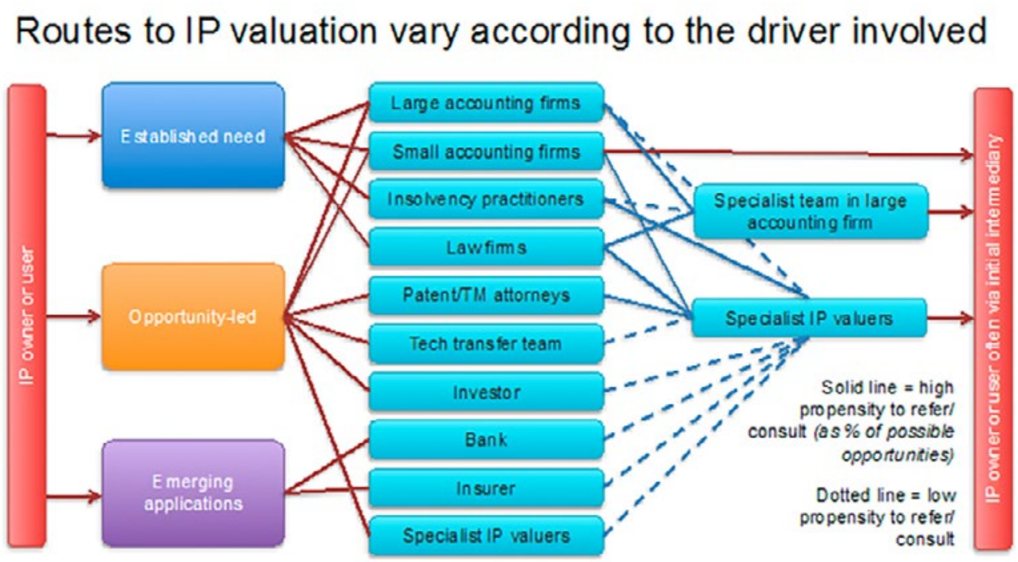


Figure 4-5 represents diagrammatically how some of the referral and intermediary relationships observed are operating, across each of the categories of valuation driver identified above. Whilst these routes generally lead towards the involvement of either a specialist team in a large accounting firm or a 'boutique' firm, the path by which the referral reaches them does appear to have some elements of consistency. Typically:

- Where the valuation activity relates to an established need, the first point of contact will generally be an accountant, insolvency practitioner or law firm. Depending on the client's requirements, these may be referred internally or externally for the valuation requirement to be fulfilled

- Where the valuation activity is something opportunity-led, the pathways are more diverse. A range of intermediaries may be the first point of contact – which could be an accountant or specialist valuer, but might also be an investor, patent or trade mark attorney or a member of a technology transfer team

- Emerging applications are currently more likely to be prompted by discussions with a bank or (occasionally) an insurer – though accountants would also receive more such enquiries, were changes to be made to reporting requirements

This matrix indicates that, if opportunity-led activity should be the current focus for attention (because established needs will be met anyway), patent and trade mark attorneys, investors and technology transfer officers would be appropriate targets.

5. Current IP valuation activity levels

Highlights
An estimate of current IP valuations derived from 'top-down' and 'bottom-up' sources suggests that less than 5,000 IP valuations are happening annually at present
There are likely to be at least 600 people engaged in IP valuation in the UK as part of their work activities
The market value is not less than £50m annually and is likely to be significantly more
Valuations that serve an established need are volume-constrained by a number of external factors

5.1. Methodology

As set out in chapter 1 of this report, there is a perception that the level of IP valuation activity is not as high as it could be, in terms of the proportion of businesses that give active consideration to IP value. This naturally raises the question of just how big the market actually is now (which might be measured in terms of valuation volume, and ideally also market value and numbers of people employed).

The primary and secondary research conducted for this study provides the possibility of generating approximate estimates of market size, specifically in respect of activity volumes. Estimates of market value (in terms of the amounts spent on all types of IP valuation activity) are much more challenging, because the range of prices charged for IP valuations is very broad indeed.

Two methods have been used to try to formulate an indication of market size. The first is to use 'top-down' calculations based on information collected from previous IP awareness surveys (which have asked questions about the propensity of companies to conduct IP valuations) and on tax investigation estimates. The second is to combine the estimates provided by individual interviewee firms in order to build a 'bottom-up' picture of likely volumes.

This, in turn, needs to be compared with the likely volume of transactional events that could prompt IP valuation activity – which should enable an estimate to be made of how much of the existing potential market IP valuers are currently penetrating. Statistics are available to quantify a number of the situations in which an 'established need' for IP valuations may arise; however, as the following sections set out, there is limited data available on opportunity-led and emerging application contexts, making market sizing more of a challenge in these categories.

5.2. ‘Top-down’ estimates of current valuation volumes

5.2.1. Survey indications of volume and frequency

An important source indicating the historical level of IP valuation take-up is the information gathered by the UK Intellectual Property Office as part of its IP Awareness Survey. This has the benefit of three reference points over ten years, as it has been conducted in 2006, 2010 and most recently in 2015[38]. The findings in respect of IP valuations are set out in detail in the Appendix and summarised below.

The initial survey of 2006 was intended to benchmark the state of IP awareness in the UK. It was the largest of its kind at the time, and resulted in over 1,700 replies from firms of all sizes and sectors of UK industry. The second survey, run in 2010, had a similar objective of gauging the level of awareness of intellectual property amongst SMEs and to highlight any change in this awareness since the first survey. This resulted in over 1,900 replies, again from firms of all sizes and sectors.

The 2015 IP awareness survey was structured differently, drawing upon expert knowledge within the IPO to help produce the report. This included its behavioural insight teams, customer research specialists and statisticians. It is noted that this survey reached out to businesses with which the IPO had established prior contact, and received 502 responses. Therefore, while the findings offer an insight into IP awareness and management activities of firms, they are not representative of the wider business population.

Due to the revisions within the 2015 survey, in terms of questions and new methodologies being used, direct comparison with previous research findings cannot be made. However, responses to general themes should be comparable.

In the 2015 survey, only 4% of respondents indicated that their assets had been valued. The 2010 and 2006 surveys[39] asked the question in a slightly different, two-part way, first asking, ‘Has your company ever tried to assess how much your IP is worth?’ The 2010 survey indicated that overall, 3% of companies had done so (10% in the case of companies employing over 250 people), compared with 1.1% in 2006 (which increased to 14.5% for these larger enterprises).

In the event that an affirmative response was made to this question, respondents were asked whether this meant they had engaged the services of a professional valuer. In 2010, 20% of the companies who had valued their IP had done so, compared with 11.5% in the 2006 survey.

While this appears to indicate an increased level of professional engagement, UK IPO cautions that this should not be considered a statistically significant change owing to the low absolute number of respondents involved. Similar care is required in interpreting the 2015 data: while on the face of it this appears to be a slight increase in valuation activity levels, the

38 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/500211/IP_awareness_survey_2015.pdf

39 UK Intellectual Property Awareness Surveys 2006 and 2010, Robert Pitkethly, UK IPO

sample is a very small base (4% of the total 2015 sample represents only 14 respondents out of the 377 who answered this particular question).

This conclusion appears to reinforce the view that a comparatively small number of companies value their IP, and suggests that the percentage is likely to be in the low single digits. If, for example, the net number of surveyed companies that had valued IP in 2010 (3%) is multiplied by the percentage using a professional valuer (20%), it implies that 0.6% of companies may have valued their IP – which when applied to the total company population (before adjusting for failure rates) suggests that around 18,000 valuations have been done over an unspecified period.

However, it is probably unsafe to extrapolate such data across the entire business population, as successive survey results suggest that there is (as might be expected) a higher tendency to engage in IP valuation where companies have recognised IP rights. In the 2015 survey, for example, the overall proportion of respondents that had some kind of IP protection was 52% (based on 443 responses) – far higher than that found in the business population as a whole.

If the 4% figure is extrapolated across the number of UK businesses known to have patents or trade marks (which previous UK IPO research has established is in the region of 60,000 companies), it would translate into around 2,500 valuations. However, this is not an annual figure, and takes no account of designs or copyright, the latter being the most widely owned IP right of all.

5.2.2. Submissions processed by HM Revenue & Customs

HMRC's Share and Asset Valuation (SAV) team has been interviewed during this study. As the name of the team suggests, and previous forum meeting discussions have indicated, much of its activity relates to company share valuations. Our understanding of the typical process followed is that all submissions received by HMRC that raise questions about share and asset values will be 'referred' to the SAV team. Some of these relate to companies, and some to individuals, but both may entail a requirement for an IP valuation (for example, a patent, trade mark, design or copyright asset might be transferred to or from a company which would have tax implications).

A process of risk assessment is then followed to determine which of these 'referrals' require further investigation, with only a minority of the total submissions being considered as sufficiently high risk (in relation to tax compliance matters) to be explored and followed up. The SAV team therefore only investigates a percentage of the total amount, and it is not possible to say with precision what the majority of cases contain – although the sample that is reviewed appears large enough to make some estimates in this regard.

The indications provided at interview by HMRC are that:

- The overall number of referrals to the SAV team made each year relating to both company and individual tax returns is in the region of 14,000

- The number of cases that are (reviewed) investigated by the SAV team is around 1,400, i.e. 10% of the total number of referrals

- Of this 1,400, the estimate provided is that around 300 - 400 cases annually typically involve intellectual property, representing 21%- 28% of the total number of reviewed cases

If the perceived risk levels associated with IP-related matters were to be typical of the sample as a whole, it would indicate that 21-28% of 14,000 (or roughly 10x 300 - 400), or approximately 3,000 - 4,000 submissions that involve an element of IP valuation, are sent to HMRC annually. However, this can only be an approximation, as the data are not available to determine whether the sample the SAV team sees is representative of the whole in IP terms.

Whilst such an estimate would not be a representative figure for valuation activity as a whole (for example, it would not include litigation cases), it would account for a number of the 'established need' use cases characterised in the preceding chapter. By definition, a mandatory requirement to submit a share or asset valuation to the tax authorities is a 'need'. This figure is therefore interpreted as an approximation of volumes for purchase price allocation of intangible asset values, insolvencies that require an IP valuation to be conducted, transfer pricing activities (including the use of IP for pension-related finance), and asset sales where these produce a taxable event (as would normally be the case).

As noted above, this would not include litigation cases, but would otherwise appear to provide a reasonable basis for estimating the overall volumes corresponding to the 'established need' category. While it is not possible to determine how many legal cases actually lead to an IP valuation being conducted, it is possible to identify a potential maximum number, a point considered in section 5.5.2 below.

5.3. 'Bottom-up' evidence from valuer interviews

5.3.1. Estimates of IP valuation volume

The absolute number of valuers engaged in IP valuation activities is difficult to determine with precision. Survey evidence from UK IPO and from the new primary data obtained as part of this study indicates that some companies attempt to estimate value themselves (or ask a non-professional to do so), and that some patent attorneys assist clients by providing a view on this point (it appears that 24% provide some sort of service, but is not known what methods are used to deliver it).

It is also apparent that overseas firms operate in the UK market and might be suppliers of choice, particularly where companies are headquartered in other territories such as the US. Also, it is likely that smaller accounting firms may be increasingly drawn into PPA work as a result of the changes to UK GAAP (i.e. the introduction of FRS 102, which requires acquisition accounting principles to be applied in the vast majority of cases).

The 15 valuer firms interviewed represent roughly one-third of the currently active specialist UK IP valuation community of around 40 companies, as identified by desk research and named by their peers operating in the IP valuation market, as set out in Chapter 3. Analysis of these valuers confirms that the sample contains a considerable range of companies, from very large firms with up to 50 client-facing staff engaged in the valuation process, down to companies with only one or two staff handling valuation. Whilst this does not necessarily make it a representative sample, the interviewee responses are considered robust and representative enough to be used to inform an indicative estimate of market size.

Each of the valuation firms interviewed for the survey was asked to provide an estimate of the volume of IP valuations they conduct annually. In view of inevitable commercial sensitivities, this information has been collected in bands relating to annual levels of activity (1-10, 11-25, 26-50, 51-100 and so on). 12 of the 15 firms interviewed agreed to indicate the band into which their annual commercial volumes typically fell. This can be translated into an approximate number of valuations conducted using the mid-point of each selected range, as shown in Table 5-1.

Table 5-1. The number of valuations performed by different valuation firms

Number of valuations conducted	Number of firms in this band	Implied approximate number of IP valuations (using mid-point of indicated volume range)
1-10	3	15
11-25	1	18
26-50	1	38
51-100	3	225
101-200	3	450
201-400	1	300
TOTAL	12	1,045

The total can be extrapolated across the remaining identified market participants (in other words, divided by 12 and multiplied by 40, if the sample is assumed to be broadly representative). When this is done, it suggests that the total annual volume of IP valuations is in the region of 3,500, which would include not only those valuations that meet an established need (as defined above), but also those that fall into the ‘opportunity-led’ category.

Since it is not possible to be sure that this sample is representative of the wider market, it appears prudent to conclude that the number of IP valuations conducted is probably between 3,000 - 4,000. This appears consistent with the estimates derived from HMRC at 5.2.2 above.

There are two other ways of quantifying market size in relation to the activities conducted by the valuation firms identified in the market, each of which is briefly considered below.

5.3.2. The amount spent on IP valuation activities

While the above is a good measure of the size of the market, because of the commercial sensitivities involved and resulting need to gather information in bands, the total fee income is extremely hard to estimate with any degree of certainty. The bands are necessarily broad, and some valuers declined to answer the question at all, either because it was regarded as too sensitive, or because they felt they could not offer a meaningful figure due to the wide variations in evidence. The additional soundings obtained from intermediaries were not regarded as accurate enough to use for this purpose, so the modelling is conducted solely on the data provided by the 12 valuers agreeing to provide figures.

- The reason for the breadth of the pricing is that the complexity of individual valuation assignments can vary widely for a number of reasons. Variables discussed at interview include what the valuation's purpose is: whether the matter is contentious or non-contentious; how urgent or drawn out they are; how much information the company is in a position to provide; how much data analysis is needed to determine the most appropriate valuation route; as well as the mix of senior and junior team members engaged in the valuation process.

- The lowest cost option (for use of an online tool producing an indicative result) is £350. Bespoke valuation reports from smaller firms start at £1.5k-£2.5k, though a more typical figure from a larger firm might be a minimum of £7k-£8k and will be substantially more in the case of a 'Big Four' accountant (partly because there is a certain cachet to having a valuation 'underwritten' by one of the best known accounting firms – but in turn, a larger liability for the firm in terms of the quality of work with which it is associated).

- At the opposite end of the scale, the cost of valuation can run into seven figures for highly contentious, complex, large and/or protracted cases dealt with by the Big Four accounting firms and some other specialists. Some of the firms interviewed were not able to provide an upper figure owing to the highly differentiated nature of their assignments.

- The basis for an estimate can be produced firstly by multiplying the approximate number of cases dealt with by each valuer by the lowest amount each company would normally charge, and secondly by the mid-point in the figures quoted (where this has been provided). Adjusting for the possible distorting effect of the online tool (removed from Table 5-2, which changes the quantity distribution compared with Table 5-1), this produces the following figures:

Table 5-2. Estimate of the value of the IP valuation market in the UK. The figures in italics represent numbers where the firms themselves declined to supply information, but a figure can be approximated from other similar valuers.

Individual respondents arranged in order of valuation quantity band	Valuation quantity (number typically conducted per annum, as mid-point of band selected – see Table 4-2)	Minimum price quoted by firms (£000s)	Estimated minimum annual valuation revenue generated by firms (£000s)	Mid-point of high and low prices quoted by firms (£000s)	Estimated average valuation revenue calculated using mid-point (£000s)
1	1-10	5	25	12.5	62.5
2	1-10	7	35	78.5	392.5
3	1-10	20	100	60	300
4	11-25	2	34	26	442
5	11-25	2.5	42.5	3.75	63.75
6	26-50	5	190	502.5	19,095
7	51-100	1.5	112.5	4.5	337.5
8	51-100	2.5	187.5	23.75	1,781.25
9	51-100	40	3,000	520	39,000
10	101-200	*Assumed as 20*	*3,000*	*Assumed as 500*	*75,000*
11	101-200	8	1,200	54	8,100
12	201-400	20	6,000	510	153,000
TOTAL			13,926.5		297,574.5

If the distribution of firms interviewed is assumed to be broadly representative of the IP valuation market as a whole, this figure needs to be divided by 12 and multiplied by 40 to produce an overall estimate. If the lowest possible cost of every IP valuation were used as a benchmark, this would lead to a figure of a little under £50m annually. However, since it is clear from our interviews that there are cases where valuations can be substantially more expensive based on their contentiousness, complexity, or the period of time over which they have been conducted, the variation is too great to allow a meaningful estimate of market value to be formed. If the mid-point of the price range quoted by valuers (where available) is used, it produces a much higher figure of just under £1bn annually.

Another way of determining an approximate figure could be to consider the turnover estimates associated with IP valuation activity. However, since the revenues generated by each of the valuation teams interviewed also include a wide variety of other activities that may dominate the IP valuation activity, and is commercially very sensitive, this approach was not considered likely to yield a meaningful estimate.

5.3.3. The number of people engaged in IP valuation

The number of valuers can be approximated from the interview responses and compared with an internal industry estimate offered during the course of the valuer interview programme, as shown below.

In the course of investigating the background and qualifications of the staff engaged in IP valuation activities, each firm was asked to indicate the number of staff employed that are actively engaged in IP valuation at any level (it is reasonable to assume, in the case of accounting firms in particular, that many will also be engaged in business valuation and other specialist activities). The results are shown in Table 5-3 below.

Table 5-3. Number of team members involved in IP valuation

Respondent Number (randomised)	Number of staff involved in IP valuation
1	5
2	5
3	40
4	25
5	45
6	2
7	2
8	30
9	5
10	5
11	20
12	2
13	Assumed as 10
TOTAL	196

If the same logic is applied as has been used to determine the estimates of valuation volume, it suggests that the total number of people engaged in specialist IP valuation (among other valuation-related activities) could be around 600. This compares with an internal industry estimate of 400 offered at interview (which related solely to the size of the teams known to be working at the larger accounting firms). This does not include the intermediaries such as the smaller accountants or patent attorneys that may be undertaking some form of IP evaluation or evaluation directly for their clients.

While this figure is approximate, it illustrates the difference in scale between the intangible asset valuation profession and the well-established industry operating to serve market needs for land, property and construction assets (for example, the Royal Institute of Chartered Surveyors states on its website that it accredits 125,000 qualified and trainee professionals)[40].

This approximate number of practitioners can be used to test the reasonableness of the market value estimate in section 5.4.1. If a mid-point of the rough calculation and the internal estimate is used (500 individuals), it suggests an average turnover per capita of £100k (being £50m divided by 500). This looks likely to be a conservative total value, given what has been established on pricing points, and the high overheads associated with some valuation practices.

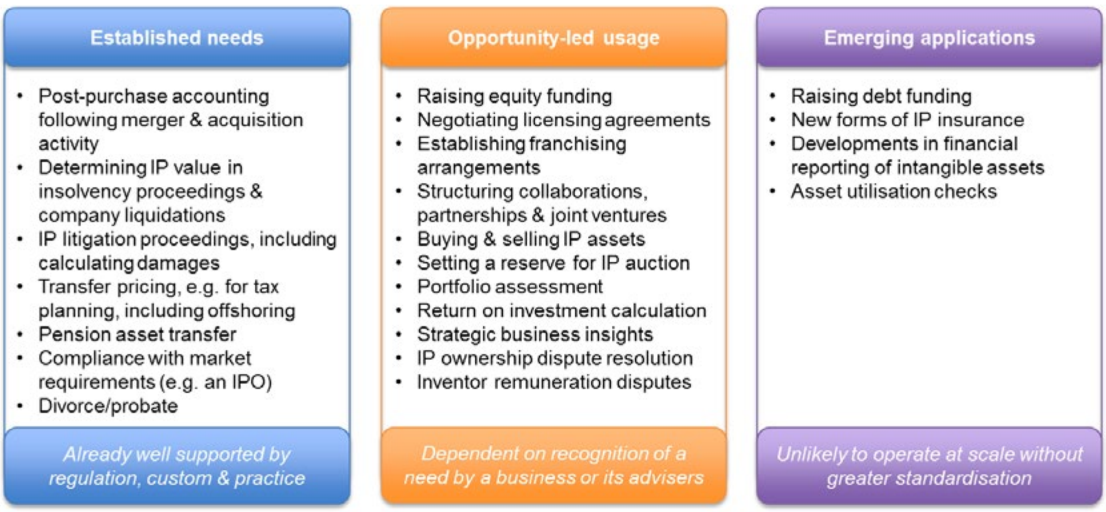
However, if the mid-point of prices quoted is used, this would produce an average turnover per capita of £2m (being £1bn divided by 500); given the varying levels of seniority at which different members of a valuation team will be operating, this seems unlikely to be correct.

5.4. Indicators of market demand

In order to further examine the reasonableness of the estimates developed in the preceding section, and to aid consideration of whether there are untapped opportunities for IP valuation to be used more widely, it is helpful to consider how many of the drivers for IP valuation can be sized. This process can also test the theory of how much of the existing valuation activity is prompted by established need compared with opportunity-led drivers.

By examining Figure 4-2 in Chapter 4, it is apparent that some of the contexts in which IP valuation may be necessary or advantageous can be scaled using secondary data. This point is illustrated in a modified version of this diagram, shown at Figure 5-1 below, where areas that can be quantified are shown in bold.

Figure 5-1. Areas of IP valuation activity that might be quantifiable



40 Figure quotes by the RICS website: http://www.rics.org/uk/about-rics/who-and-what/

Many of the triggers for IP valuation are internal to a business and dependent on the strategic choices it makes. As can be seen from Figure 5-1, the area of activity most likely to prove quantifiable largely corresponds with the first group, representing the established need category. This appears consistent with the evidence presented by the cross-section of valuers interviewed to date that necessity is the main volume driver. Care is needed in analysing the available data, however, as some of the available indicators may contain overlaps. All that can realistically be determined is the number of occasions that might conceivably give rise to a requirement for an IP valuation, if the parties involved determined that it would be advantageous to have one conducted.

The Appendix to this report contains the secondary sources for the evidence obtained and further detail on the basis of calculation in each instance. The following sections summarise the findings relating to the groups picked out in bold in Figure 5-1.

5.5. Demand within the ‘established use’ category

5.5.1. M&A Activity

Table 5-4. M&A activity from 2011 to 2015

	All domestic and outward M & A’s involving UK companies	Domestic acquisitions (UK companies acquiring other UK companies)	Acquisitions and mergers made abroad by UK companies (outward M&A)
2011	659	373	286
2012	388	266	122
2013	296	238	58
2014	278	173	105
2015	269	146	123

Office of National Statistics data shown in Table 5-4[41] indicates that the number of mergers and acquisitions (triggers to PPA activity) is currently running at between 250 and 300 deals annually, though as the table shows, this is significantly less at present than it has been in the comparatively recent past. This might be a contributory factor to why accounting firms specialising in PPA work feel that price pressure has increased (there may be the same number of firms competing for less available business).

5.5.2. Litigation

Litigation volume estimates have been sought from cases handled by the specialist IP Enterprise Court (formerly the Patents County Court), including associated Small Claims Track activity, and the Patents High Court and High Court[42]. Including trade mark passing-off claims, and both registered and unregistered design cases, IPEC figures (which have increased due to regulatory changes) are as set out in Table 5.5 following.

41 ONS source reference is required. The information collected is based on reports in the financial press, specialist magazines, company and financial websites, and is supplemented by special surveys to businesses to determine the form, value and timing of each transaction. Since the data collected is an important component within National Accounts and used for various other purposes by a variety of stakeholders it is likely to be the best available indication; however there are sometimes timing issues that preclude the timely collection of fully comprehensive data.

42 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/447710/Evaluation_of_the_Reforms_of_the_Intellectual_Property_Enterprise_Court_2010-2013.pdf

Table 5-5. IPEC cases from 2009 to 2013

PCC/IPEC: Case counts, 2009-2013						
Year	**Patent**	**Trade Mark**	**Design**	**Copyright**	**Database**	**Total**
2009	8	61	16	30	2	117
2010	8	45	18	37	2	110
2011	27	57	27	57	3	171
2012	26	82	39	66	1	214
2013	17	96	49	106	4	272
Total	86	341	149	296	12	884

Cases relating to intellectual property across the Patents High Court and the High Court over the same period are shown in Table 5-6: these are considerably higher, mainly accounted for by patents and copyright cases brought by either Phonographic Performance Limited (PPL) or the Performing Rights Society (PRS).

Table 5-6. High Court cases 2007-2013. The far right hand column shows the number of copyright cases excluding PPL/PRS cases, and the modified overall total if such cases are excluded.

PHC/HC: Case counts, 2007-2013								
Year	**Patent**	**Trade Mark**	**Design**	**Copyright**	**Database rights**	**Total**	**Copyright♦ excl. PPL**	**Total♦**
2009	49	66	14	265	4	398	57	190
2010	50	107	42	156	16	371	68	283
2011	92	107	21	324	22	566	76	318
2012	89	97	13	271	7	477	51	257
2013	61	60	19	241	6	387	77	223
Total	341	437	109	1257	55	2199	329	1271

Updated information relating solely to patents was published in April 2016[43] and confirms that the total number of actions seen in 2013 remains broadly representative (in 2014 there were 72 patent actions across the Patents High Court and IPEC).

When the annual totals for these two data sources are added together, it produces a fairly consistent number of cases (in 2011, 171+ 566 = 737; in 2012, 214 + 477 = 691; in 2013, 272 + 387 = 659). It therefore appears reasonable to conclude that the total number of IP-related cases that could potentially (but do not necessarily) require an assessment of damages or other litigation-related valuation work is in the region of 650-750 annually.

43 Reference required

The actual number of IP valuations will be dependent on the conduct and outcome of individual cases and appears from interview soundings unlikely to be more than around one-third of this number, at most – which would equate to around 200-250 events annually.

5.5.3. Company listings

Company listing volumes that may trigger IP valuations (or at least evaluations) can be determined by reference to statistics published by the London Stock Exchange (LSE), since listings on other markets are likely to require local expertise. LSE provides data sheets[44] on new issues and data on initial public offerings across its various markets – being the main market, international market, Alternative Investment Market (AIM) and Specialist Fund Market (SFM).

Table 5-7 excludes the Professional Securities Market (PSM), as there have been no new issues or IPOs during the 2011-2015 period, but includes ISDX (formerly known as Plus Markets). This data is provided separately[45] as the exchange is now owned by ICAP (the acronym stands for ICAP Securities and Derivatives Exchange).

Table 5-7: list of company listings over time, by exchange

Market	Year	Number of listings	Of which IPO total
Total LSE	2011	153	77
	2012	113	67
	2013	151	103
	2014	193	137
	2015	149	96
Plus all ISDX	2011	22	-
	2012	9	-
	2013	5	-
	2014	2	-
	2015	22	-

Whilst the volumes fluctuate over the period studied, a maximum of 200 deals of this nature might be expected to complete a listing process. However, there will be an additional number of planned listings for which preparations are made, but which (for various reasons) do not ultimately make it to market. It therefore appears likely that the volume of IP valuation business (as part of intellectual capital statement preparation) that could be generated from listing may be higher – perhaps 300 annually.

44 http://www.londonstockexchange.com/statistics/new-issues-further-issues/new-issues-further-issue
45 http://www.isdx.com/investor-info/market-statistics/

5.5.4. Insolvencies

Interview soundings on the role of IP valuation in company insolvency proceedings have confirmed that it is only deemed to be applicable in a comparatively small proportion of cases. A volume estimate therefore requires consideration of the type of activity and the likelihood of any IP assets actually being involved (administration, company voluntary arrangement and receivership). If insolvency leads to liquidation, there could be IP to be disposed of; in administration, it may be one of the assets needed to sell the business as a going concern.

The Insolvency Service[46] publishes regular updates on the volume of insolvencies. Table 5-8 relates to 2015 figures for England and Wales only, to which may be added a further 1,258 total insolvencies relating to Scotland and Northern Ireland.

Table 5-8. Total company insolvencies during 2015 in England & Wales

Type	Provisional Total
Total company insolvencies	14,630
Compulsory liquidations	2,874
Creditors' voluntary liquidations (excluding following administration)	9,981
Administrations	1,407
Company voluntary arrangements	357
Administrative receiverships	11

To estimate the actual proportion of the 16,000 or so insolvencies currently occurring annually across the whole of the UK that may fall into this category, the breakdown of insolvencies by sector has been studied. This is available from the experimental statistics generated by the Insolvency Service as part of its quarterly reporting outputs, and can be compared with sectoral IP intensity, as previously determined by UK IPO and set out in more detail in the Appendix. The three top sectors (Manufacturing, Professional and scientific and Information and communications) accounted for 2,327 creditors' voluntary liquidations and 267 compulsory liquidations in 2014.

It therefore appears that up to 2,500 insolvencies per annum could potentially justify an assessment to be made of IP and intangible asset value with a view to disposal or other means of recovery (such as restructuring). However, since interviews with both valuers and insolvency practitioners suggest that the current figure is considerably lower, a more conservative view has been taken, concluding that only 10-20% of cases actually involve any detailed consideration of IP value. This would place the number at a much lower figure of between 250 and 500 cases annually.

46 Official statistical summary, January-March 2016, Insolvency Service (reference requires updating)

5.5.5. Pension and IP asset finance

The pension and specialist IP asset finance markets are relatively small. The largest provider of pension-led finance is Clifton Asset Management, whose website states that the total number of businesses it has funded using this method (over an extended period) is a total of 1,887[47].

However, continuing changes to the legal and regulatory environment for pensions may be having an effect on total numbers. Based on soundings with both financiers and valuers as part of this study, the total number of deals completed annually in this space appears unlikely to be more than 150 at the present time.

5.5.6. Conclusions from secondary data on established uses for IP valuation

As set out in Section 5.4, the purpose of this sizing exercise is to assess the reasonableness of the volume estimates derived from 'top-down' and 'bottom-up' analysis. It also aims to test the theory that established use is the primary driver of activity, and may provide indications of whether there is 'untapped' volume within this category.

The secondary data on the established uses for IP valuation is summarised in Table 5-9, with the central column considering how many IP valuations may be triggered annually now, and the right hand column showing the maximum level of occasions that this category of activity might drive if every opportunity to consider IP value were to be taken.

Soundings were obtained during the study from a number of individual insolvency practitioners that provided insights into the frequency with which IP and intangible asset value comes into consideration. Quotes included the following:

'We have had some quite valuable assets going back a few years, but of late they have tended to be of fairly insignificant values. I would say once every few months we come across some intangible assets which are worth bothering about.'

'I would always ask a specialist to have a look depending on the type of asset, as there can be real hidden value. Some specialists have done good work for us in the past, but tend to be expensive on valuation fees as they not only thoroughly value but also rigorously test the market. That is key in terms of extracting value as it's not always apparent the value such an asset has to somebody. Even more so with this asset, it's worth what it's worth to somebody else, and that can often be a lot.

'I have had a few jobs over the years though where that type of asset has yielded an unexpected windfall on a job.'

47 www.pensionledfunding.com, accessed 16/12/2016

Table 5-9. Estimate of the volume of IP valuation activity in different areas

Area of activity	Current estimated volume	Maximum estimated volume
M&A activity	250-300	650-700
Litigation activity	200-250	650-750
Company listing activity	300	300
Insolvency proceedings	250-500	2,500
Pension and asset financing	150	250
TOTAL	1,150-1,400	4,350 – 4,500

It should be noted that this table does not include transfer pricing and associated asset sales, and similar forms of non-event driven financial reporting, which could account for a potentially significant proportion of established need cases. Based on valuer interviews, these could well account for a three-figure number of transactions annually, and might be as important as insolvency-related work. The figures also exclude the use of IP valuation to resolve divorce and probate issues that may also have been included within the ‘top-down’ estimates provided via the HMRC SAV team.

This being the case, the following conclusions may be drawn on established usage:

- The established need category is theoretically large enough to account for all the IP valuations that are currently taking place (estimated at 3,000 – 4,000 per annum). However, given the comparatively low proportion of litigation and insolvency cases in which IP valuations are currently being sought (based on interview data), the maximum estimated volume is unlikely to be reached. The realistic use of IP valuation in insolvency is likely to be 2,000 less than the maximum shown in Table 5.9. The established need category is not therefore likely to be accounting for all activity at present

- If the current estimated volume column shown in Table 5-9 were to be augmented with an estimate of transfer volumes, dispute resolution and non-event driven financial work, the current total would rise to a figure closer to 2,000 annually

- It therefore appears probable that the established need category accounts for a substantial proportion of current annual IP valuation volumes, but not all

- It is likely that opportunity-led valuations are making a contribution to the overall total at the present time (a point considered further in the following section)

Valuers are unlikely to have an ability to influence the volume of business obtained from the established need category. In many cases they will be dependent on intermediaries to identify the fact that a given customer has a need; in others, such as in the case of M&A activity, the volume of business is dependent on external market factors (e.g. market confidence).

5.6. Demand within the 'opportunity-led' category

5.6.1. Equity Investment

Considering the categories of 'opportunity-led' valuation listed in Figure 5-1 above, the main area that is quantifiable is the area of equity investment, where the calculation of an IP value may assist in substantiating the value of a business as a whole, as well as making an investment in it appear more attractive.

When a company raises investment by issuing equity, it is necessary to place a value on the shares. In the case of an early stage company, it is often the case that the majority of any value in the company will relate to intangible assets. While it does not follow that such share valuations are based on a specific assessment of IP asset value, a range of valuers have identified that work does arise from equity deals, suggesting that this is an important area for IP valuation, particularly amongst smaller and early stage companies.

The main sources examined in order to derive an estimate of investment activity levels (which are likely to contain a significant amount of overlap) are:

- From official records, the number of companies receiving investment that qualifies for tax relief under the Enterprise Investment Scheme (EIS) and Seed Enterprise Investment Scheme (SEIS). While frequently used, these exclude certain forms of investment, such as convertible loans and corporate investment (for example private equity and venture capital)

- From industry databases, the number of fundraisings recorded by British Venture Capital Association (BVCA) members and the number of entries on the Beauhurst database of completed finance rounds. The first of these is based on survey data, but with a very high level of compliance; the second is generally derived (in the first instance) from SH01 form returns to Companies House (these forms record changes to share capital, and are a mandatory requirement)

- Surveys have also been conducted on **crowdfunding** activity that may contribute to the overall picture

It is noted that a VCT fund, venture capital company or private equity firm would be likely to engage in broader technology evaluation work, which would probably be done in-house as part of due diligence activity. This may or may not seek to establish a separate value for the IP, but would generally consider the sustainability of the technology involved (if any) and other areas of competitive advantage.

A more detailed analysis of EIS/SEIS, BVCA and Beauhurst data is contained in the Appendix. The headline finding is that the total annual volume of relevant equity transactions is not less than 6,400. Of this total, it seems likely that the deals involving UK corporate investment (965) will have involved some formal evaluation of IP (or at least of technology and market presence), probably done by analysts in-house. Conversely, fundraising activities run on crowdfunding platforms (720) are very unlikely to have had any kind of formal IP value assessment.

This total is derived from the following findings:

- 3,130 companies are recorded as having received EIS qualifying investment totalling £1.66bn during the 2014-15 tax year. Of this, half (£880m) related to first time investments. There were also 2,185 companies receiving investment under SEIS, raising £168m, the vast majority of which (1,715) were raising finance for the first time. The average amount raised under EIS is therefore £530k, much higher than with SEIS (which has a restriction of £100k maximum investment per annum per investor, and £150k in total), with its average of £77k

- This suggests a total of around 5,300 fundraisings annually where individual investors are involved. However, while each individual dataset should not contain overlapping companies, the combined EIS and SEIS sample is quite likely to involve some duplication (with SEIS recipients moving out of the scope of SEIS provision within the same tax year and taking a further round under EIS instead). If, by way of illustration, this has happened in half the cases where SEIS funding has been obtained, it would bring down the overall total of companies receiving qualifying investment annually to around 4,200

- A 2009 report by Nesta found that only 57% of angel investments qualified for EIS reliefs[48] - but given that reliefs have been made more generous during the intervening time, it seems doubtful that the figure would be as low if measured again. If it is assumed that between two-thirds and three-quarters of all private investments of this nature now fall within EIS, it would indicate an annual volume of between 5,600 and 6,200 companies annually, though this only reflects the number of deals that actually happen, rather than the number that are attempted (the point at which IP value might be considered)

- BVCA collects statistics on investment levels and publishes these in an annual report[49]. The 2015 figures, published in August 2016, estimate that domestic (UK) investment was made in 795 companies and the amount invested totalled just under £6bn

- BVCA members also make international investments. When the value of these transactions is included, the 2015 numbers rise to 965 and almost £17bn (reflecting the fact that while investments in UK businesses are numerically far greater, representing 82% of all deals reported, overseas investment is often larger: UK investments only account for 35% of deals by value). Where UK funds invest internationally, they may conduct due diligence and IP valuation in the UK, though it is noted that overseas investments are different in character (venture capital and expansion capital account for 80% of domestic investments by number, but only 47% of overseas investments on the same basis)

48 http://www.nesta.org.uk/sites/default/files/siding_with_the_angels.pdf
49 http://www.bvca.co.uk/Portals/0/library/documents/BVCA%20RIA%202015.pdf

- As a separate indicator of activity, the 2015 edition of Beauhurst's summary of investment activity, 'The Deal' (which does not follow all businesses) records a total of 2,989 investment transactions, of which 1,640 were not publicly announced. The value of investment in UK start-ups and scale-ups quoted in the report is calculated by the company to be worth over £4.9bn. Comparison of this figure with the total value of EIS claims reinforces the presumption that a substantial proportion of total investment received by value, though not necessarily by volume, is not EIS qualifying (because it comes from corporate entities)

- The JBS Pushing Boundaries report[50] puts the 2015 figure for total equity-based crowdfunding at £332m, or £245m excluding real estate: also the largest platform, Crowdcube, reports on its website[51] that it had 166 successful raises in 2015, totalling £83m (out of a total of £118m invested). JBS further concludes that the total number of equity crowdfunding deals in the UK has grown rapidly and stood at 720 in 2015, according to its alternative finance industry tracking data

5.6.2. University spin-outs

One other area identified by valuers where IP valuations are sometimes sought relates to university **spin-out** activity. It appears worthwhile seeking to quantify this activity separately, to lend confidence to the overall estimates being developed, since by definition, the asset base of such firms is likely to be 'intangibles-heavy'.

A recent report[52] on data released by the Higher Education Statistics Agency sets out the number of spin-outs created:

Table 5-10. UK University spin-out activity in 2014 & 2015

Number of new graduate spinouts	**2014**	4,581
	2015	4,160
Spinouts created by staff members	**2014**	69
	2015	70

Whilst the number of graduate spinouts appears quite large, some of these are created as part of the educational process itself, and are therefore likely to be short-lived. Those led by faculty members appear more likely to involve developments from fundamental science, for example, but the number established annually is small.

50 https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/centres/alternative-finance/downloads/2015-uk-alternative-finance-industry-report.pdf
51 Information obtained from www.crowdcube.com on 15/12/2016
52 http://www.globaluniversityventuring.com/article.php/5226/uk-higher-education-spinout-data-released

Since the need for investment appears to be the trigger most likely to prompt the need for IP valuation, it is likely that any potential activity is already being captured within the estimates derived in section 5.6.1 above.

5.6.3. Conclusions from secondary data on opportunity-led IP valuation

As previously noted, there are a number of opportunity-led prompts for IP valuation that are difficult to quantify. No reliable secondary sources have been identified to indicate the overall number of collaborative partnerships, IP sales and purchases, licensing agreements or IP ownership disputes that happen annually. It is also difficult to ascertain how many new franchises (as opposed to new outlets for existing franchises) are set up each year.

However, from relevant activity that can be quantified (relating to investment and spin-outs), it appears reasonable to conclude that there are more than enough opportunity-led events to account for the difference between the volume of 'established need' triggers currently happening annually and the overall total number of IP valuations.

If the quantifiable and augmented elements of the established need category (~2000) are subtracted from the 3,000 – 4,000 valuations estimated to be occurring annually, it appears likely that around 1,000 – 2,000 relevant opportunity-led events might be prompting some formal consideration of IP value.

This assumes that the 3,000 – 4,000 figure is correct. The total number may be higher, if it is assumed that corporate investments are more likely to be evaluated for their IP content by internal teams. Such activity would not be included within the 'bottom-up' estimates derived from specialist valuers and large accounting firms, or those obtained by extrapolating HMRC SAV team activity.

5.7. Potential demand levels associated with emerging applications

5.7.1. Use of IP assets in lending

The remaining point to consider is whether new applications for IP valuation could, over time, substantially augment the existing body of established and opportunity-led use cases. The area that has received most policy attention, and which emerges from the new primary research conducted for this study summarised in Chapter 3, relates to the use of IP as security for lending.

Some national and international precedents for IP asset-backed lending and its effects on IP valuation are summarised in the Appendix. In many cases, policy intervention has been required because of concerns voiced by lenders regarding the risk that there will be no realisable value to these assets, requiring guarantee schemes to be put in place to provide the required 'safety net'.

Neil Phelps is Head of Media Banking at Coutts, one of a select number of UK banks to provide facilities for borrowing against the value of owned copyrights such as film and music publishing rights.

Coutts is active in the film & TV industry through its specialist team established nearly 30 years ago. Film & TV programme makers can approach the bank to consider finance for production purposes. Lending can be provided against allowable tax credit incentives, pre-sale contracts or acceptable commissions of TV programming. The bank lends against known future contracted payments (or available tax credit incentives) that are paid provided the film or TV programme is completed and delivered. In the case of tax credits, where allowable expenditure has been incurred and a correct claim submitted. For films, completion and delivery risk is addressed using a completion bond.

Film and TV production financing use similar principles, although for TV amounts are smaller and are less complex. Completion and delivery risks are addressed differently. In both cases, the track record of the production team is very important. The bank will always require full security over relevant IP rights in addition to future cash flows for its repayment.

Coutts uses established metrics to determine the value of outright owned or acceptable licensed libraries that it will consider as security. This will generally be based on the historic sales record of IP in all territories, focusing on recent and forecast sales. The bank will then apply appropriate discounts to future sales revenues such IP is expected to generate.

Neil stresses it is important to understand whether and how the content of a library has been and is continuing to be refreshed, as well as understanding income generated in the past and how this is expected to develop in future. The bank will take security over and collect revenues generated from all rights. Provenance checks are critical to ensure anticipated revenues are available to service and repay borrowing. These are required from established, experienced, specialist IP lawyers.

The bank also lends against music publishing copyrights (catalogues) that have different forms and types of ownership. This IP represents its security, and future cash flows its source of servicing and repayment. Again, provenance checks are critical.

The difference a robust valuation makes can be considerable. *'If we are lending based on our assessment of a library or catalogue value, we may consider a maximum advance up to 25% of the value we consider the IP has. We use our experience, knowledge and expertise in the industry. If a sector specialist professional valuation is undertaken for the bank by an acceptable and well-established firm of accountants or recognised valuer, then we may lend up to 50% of the value. It means we are able to benefit from and rely upon significantly more detail and visibility around substance, provenance, performance and spread of revenue generation within a library or catalogue.'*

Neil cautions that other types of IP, for example in the technology sector, are not suited to this approach and model. *'It is very challenging to get the comfort needed from the amount spent on development of IP. Often there is not a demonstrable track record of demand or revenue generation. Reliance to assess value is on forecast revenues that are often not underpinned by robust contracted obligations. Such forecasts have to be discounted from what might be aspirational expectations rather than realistic and based on sound assumptions.'*

'In a 'gone' situation, IP of this nature can quickly lose most or all value and often we see today's technology overtaken tomorrow or quickly copied by alternatives coming to market. Uniqueness and cost of entry are key factors when considering technology IP value. Technology companies struggle to access senior debt because enduring cash flows are not present or forecast revenues capable of being reliable for the term needed to repay. We need to work with contracted revenues from known and fully understood sources.'

Policy consideration on this matter is active and ongoing, particularly in the wider context of financing solutions for SMEs, as indicated by the most recent G20/OECD statement on this area from November 2015. Point 2 in the statement concerns measures to 'strengthen SME access to traditional bank financing' and includes the following:

> *Policy makers should consider enabling SMEs to use a broader set of assets beyond fixed collateral, such as movable assets, to secure loans. The feasibility of expanding the use of intangibles as collateral should be carefully considered, to ease access to lending particularly by knowledge-based companies, while taking into account potential risks[53].*

Two points must be stressed at the outset. Firstly, the presence or absence of collateral is one of many considerations entered into by lenders when determining whether to provide business finance; serviceability (ability to repay the debt) will be the primary factor in most lending contexts. Secondly, there are already some specialist 'vehicles' that are used to leverage certain types of intangible asset using asset-backed financing techniques (including pension-backed funding which is an 'established' use). For example, Lombard Technology Solutions now lends against business-critical software on a sale and license-back basis. It has a particular approach to valuing the IP, which is biased in favour of investment made and adapted from the tests it would traditionally have performed on tangible assets.

The current volumes associated with bank term lending and some estimates of activity associated with alternative finance are set out in more detail in the Appendix. In summary, figures on borrowing by SMEs, who would be the primary beneficiaries of any new IP-backed scheme, are released on a quarterly basis by the British Bankers Association[54] based on returns from seven banking groups. Looking purely at term loans, just under 150,000 applications were made by SMEs in 2015 (compared with approximately 172,000 in 2014), of which 81% were approved for small businesses and 90% for medium businesses.

53 G20/OECD High level Principles on SME Financing, Antalya, Turkey, November 2015

54 See for example https://www.bba.org.uk/news/statistics/sme-statistics/bank-support-for-smes-4th-quarter-2015/#

An IP-backed scheme would most likely only be relevant for a minority of lending cases. Information on the take-up of IP guarantee schemes in other countries is patchy, partly because most are quite young. The best reference point may be the UK's own Enterprise Finance Guarantee (EFG) scheme (provided to assist smaller businesses who meet bank serviceability and other lending criteria, apart from the absence of collateral), which has been running for a number of years.

Figures published in 2012[55], which appear to be the latest available, indicate that EFG loans then were running at the level of around 3,000 annually (this was less than half the level seen in 2009/10). Industry soundings indicate that this has reduced a little since, to around 2,500. The comparison is far from perfect, since EFG is designed to cope with absence of collateral, but not elevated technology dependency or growth-related risks) but does confirm that collateral is an issue that banks require assistance to overcome in certain circumstances, and that the potential exists to create schemes that can attract regular, mainstream use.

Bank lending is, of course, not the only type of business borrowing. Whilst the vast majority of SMEs continue to use major banks as their primary source of lending support, there have been changes in the lending market that partially parallel the impact crowdfunding has had in the equity space. Whilst alternative lending is still not widespread, it

55 https://www.gov.uk/government/statistics/number-of-enterprise-finance-guarantee-efg-scheme-loans-drawn

Mark Stevenson is a director at Anthony Jones, an insurance broker providing a range of business, personal and real estate insurance services including intellectual property insurance.

Mark comments: *'The insurance market has changed dramatically over the past 20 years, both in the extent of scope of cover and in complexity. The cover provided was originally just for defence and pursuit purposes and provided for legal costs. Limits of indemnity were small and premiums high (£20k). It was only saleable where private equity investors were making a major investment and effectively people's interests were being insured. The insurance market relies on the premiums of the many covering the costs of a few.' Because only a few were buying, the requirement to build up a pot to pay for a claim meant that they had to charge a high premium – but people didn't buy – it was catch 22.'*

But the situation has now changed. In addition to the traditional legal defence and pursuit costs, cover can be provided for: IP in commercial agreements (insuring against invalidity, royalty and milestone payments); historical IP costs claimed back if IP is rendered invalid; loss of R&D costs if injunction is brought about: and it is now possible to insure against loss of future profits (although this is still limited to up to 12 months' profits and capped at £500k if the IP is rendered invalid). Although it has a long way to go, insurance is now more flexible to fund the protection to match the risk.

The insurance industry doesn't value the IP as such, though it does some evaluation of the status of the IP and the associated investment in order to assess its risk. Mark notes that, *'Clients are asked to provide their own figures for rebuild costs.' To the extent that an IP valuation is performed, a cost based approach is used. Mark comments that, 'in effect the industry is now starting to mirror for intangibles what happens in the conventional property insurance market.'*

could be disproportionately beneficial to less established companies with a high dependency on IP, and is on a rapid growth curve: a 2013 Nesta study[56] found that peer-to-peer business lending had reached £193m, while the JBS report of 2015[57] found that non-real estate backed business peer-to-peer lending had risen to £881m.

5.7.2. IP and insurance

Three interviews and further informal soundings have been held with IP insurers, another area of policy interest. These discussions have confirmed that at present, IP insurance deals primarily with pursuit and defence cover to give businesses confidence that they can afford to defend their IP if challenged, and prosecute infringers if needed. It is also clear that the volume of policies currently sold annually is very low indeed.

This is driven from estimates of risk and cost of legal protection and is not directly linked to the intrinsic value of the IP. Clearly, companies are unlikely to seek to insure any IP that they do not believe to have significant business value, but agents, brokers and underwriters do not regard it as their business to quantify it.

Andrew Catton is an experienced IP insurance broker at Miller Insurance Services LLP, a firm specialising in risk exposure linked to tangible and intangible assets.

'In hands-on, day-to-day business, IP valuation could be perceived to be not that important. The assumption is that a company's IP has value, but the insurers would not get involved in the valuation process or necessarily enquire how value has been assessed. The traditional focus of IP underwriters has been on indemnifying against IP litigation costs and damages awards.'

'Where there is an IP valuation requirement, it is probably never for absolutely the exact figure. The only time it comes into play is in an enhanced product offering relating to loss of income if the rights to utilise the IP are affected. This is primarily centred on estimating cash flows, and we would rely on the client to provide the data on cash flows associated with the IP, which the underwriter will wish to analyse and verify. However, although an available and valuable insurance product, this is not often purchased.

'Emerging approaches, for example in relation to finance, are becoming very sophisticated, and there is definitely room for new insurance solutions working together with valuation consultants. Also, in terms of IP value, either people absolutely get it and realise there is a huge benefit in understanding value, or they don't even think about it – it's simply not on their radar.'

'The client and underwriter assessment and view of risk is often very different. The scope of cover on offer is generally broad enough with limit of indemnity capacity sufficient for client needs and can be tailored to meet insurance budget spend.'

'Greater balance sheet visibility of IP value would certainly get more people interested and aware of IP insurance protection available. With, in particular, the enquiries for IP insurance we get from technology and science-focused start-ups, who seem to be more aware of IP risks, the issue is that they may well not have the insurance cost budget. The people to try to influence are the VCs and banks, etc. who are funding them.'

56 https://www.nesta.org.uk/sites/default/files/the_rise_of_future_finance.pdf

57 https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/centres/alternative-finance/downloads/2015-uk-alternative-finance-industry-report.pdf

However, there is some innovation occurring in the IP insurance market. Cover for loss of profits arising from invalidation is now available, which does require consideration of future cash flows, though this appears to be dealt with at present using a simple 'cap'. In other areas, brokers are beginning to offer lower cost policies with more standardised content in order to generate larger volumes and therefore a more satisfactory spread of risk.

The context in which IP valuation may have greatest significance for insurers in the future is in its use in connection with underwriting IP for finance. Here, volume estimates will already be incorporated within the preceding section.

5.7.3. IP valuation and financial accounting

Another possibility raised in primary research for this study is that company reporting requirements might one day extend to provision of information on intellectual assets, and possibly to their value contribution. Were such a compulsory provision to be introduced, the consequences would be far-reaching. For example, even if this only extended to registered limited companies, it would currently affect over three million businesses: it could also introduce a requirement for repeat valuations that has not previously existed.

At present, the structural aspect that prevents more intangible asset values being included on balance sheets is that there is no established market on which such assets can be traded (in contrast to tangible assets which are generally assumed to be comparatively liquid). Should such markets be created in future, subject to the issues of comparability that are familiar (and often insuperable) challenges for IP valuers, it could be argued that the value of specific identifiable assets on the balance sheet should be the price they would command in the market.

There seems little prospect of this happening in the foreseeable future for most assets – at least to the level of consistency and transparency required – though it is not inconceivable that this could be

Norman Shaw is the founder and CEO of an SME, ExactTrak, which has developed an innovative technology product protected by a patent. At the time of the IP valuation, the business was a start-up that was just generating its first revenues. The company was seeking angel investors and an existing investor suggested an IP valuation would be beneficial.

The company undertook a valuation and presented this to potential investors, who accepted the valuation and based their investments on it. As well as completing the intended transaction, Norman says the valuation helped the company understand that investing in their IP was worthwhile and that it produced a strong return.

Norman thinks that a large number of other start-ups could benefit from IP valuations, but that there was a lack of awareness that the service existed. He suggested educating funding groups – angel networks, crowd funding platform owners – of the benefit of IP valuations during fundraising. His view is that apart from its people, the only other asset most companies have is the IP and having that valued during funding negotiations really strengthens the company's negotiating hand. He thinks that the government could also increase awareness by producing case studies, but that this would only be of use if they were well disseminated.

Norman is in favour of changing the accounting standards so that the IP assets and their value can be listed on a company's balance sheet in the annual accounts. He thinks that this may lead to the investment community taking intangibles more seriously and would therefore lead to an increase in IP-backed financial investments.

'There is a lack awareness of IP valuation services in the marketplace. My patent attorney firm does IP valuations as a separate part of the business, but never mentioned that service to me or offered an IP valuation. The service should be promoted more widely.'

done for certain, specified assets (there is already an exception relating to certain specific types of licences and permits that are regularly traded, for example).

It is also possible that new voluntary provisions concerning intangible asset reporting could be introduced, a point considered further in Chapter 7. However, these would not necessarily include a quantified value. Interviews with accounting firms who have been involved in many transactions that have brought assets onto balance sheets (for a variety of reasons) caution that while such activity has short-term benefits in making company accounts look more substantial, it also has drawbacks. These include the fact that value is memorialised at a particular point in time, and then has to be reviewed annually for impairment or (depending on the treatment applied) amortised over a set period.

Any impairment, and all **amortisation**, affects bottom-line company profitability and could (in extremis) influence distributable proceeds. More importantly perhaps, it means that the value of the assets may appear to be going down, when in fact they may be going up; and there is no opportunity to reflect the value that is being added to these assets through ongoing company investment, other than (in some cases) at cost.

Accordingly, while compulsory (or even voluntary) reporting has the potential to affect behaviour on the largest scale of all emerging applications for IP valuation, it is also a complex and difficult area.

5.7.4. Asset utilisation checks

As referenced in Chapter 4, there is a fourth possible area, linked to emerging developments in the US, which could drive IP valuation behaviour. This relates to the duty of care placed on company directors to ensure all a business's assets (including its intangible ones) are fully and appropriately utilised. This means that the value present in the assets should be appropriately realised and/or leveraged.

In the absence of any specific regulation to compel company directors to take further action in this area (which for reasons of avoiding 'red tape' appears unlikely to be implemented), developments in this area appear most likely to be driven by litigation and resulting case law. Enquiries for this study have not identified any specific activity in the UK in this area to date, though greater awareness of the possible risks might spur the boards of some companies into more detailed consideration of the role such assets play in value generation, and how they might be better harnessed.

5.7.5. Conclusions on emerging applications for IP valuation

As many interviewees and survey respondents for this study have identified, a more widespread facility to use IP assets for borrowing purposes (potentially backed by new forms of insurance) could be a major driver of IP value consideration, and therefore of valuation volumes. If a scheme equivalent to the Enterprise Finance Guarantee were introduced, it might double the current estimated size of the IP valuation market (especially when it is borne in mind that the number of applications would be higher than the value of loans).

However, this is also a complex area. To highlight just three areas of concern:

- Lending margins are tight, which will place cost pressure on valuation and due diligence services

- Lenders may be sceptical of IP valuations produced by companies unless they can place reliance on the results

- Rules regarding capital adequacy do not currently allow intangibles to be used as collateral, meaning that such lending has to be regarded as 'unsecured'

Changes to the requirements for statutory financial reporting would have a much wider-ranging impact on IP valuation volumes, were they to be introduced; however, such a change would face a large number of hurdles, of which perhaps the two largest are the variable importance of IP to individual business models, and the absence of transparent transactions to establish an evidence base for market-based valuation. It may be preferable, and appears much more feasible, for companies with business-critical intangibles to be offered a voluntary route for declaring what these assets contribute.

5.8. Overall conclusions: market size and expansion potential

In summary, it is possible to say the following about current levels of IP valuation activity:

- Awareness surveys in 2006 and 2010 ask a general question about considering IP value, followed by a more specific question on independent IP valuation depending on the response to the first question. These suggest 1% - 3% of firms have thought about value, of which only about 0.2% - 0.3% of the total have engaged the services of a professional valuer. While this might suggest around 18,000 IP valuations have been performed, it is not possible to estimate the timescale over which these might have been done

- The 2015 awareness survey involves a subset of companies who are already engaged with IP to some extent and offers more data on what IP they actually own. The 9% of companies with patents and 5% of companies with trade marks can be compared with the data produced by the IPO on the ownership of these IP rights. When extrapolated, this would suggest that a total of around 2,500 businesses have had their IP valued, though again, it is not possible to estimate the timescale for this activity

- Data extrapolated from interviews with valuers conducted for this study suggests that the annual volume across all purposes is in the region of 3,000 - 4,000 IP-specific valuations annually

- The information available from HM Revenue & Customs on the valuations it sees that feature IP, supports a view that around 3,000 – 4,000 valuations (excluding litigation) are occurring annually, within the 'established need' category that is believed to account for a large proportion of the activity seen

- Further data extrapolated from valuer interviews indicates that the amount spent by companies on IP valuation could not be less than £50m annually and is likely to be considerably higher – perhaps closer to, but not as high as, the £1bn that can be derived from mid-range pricing indicators

- This can be compared with the estimated number of industry practitioners (at least 600 in total): the lower figure for market size above suggests that each practitioner is delivering revenues of at least £100k annually, which appears likely to be an understatement. Since the £1bn figure would require each practitioner to earn £2m annually, that appears too high. The reality is somewhere in between

- Analysis of M&A activity, litigation, company listings, insolvencies and existing IP asset financing activity (but not including transfer pricing, which it has not been possible to estimate) suggest that the valuations in the existing needs category account for at least 1,150 to 1,400 events annually. Once an adjustment is made for transfer pricing, non-event driven financial work and dispute resolution data, which are known areas of valuation activity, this activity could currently account for up to 2,000 valuations annually

- Whilst there appear to be around 6,400 potentially relevant equity fundraising events annually, the demand for other opportunity-led IP valuation requirements is unknown. Considering the available data, it is estimated that the opportunity-led category overall is accounting for 1,000 – 2,000 IP valuation cases annually; it is also possible that corporate investment activity could be contributing a further 1,000 or so IP value assessments that neither valuation firms nor HMRC would see

- The impact on market activity of compulsory or voluntary reporting of IP value within company accounts would be very large, but is unlikely to happen without intervention. Amongst the emerging applications, current policy directions suggest the most likely influencer would come from greater attention being paid to IP value in lending, which might over time resemble the Enterprise Finance Guarantee in volume terms (around 2,500 annually)

Given the fairly high degree of convergence between some of the indicators gained from the primary research, it appears reasonable to conclude that the volume of IP valuations currently being conducted is less than 5,000 in total.

As indicated above, there is existing potential for more valuations to be done. If investors (including private investors) habitually looked at IP value when deciding whether to buy shares in private companies, this alone could double the number of IP valuations conducted annually. If insolvency practitioners routinely considered IP value (only in the sectors where it is most likely to be relevant), this could add an extra 2,000 valuations annually. If the M&A market were more buoyant then 400-500 more PPA exercises would flow through into the market. If lenders gave active consideration to IP value – if only in the context of a specific government scheme – this would also lead to thousands of new reports being conducted.

However, whilst it is possible to provide an insight into market activity, it is not possible to reach any well-evidenced conclusions on overall market value, due to the broad range of pricing encountered.

6. Competition in the IP valuation market

Highlights
Any evidence of market power appears limited to sub-sections of the IP valuation market. Large accounting firms dominate financial reporting work, but not other applications
Whilst IP valuation is a specialist area of activity, entry barriers are not high
No evidence was found of co-ordinated conduct or of principal-agent issues causing difficulties
Vertical integration does not appear to be an issue for the industry. Vertical relationships may be, though they may also deliver user benefits by streamlining access to appropriately qualified and experienced valuers, at least for specialist needs (such as contentious valuation work)
The largest area of difficulty is weak customer response, which appears to be a result of insufficiently compelling incentives

6.1. Why IP valuation markets might not function well

6.1.1. Introduction

In a well-functioning market, good competition is associated with firms that are already trading being subject to competitive constraints from firms in the market; from possible new entrants; from new products; and from their customers. The opposite of this situation, in Office of Fair Trading (OFT) language, would be that some feature, or combination of features, of the market prevents, restricts or distorts competition. Such a 'feature' could be part or all of the structure of the market itself, or the behaviour of one or more persons on the supply or demand side (whether or not they are actually operating in the market).

A 'theory of harm' is the term commonly used to describe a hypothesis of how harmful competitive effects might arise in a market and adversely affect consumers. In the case of IP valuation services, these consumers would be businesses or other organisations that hold IP needing to be valued. Any factors that are identified could be termed Adverse Effects on Competition (AECs).

Competition Commission guidelines[58] indicate that when considering the level of competition present in a market, competitive harm normally comes from one of five places:

a) Unilateral market power (including market concentration)
b) Barriers to entry and expansion
c) Co-ordinated conduct
d) **Vertical relationships**
e) Weak customer response

58 Competition Commission guidelines for market investigations: Their role, procedures, assessment and remedies (2013), section 170

Each of these areas typically requires a number of possible factors to be considered. For example, barriers to entry and expansion might arise from the behaviour of participants in the market, but might also be attributable to regulations. Similarly, a weak customer response might be attributable to behavioural factors or to information asymmetries.

Each of these areas is analysed for its meaning and evidence below, using the definitions and examples provided from three sources: the Competition Commission guidelines referenced above, guidance on market studies provided by the OFT[59], and guidance on market investigation references, also from OFT60. As a separate point, but one which is related to d) and e) above, principal-agent issues are also examined.

Further consideration needs to be given to evidence that suggests the presence of countervailing factors. As the Competition Commission guidelines explain[61]:

> *In some circumstances, for example, the positive effects of efficiencies on competition associated with a particular market feature may outweigh the harmful effects of that feature, which would otherwise cause an AEC. Efficiencies can enhance rivalry when they induce one or more firms to follow a course of action of benefit to customers (e.g. lowering prices or increasing innovation) in response to actual or expected actions by rivals.*

In addition, it is important to determine whether any harm caused is material, or in OFT terminology, whether there is a 'significant detrimental effect in terms of higher prices, lower quality, less choice or less innovation.'

6.1.2. Unilateral market power (including market concentration)

Chapters 3 and 5, dealing with research findings and market sizing, provide evidence of a range of participants in the IP valuation market in different sizes or price points. No single firm dominates the IP valuation landscape, in terms of price or volume. However, it does not necessarily follow that market power is not a factor in IP valuation, or that dominance is not being displayed in other ways, i.e. collectively. One specialist valuer interviewee chose to characterise the dominant position of the Big Four accounting firms as an 'oligopoly' – which was all the more striking for being stated unprompted. Their position in the market has been the subject of previous enquiries (for example in the provision of audit services, in which respect virtually all of the FTSE 350 firms use one or more of them)[62].

The market share data set out in section 3 indicates that these firms have a very substantial (75%+) share of their defined total accountancy market by fee income. There are also some other characteristics present that would also be found in an oligopoly (firms offer similar services and the market is relatively stable). Also, very substantial difference in fee earnings is evident between the Big Four and the Tier Two firms, and this effectively establishes them as being in a 'different league' from their smaller competitors.

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59 Market studies: guidance on the OFT approach (OFT 519), 2010

60 Market investigation references: guidance about the making of references under part 4 of the Enterprise Act (OFT 511), 2003

61 Competition Commission guidelines for market investigations: Their role, procedures, assessment and remedies (2013), section 174

62 https://www.frc.org.uk/FRC-Documents/FRC/Competition-and-Choice-in-the-UK-Audit-Market.aspx

When the large firms that make up the majority of Big Four's customers require IP valuation support, it would be reasonable to assume that they are quite likely to turn to their incumbent provider. However, feedback from representative Big Four firms (and also from Tier Two accountants) indicates that because of their size, there is an internal separation between departments, making it difficult to keep all of the assistance that the company's teams can provide in front of senior client-facing staff.

Since these very large accounting firms do not provide all types of IP valuation, or serve all types of customer, there does not seem to be reason to conclude that they dominate the market as a whole. Our interviews indicate that a large proportion of their IP valuation workload (by number of assignments) relates to purchase price allocation (PPA), and several sources have indicated that this is an increasingly commoditised and price-competitive area of activity. Detailed discussions indicate that, while the firm that conducts the necessary due diligence for M&A activity is usually in pole position to pick up this work, it will be quoted for separately, and has far lower perceived value than other elements of transaction handling.

Were any collective dominance to exist, it seems likely that it would be temporary, given that very similar PPA approaches now have to be implemented for SMEs whose accounting needs would seem most likely typically to be served by smaller accountancy firms. Furthermore, collective dominance has particular limits that are defined in case law[63]. The three conditions stated in the court's judgement in Airtours vs. European Commission were:

> *Each member of the dominant oligopoly must have the ability to know how the others are behaving in order to monitor whether or not they are adopting a common policy; tacit collusion must be sustainable over time, which requires that retaliation against firms deviating from the common policy is feasible; and the foreseeable reaction of current and future competitors, and of consumers, must not jeopardise the results expected from the common policy.*

Overall, no evidence has been found to support the view that an oligopoly or market concentration exists across IP valuation service provision as a whole because of the diversity of purposes and variations under scrutiny.

6.1.3. Barriers to entry and expansion

The concept of market power is closely related to other factors such as the presence of entry barriers. Whilst representatives from large accounting firms do participate in industry discussions relating to standards and their implementation (including discussions relating to the introduction of a new qualification for intangibles valuation, under the auspices of the American Society of Appraisers[64]) the intensity of rivalry that exists between them does not support the suggestion of collusion. Any harm that could be being caused to competition appears more likely to be caused by the vertically integrated nature of their businesses, which supports a very wide range of services and naturally promotes internal referral (though this is not a 'frictionless' process, as indicated above).

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63 Particularly Case T-342/99, Airtours v Commission [2002] 5 CMLR 317

64 Details of the Certified in Entity and Intangible Evaluations (CEIV) qualification: http://www.appraisers.org/credentials/ceiv-certification

The premise relating to entry, expansion and exit barriers relates chiefly to the level of sunk cost inevitably involved in market participation. Depending on the market under scrutiny, these could relate to many factors, such as set-up costs, assets required, or advertising and promotional costs[65]:

> *One definition of entry barriers is any feature of the market that gives incumbent suppliers a cost or other advantage over efficient potential entrants. The strength of entry barriers may then be measured by the extent of the cost (or other) disadvantage that the entrant must bear.*

Three main types of barriers could be present, relating to:

a) Absolute advantages like IP rights, regulatory barriers or access to scarce inputs

b) Strategic or first mover advantages of incumbents that increase the commitment a new entrant needs to make (these may be especially important where economies of scale matter, or incumbents have built up brand loyalty)

c) Exclusionary behaviour by incumbents, like predatory price cuts directed at an entrant, or restrictive distribution arrangements

65 Market investigation references: guidance about the making of references under part 4 of the Enterprise Act (OFT 511), 2003

Mark Collard is Associate Partner, Corporate Finance at 'Big Four' accountants KPMG. With 35 years' experience in the industry, he is part of a 45-strong client-facing team.

IP features directly in about 20% of the valuation work conducted by the team. Within this subset, the majority relates to post-purchase allocation of value to intangible assets following merger and acquisition activity. The remainder includes asset transfers and offshoring, occasional insolvency work, ownership disputes and third party sales where the main asset of the company is off-balance sheet IP. The firm also has a specialist tax team.

Mark explains that a separate transaction services group within KPMG takes the lead on due diligence activities during M&A activity. He considers that the associated PPA work has become heavily commoditised in recent years, with increasing price pressure: *'We would hope to be in pole position to win it, since we have intimate knowledge of the target, but it's definitely not a given.'* In terms of expectations from large corporate clients he is clear that *'most people want a basically accurate picture.'*

In terms of the methodologies used, KPMG are *'big fans'* of international valuation standards. In most contexts income methods are preferred, specifically relief from royalty, with excess earnings used as a cross-check.

Cost may sometimes be relevant too, for example in a start-up context or where a business is loss-making *("a purchaser may pay something for the assets just for not having to go through the R&D phase").*

On market methods, Mark's view is that *'the trouble is comparing like with like. The whole point about these assets is that they are unique, and it's especially hard with private companies to find good examples.'*

In relation to these three points, the findings are as follows:

a) Whilst know-how and expertise are important in IP valuation, there are several routes to becoming involved in the practice, as indicated by the fact that practitioners interviewed have varied backgrounds (some being more scientific/technical, others legal, and others accounting-related).

Whilst in the market (especially in the US) there are a number of specific brands applied to valuation services, there appear to be few cases where proprietary rights actually apply (as business methods, valuation approaches would be difficult to patent; also, adherence to published standards and methodologies is an important confidence-building measure, and one which helps providers to explain the work required to deliver the service).

There are no particular regulatory barriers – certainly none that are centrally imposed by government – and most of the inputs required are not scarce, as they will either be supplied by the client or are capable of being obtained (at a cost) from publicly available information sources and databases. Professional indemnity insurance is required, and can be obtained (at a price). Therefore, none of these barriers apply.

b) There are certain specialist areas of IP valuation where strategic or first mover advantages exist. The risks and rewards associated with large transactions that require IP valuation may tend to make customers (and/or their intermediaries and business advisers) gravitate towards well-known and established firms that have a track record of delivering the desired results in their particular area and have invested in building their brands over many years. This appears consistent with normal market behaviour, based on a judgment regarding risk and reward. Also, apart from scale and urgency, there may be other factors at play.

Expert witness is a case in point. In order to secure work in this aspect of IP valuation, it is necessary to have experience in the area, as both the valuation outcome and the methods used to derive it may be subject to extensive, and often hostile, scrutiny. Firms that do not have this experience will not be able to win business of this nature, which appears to be a ‘vicious circle’. Whilst this could be construed as a barrier to a potentially lucrative part of the IP valuation market, it does not appear unreasonable for clients to require evidence of expertise in a court context. Also, the barrier only affects a limited volume of overall valuation activity, and it is clear from the evidence presented in Chapter 3 that clients have a choice of specialist valuers, accounting and legal firms and insolvency practitioners.

c) Consideration has also been given as to whether there may be any type of exclusionary behaviour present. The transactional nature of the drivers for IP valuation activity, the varying complexity of each assignment, and the absence of price transparency (in the sense that prices are advertised) do not appear to lend themselves to these strategies. Moreover, while valuers are interested in the development of professional standards, which may (among other things) impose requirements relating to practice and experience that new entrants might find difficult to meet, lack of compliance would not prevent them from offering valuation services *per se*. There are, arguably, some restrictions on distribution, but these are better understood as vertical relationships, covered separately below.

The specialist IP valuation firms interviewed to date all entered the market in the late 1990s to early 2000s when their (foresighted) leaders were starting to recognise that intangible assets were going to be important for growth and value and that UK company physical assets were starting to reduce proportionally on the balance sheet. However, there have been further new entrants in the last decade, including some in the last few years.

As well as entry, barriers can affect the prospects for expansion and growth. However, these will be more powerful in markets where there is a high switching cost; given the fact that the drivers for IP valuation relate mainly to external events, as explained in earlier chapters, there is no convincing evidence that such barriers are present in this market.

Similarly, barriers might make it less desirable for a firm to exit the market (where there are high sunk costs with no prospect of recovery). Whilst the literature suggests that this could promote tacit collusion (see also below), no interviewee has suggested such behaviours are present.

6.1.4. Co-ordinated conduct

Another possible feature, which is typically associated with oligopolies, is where a number of participants co-ordinate their behaviour either formally or informally, for example to influence price.

An observation that suggests such co-ordination is unlikely to be an issue in the market is that prices are seldom advertised, making it difficult for firms to co-ordinate their policies. Similarly, in many IP valuation contexts, a two-way process is needed based on discussion with the customer in order to provide a price (an exception to this might be where IP valuation is included within the overall costs of handling a particular transaction, and bundled into an overall fee percentage – though interviews suggest this would be a relatively rare occurrence). The data gathered thus far on the ways most customers make their IP valuation buying decisions does not seem to support this analysis.

Another factor that would seem to mitigate against price co-ordination is the broad range of prices that have been quoted by most valuers. Whilst valuers do quite often know whether they are up against a competitor, and can sometimes take an educated guess as to who the competitor(s) might be, it would be fairly difficult for any one valuer to predict with confidence how another firm would view the complexity of a specific assignment. In interviewing larger and smaller firms, it is notable that they are very careful to set out in detail all their assumptions regarding matters such as purpose and data availability, in order to protect against 'scope creep', which if it occurs will also affect the ultimate price paid.

It is also possible that firm conduct might not be formally co-ordinated, but might be uncoordinated parallel conduct – or that there may be tacit collusion. If this were the case, there would most likely be homogeneous products offered by a limited number of similar firms, probably at similar levels of price discounting to establish higher barriers to entry. Also, to support such behaviour, prices, outputs and market shares would need to be transparent, and there would probably be evidence of some 'facilitating practices' such as advance price announcements and uniform approaches to the presentation of costs. This does not appear to be a good description of the market for IP valuation, which is not homogeneous and does not exhibit the degree of transparency required for these practices to happen.

6.1.5. Vertical relationships

Two forms of vertical relationship can have an adverse effect on consumer choice:

- 'Vertical integration', meaning that activities at upstream and downstream levels of the supply chain have been brought under common ownership and control

- 'Vertical arrangements' that fall short of vertical integration. These may involve agreed pricing schemes or other contractual provisions between companies at different levels of the supply chain[66]

Vertical relationships are important to consider because where they are very strong, they may have the effect of preventing competitors from entering a market. However, they can also be beneficial (because they provide cost and therefore price advantages), and in some contexts, they are specifically permitted (for example under the EC block exemption provisions that cover the sale of motor vehicles). The OFT guidance previously referenced makes the following points:

> *A structural market feature that can have a bearing on market conduct and the effectiveness of competition is the degree (if any) of vertical integration of firms engaged in the market. Although vertical integration may often be efficient or pro-competitive, a vertically integrated firm can have adverse effects on competition if it can foreclose non-integrated competitors from a significant part of their market either by refusing to supply or to deal with them or by discriminating against them in its pricing. Vertical integration may also add to entry barriers if a potential competitor would have to enter at both stages in order to be able to compete effectively with incumbent firms, and if the riskiness of the necessary investment is thereby increased.*

There are examples in the market where vertical integration appears to be present and may encourage a particular customer to buy several services from related suppliers. The most obvious instances relate to the large accounting firms, associated with a diverse range of offerings that may be offered at the same time (such as combining post-purchase activities, including PPA, with pre-purchase activities, such as tax advice and due diligence). It appears possible that a customer's choice of firm might be predicated on whether a full service offering of this nature is available because of the efficiencies or economies of scale that might be on offer.

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66 Definitions from ***Competition Commission guidelines for market investigations: Their role, procedures, assessment and remedies*** (2013),

However, as noted in previous chapters, the large accounting firms interviewed indicated that PPA is becoming increasingly commoditised. Other relevant findings include the following:

- As briefly discussed above, there is a degree of internal separation between departments and teams which mitigates against close-coordination, as each one works to achieve its own commercial objectives

- In the case of PPA, which might be purchased as a consequence of having already had support for an acquisition transaction, the due diligence activity has to be undertaken prior to there being any certainty that a deal will be done, at which time a customer will not be thinking in specific terms about accounting treatment (and any discussions that the customer does have may not be with the valuation team)

- The customer associates a much larger 'value add' with doing the deal than with accounting for it afterwards

- While the company will have access to additional insights relating to the target business that could introduce process efficiencies, valuers have explained that the questions which need to be asked for PPA purposes are different from the types of enquiries that will typically need to be made during the deal process

- Larger customers can and do sometimes elect to do the PPA work themselves in-house, so there is no guarantee that *any* specialist valuer will win the business

Vertical integration should only really be an issue where one or more participants have substantial shares of one or other (or both) of the linked markets. Here, as in other cases studied above, whether this exists depends to a degree on how broadly or narrowly the market for IP valuation is defined, but for the reasons explored in Chapter 4 (relating to the stage of maturity of businesses obtaining IP valuations from vertically integrated firms), the largest and most integrated service providers are also dealing with the most mature and sophisticated consumers of IP valuation services, who have better incentives and more resources to conduct market searches.

Vertical relationships, however, are a slightly different matter. It is evident from the interviews conducted thus far that referrals are extremely important within the IP valuation market. Because there is a wide variety of triggers that may create the demand for one or more forms of IP valuation, it is extremely difficult for any one provider or intermediary to target consumers at the appropriate time, and therefore there is a degree of reliance on trusted relationships to produce referrals that lead to new business. As examples:

- The natural first port of call on tax advice relating to IP matters will be a firm's accountant. Depending on the skills available internally, the accountant will either deal with the matter directly or refer to an expert. The expert may already be known to the accountant, or the accountant may conduct searches on behalf of its client. Thus, the ultimate selection of valuation provider is heavily influenced by the accountant, and could be either entirely arm's length or an example of a well-established referral procedure. However, owing to professional conduct standards, there is not likely to be any fee associated with any such process

- Where a company is seeking to understand the value of its IP portfolio or assess the return it is obtaining on its investment in R&D, the first party it may consult might be its patent agent rather than its accountant. In the survey conducted for this report, 85% of IP advisory firms confirmed that they had been asked questions about IP valuation and/or suggested it may be of value to clients. Some of the firms that register patents for clients in the UK market have their own valuation offer (in the survey responses 24% indicated that they assisted companies with valuation within the firm, though it is likely that some of this activity relates to qualitative assessment); others have established links with one or more valuation providers (27%); still others receive such requests so infrequently that they have no existing relationships and would need to conduct their own searches

- If a company is involved in an infringement dispute it will consult a law firm. Some such firms will have one or more people internally who can deal with associated valuation queries, but many will not. Where expert witness is required, considerable weight will be placed on the track record of the expert in previous cases, which may tend to restrict the range of options presented to a client

- An equity financier looking to invest in a company may request a valuation to be conducted of a business, but is more likely to carry out due diligence that will include 'evaluation' of the technology. In a more structured firm this will typically involve internal resource but may also entail an engagement with a trusted external provider where budgets permit (in the 'business angel' environment, however, such budgets are generally by definition tight)

- If a bank is considering utilising IP as security for a financing instrument, it is very unlikely to have the necessary expertise in-house to conduct the necessary enquiries and calculations, and will outsource on the basis of its existing contacts. Interviews in copyright asset finance suggest that these trusted provider relationships exist. Alternatively, where a financier regularly uses IP (such as has historically been the case in structuring pension-based loans), it is more likely that a panel of valuers will be retained. Because the valuation is necessary for the loan to be completed, the financier may direct the consumer to a specific lender, or contract directly with them itself

It follows that a possible limiting factor on competition and choice in the market is the nature of the existing formal and informal links that exist between firms offering different types of IP valuation and those who offer complementary services, and/or who require access to the results. However, as stated in section 6.1.7 below, there does not appear to be any quantifiable financial incentive to support any such activity.

6.1.6. Weak customer response

A factor that already emerges as a key determinant of activity in this space is the customers' buying habits, which may be linked to their perception of buyer versus seller power:

> *Competition requires customer choice. In order to make informed choices, customers need to spend at least some time and effort finding out what alternative products are available to them. Where such search costs are perceived to be high, searching is likely to be curtailed. Customer sensitivity about a product may also limit the amount of search that will be contemplated. Depending on other features of the market, reduced searching may blunt sellers' incentives to compete[67].*

If a reluctance or unwillingness to search is apparent, this could itself stem from a number of causes, such as information asymmetries whereby the consumer simply does not know enough about what they are looking for when the need for a valuation arises. This appears to be a very relevant consideration in IP valuation, judging by the findings set out in Chapter 3.

A further point requiring consideration relates to the incentives to engage in IP valuation at all, in the absence of identification of the need from an intermediary (as broadly described above). The findings from interviews and surveys suggest that there is almost invariably some specific trigger requiring the valuation to be conducted. In addition, one of the most frequent barriers stated unprompted by the specialist valuers and by firms receiving a valuation is that businesses in general are not aware of, and/or do not understand, the benefits of carrying out an IP valuation.

From a competition viewpoint, it is important to understand whether providers of services are benefiting from a general unwillingness to search, because there are enough uninformed consumers to provide high margins without the need to compete on price or quality. It is true to say that hardly any of the websites from specialist valuers provide any insights into service pricing, which is a feature sometimes associated with these circumstances. Only one 'fixed' price offered to the public was found, relating to the online tool – but it is also the only publicly offered 'fixed' service. However, some intermediaries may have agreed prices with valuers for standard/repeated valuations that serve a common purpose.

Further, the OFT cautions that, 'Where one-off purchases are involved, with no repeat sales, there will be little incentive for a firm to provide consumers with the information that they need. Indeed, there may be an incentive for the firm deliberately to provide consumers with partial and potentially misleading information.' The implication is that where there is no prospect of a repeat sale, there is less at stake financially if a firm does an unexceptional job: the question is whether this characterisation appears to fit IP valuation market activity, as established in this research.

The modest overall volumes of IP valuations conducted annually are, in part, a reflection of the fact that even where a customer has experienced the benefits of IP valuation at first hand, they will not have an incentive to repeat the exercise for some time, if at all. This means that misrepresentation may not have severe adverse consequences, and that valuers could exploit any lack of knowledge to their advantage and charge high margins.

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67 Market investigation references: guidance about the making of references under part 4 of the Enterprise Act (OFT 511), 2003

In two respects, this is a valid concern. Firstly, as noted above, it is almost certainly the case that most prospective IP valuation customers do not know what all the desirable attributes of a valuation would be, and therefore find it difficult to make a fully informed choice. This is an information asymmetry issue, considered further below. Secondly, it is also apparent that the number of valuers considered for any given assignment is generally quite low (at least at the SME end of the market, where resources to run competitive tenders for such work may be lacking, and time pressures may mitigate against running a formal selection process).

However, several of the effects that adverse valuer behaviour would produce seem to be lacking. Firstly, at the lower cost end of the valuation market (where buyers might reasonably be expected to be least well informed), the base price of an IP valuation does not vary greatly depending on the provider (with the exception of the online indicative valuation offer). Secondly, if the low-end valuer pricing is used as a guide (£1.5k - £2.5k), and valuer responses that a typical assignment takes around 3-4 days' work are applied to it, this represents a range of day rates from £375 to £833, which does not appear out of kilter with prices charged for other professional services.

Thirdly, whilst not necessarily representative of all valuation activity, the feedback from users of IP valuation obtained during this research study is generally very positive, which seems unlikely to be the case if valuers are misbehaving. Finally, there is no apparent shortage of information about the valuation process on the websites of IP valuers, suggesting that they are endeavouring to educate the market.

Information asymmetries do not necessarily present a competitive problem if suppliers (or intermediaries) know more about their products than their customers, especially if they are motivated to provide relevant information. In the IP valuation market, this will almost always be the case, and part of the skill of the expert valuer is to be able to advise on an approach that fits the client's valuation needs, given the extent and reliability of the data available. However, the OFT sounds a valid note of concern:

> *Where the quality of products is difficult for customers to assess, either because of their complexity or the infrequency with which they are purchased, information asymmetries can have a significant impact on the nature and degree of competition in the market for the product or service.*

The responses received from users of valuation services suggest that while the complexities of the process (and indeed the methodologies adopted) are not well understood in advance, the quality of the service delivered is generally considered to be good, and by definition, a good report contains an explanation of the process followed, which provides new insights to the customer. Therefore, the asymmetries appear to relate to the buying decision itself, and the principal point of possible concern appears to be cases where the interests of the intermediary and the customer are not optimally aligned, as principal-agent issues might arise. These are examined in more detail in section 6.1.5 above.

6.1.7. Switching costs and countervailing demand power

Two other considerations may be important when considering consumer habits. The first is costs associated with changing providers, commonly called 'switching costs'; the second is the amount of power that the customer has in any negotiation process.

Because the prompts for valuation activity are generally linked to a single, specific objective or event (even though the benefits of the process may be broader), issues over switching costs are not likely to be significant, and indeed have not been referenced in any interviews. Clearly, where periodic revaluations are required, there may be a predisposition on the part of the consumer to start by approaching the last person to value their IP (assuming that they were content with both the valuation outcome and the benefits obtained as a result of doing it).

It is clear that repeat valuations do happen from time to time, as valuers interviewed for this study (especially in accounting firms) reported that they often end up with sight of each others' work. Were this not the case, they would not be able to form the observations they have shared on report quality. Reports that show their workings (as all high quality valuations will do) are quite readily interpreted by a new valuer, and will give anyone else with knowledge of how valuation is conducted most, if not all, of the information they need to get 'up to speed' with a firm's valuation history.

Accordingly, the evidence appears to suggest that existence of prior work does not constitute a barrier to switching. However, the fact that the existing valuer is already familiar with the business and its operating model reduces time taken and appears likely to give rise to downward price pressure. Whilst there could be motivations for incumbents to charge higher prices to customers that are effectively 'captive', there is evidence that the opposite is more likely.

Overall, in the absence of any specific administrative hurdles, there is no evidence that switching costs play much of a role in consumer decision-making. It seems far more likely that where repeat customers do not shop around, it is either because their knowledge of alternatives is limited (an information asymmetry point), or that they are satisfied with the provider they have.

The second consideration is the presence of any countervailing power on the demand side. In other markets, consumer bargaining power may be sufficient to offset the market power of suppliers. Alternatively, attempts by suppliers not to compete on price may be 'eroded by the temptation to negotiate special terms with large buyers.' This can be the case where there is a credible threat to change suppliers, whether because the buyer is not otherwise dependent on the supplier, and/or because there is plenty of provision in the market.

In terms of general attitudes to price, valuer interview responses suggest that customers for their services normally fall into three broad categories:

- Informed customers (or their intermediary advisors) who understand that there are complexities within the valuation process (even if they do not know the detail) where the rewards of the end result justify the means. These consumers recognise the fact that the process takes skill and time to complete, and are generally more prepared to pay for it. This would seem to be a fair characterisation of the attitudes of purchasers for valuation advice during M&A transactions

- Informed customers (or intermediaries) who understand that they need to obtain a valuation, but because they do so under compulsion rather than appreciation of the potential value added in the process, are driven to minimise cost. This seems to be reflected in the feedback received on the current market for PPA work where price competition is described as intense (and which the statistics in Chapter 5 indicate is currently depressed, which will in itself have an effect on pricing as a similar number of valuers compete for less work)

- Uninformed customers who do not understand the complexities of IP valuation (and may assume it can or should be handled in the same way as other types of asset valuation), and place downward pressure on price. This is more likely to be encountered by smaller specialists, whose services generally cost less in any event (in part because their overheads are substantially lower)

Because of the transactional drivers that currently form the main motivations for IP valuation to happen, there is sometimes a need for urgency as well as quality. Under these circumstances (given the risk/reward equation), companies may be prepared to spend more because of the expectation of a swift return. Interestingly, however, speed has not proven to be a prime consideration amongst demand side interviewees, other than in the case of pre-pack administration, and valuers indicate that some of their most expensive assignments are the ones which are lengthy and drawn out.

If the requirement for IP valuation were more routine (for example, if it were driven by statutory company reporting requirements), it is likely that this dynamic would change. The opportunity to develop longer-term relationships based on regular re-valuations would substantially increase overall customer lifetime value. This in turn would make the IP valuation market more attractive to new entrants, leading to increased provision and customer choice, and a stronger customer response.

6.1.8. Principal-agent issues

Implicit within the sub-sections on vertical relationships and weak consumer response is the possibility that an agent making decisions on the part of a valuation client may be motivated to act in their own interests, and that these may be contrary to those of the customer. This gives rise to the principal-agent problem, which in turn may represent a type of 'moral hazard'.

Where the intermediary and the valuer are different parties, principal-agent issues in the valuation context appear most likely to revolve around the recommendations and introductions an intermediary may make to particular valuers. Here, some of the 'classic' characteristics of principal-agent problems do not appear likely to be present. For example, whilst the agent may not have a direct interest in the outcome of the IP valuation process (in the sense that the benefits to them are not dependent on the level of value found), they will often have an interest in the quality of the end product delivered, either because a process they are running depends on it, or for purely reputational reasons.

Searches for this study have not found evidence that financial incentives are paid by valuers for referrals, which is unsurprising given that codes of conduct may well prevent professional advisers from accepting payments of this nature[68]. It may be that any such arrangement would be commercially sensitive and not disclosed, but if the practice were commonplace, more evidence would have come to light. However, in cases where IP valuers and intermediaries work together on a regular basis, cost savings arise in marketing terms, and that in some cases, these may be passed on to the consumer by way of an indirectly applied 'loyalty bonus'. When this happens, there is not an agency cost, but rather an agency benefit, given that the consumer would have dealt with the same firm had it not been recommended.

In addition, there may be instances where cross referral relationships exist with reciprocal incentive arrangements in place (for example, where a particular patent attorney tends to work with a particular valuer, and *vice versa*). However, such decisions and relationships will also be subject to buyer and seller power issues.

If the customer has an established relationship with a firm that provides IP valuations, the fact that an agent recommends a different supplier will not necessarily sway their judgement (and in fact makes them more aware of alternative providers rather than less). However, the more likely scenario is that no such relationship will exist and the reliance on the intermediary or agent will be greater, as evidenced in this report.

It is also possible that the agent in this particular case is also the valuer, or is related to them. Whilst this may yield cost savings, as explored above, it is likely to produce one or two potentially negative effects. Clearly open competition is likely to be dampened; there is also the possibility that the customer will be recommended to have an IP valuation where they do not need one (though no such examples have come to light – and the fact that valuation does not often happen without an external trigger suggests this is unlikely to be a threat to competition). However, these appear to be issues of vertical relationships rather than principal-agent issues as such.

In both situations – where the agent is a valuer, and where they are not – information asymmetry can be a factor. The agent is quite often likely to be better informed on what the consumer needs, and to a lesser extent the intermediary also, than they are. This may extend not only to the need for a valuation, but for a valuation of a particular type. The better informed the customer, the more likely they may be to understand the advice they are being given.

68 For examples of professional adviser views and practices, see: http://www.sra.org.uk/solicitors/handbook/code/part3/rule9/content.page and http://www.legalservicesboard.org.uk/what_we_do/pdf/20100929_referral_fees.pdf

Overall, the possibility that principal-agent issues could arise is recognised. However, it does not appear to be the best description of the few negative effects on competition that have been seen, which are better understood as falling under other headings.

6.1.9. Conclusion on competition issues

The findings of the primary and secondary research conducted for this study are that vertical relationships (but not vertical integration) and weak customer response are where the issues in relation to competition are most likely to lie. The weak nature of the customer response appears attributable to the absence of well-understood use cases relating to realising value from IP.

Put simply, if there were more events or use cases where IP valuation was proven to be beneficial or necessary, there would be more activity in the market. At the moment, there are insufficient specific, identifiable and compelling examples of the business benefits, unless it is required by the events identified in Chapter 4 above.

7. Summary and Recommendations

Highlights
Compared with tangible asset-related practices, IP valuation volumes appear to fall below what might be expected, given the substantial investment directed towards intangible asset creation
Where valuation activity serves an established need, the actual volume of activity will be most strongly influenced by factors outside the IP valuation market
Whilst additional available volumes are difficult to quantify, opportunity-led IP valuations appear to have the best prospects for growth in the near term
Market failings are most likely to lie in undue influence from the vertical relationships between intermediaries and valuers (though these also provide end users with a valuable signposting service) and in weak searching behaviour
The market will require additional incentives and/or education in order to develop positively: these should be directed at making the 'business case' for conducting IP valuation clear and incontrovertible
12 recommendations are outlined below

7.1. Introduction

7.1.1. Overview of current IP valuation activity

Around 40 companies have been identified that provide specialist IP valuation services in the UK, typically comprising 2-5 valuers but occasionally, in the case of the larger accounting firms, involving a team of up to 50. These companies can be categorised into accounting firms (who tend to specialise in valuation matters relating to financial reporting, taxation, transfer pricing and strategic options such as offshoring) and 'valuation boutiques' (who may specialise in other areas – for example, in handling contentious matters).

Intermediaries external to the company (who may well be specifying a valuation requirement for a particular purpose) play a very important role. They identify needs and provide signposting towards potential providers across all IP valuation contexts.

The market for valuation of intellectual property and intangible assets can be characterised as falling into one of three categories, based on whether it is a response to an established need, an opportunity to leverage asset value (for example via licensing or financing) or prompted by an 'emerging application' for IP valuation. Much of the identified activity appears to be associated with an established need, though the market sizing data obtained during this study suggests that the opportunity-led element may be significant (though hard to estimate with precision, due to its link with events that are internal to the company and may not be reported elsewhere).

The market sizing research summarised in Chapter 5 and set out in more detail in the Appendix also confirms that not all events that could trigger an IP valuation actually lead to one. For example, an insolvency may not require it; a deal may not happen, or a contentious matter may be settled or dropped without IP value needing to be calculated.

Amongst these established need use cases, the one that invariably happens relates to PPA (because it is a regulatory requirement). The volume of these valuations is directly related to the number of mergers and acquisitions that are concluded annually. There is also a high level of valuer involvement (which may include IP and intangibles) in events such as stock market listing.

In other cases, as noted above, individual circumstances will dictate whether IP valuation is actually required in practice. Most of the events that will trigger valuation in this category are more likely to be applicable to comparatively larger and more mature businesses.

There are grounds for thinking that modest expansion of this 'established need' market is likely. The addition of FRS 102 to UK GAAP means that more, smaller companies will need to conduct PPA, or have it done for them (so more will fall within its scope) and also that in a more buoyant market, there would be more M&A activity in absolute terms. However, valuers indicate that PPA is also the most heavily commodified area and is subject to the greatest amount of price pressure, because the appreciation of its added value is low.

Opportunity-led valuations are hard to quantify or anticipate, with a few exceptions (such as equity finance – this is likely to lead to some consideration of IP, but not necessarily a specific valuation). As discussed below, this appears to be a fruitful area of future focus if greater use of IP valuation is to be encouraged.

By mapping the use cases according to likely company development stage, it becomes apparent that these opportunity-led applications for valuation will generally arise earlier than those relating to established need. This association with less mature companies may increase cost sensitivity; also, by definition, opportunity-led valuations have a less certain outcome and it is therefore harder for companies of any size to justify spending large sums of money on them speculatively.

The area of emerging applications could also prove to be of substantial influence, but for obvious reasons will be dependent on the policy-led and industry-led initiatives that are actually introduced. For example, changes to company reporting practices, were these to occur, could affect many businesses at all stages of development, while the 'pain point' that IP enhanced lending can potentially address sits primarily at the growth stage.

Overall, the data gathered to date points towards a current volume of less than 5,000 IP valuations annually. The amount spent by companies is estimated to be at least £50m per annum, and is likely (based on estimated earnings per valuer) to be substantially higher; it is evident that large accounting firms and some specialists periodically engage in assignments that can attract fees running into seven figures if these are particularly time-consuming, time-sensitive or complex, or where the risks and rewards involved are especially high. However, valuation reports provided by smaller specialists generally start at around £1.5k-£2.5k, and an online indication to raise awareness of value can be obtained for significantly less.

The main constraint on use of IP valuation volumes is that the practice is event-driven. If companies do not have a specific reason for conducting an IP valuation, and are not being told to do so (for example by an intermediary), they are unlikely to proceed to commission work of this nature, because they do not understand the advantages or see the benefits. In short, the easiest way to understand the most important drivers in IP valuation practices at present is that only where companies ***have*** to have an IP valuation, do they obtain one. However, advantages and benefits do exist, as is clear from the evidence gathered from companies that have gone through the process (many of whose motivations appear to have been opportunity-led, such as by the desire to obtain equity finance).

7.1.2. Valuation methods used and market characteristics

The valuation process itself exhibits a high degree of consistency across all applications. Cost, market and income methods are referenced by all valuers, with income being by far the preferred and most common method (this is generally a good fit with the fact that the valuations are often done with a transaction in mind that has a forward-looking purpose).

The precise method chosen for any given assignment will be determined by the availability of information, the purpose for which the valuation is sought, and the preferences of the valuer based on their experience. Overall, the 'relief from royalty' method emerges as the first port of call for most, but not all, purposes. This method has a number of potential attractions: it is one of the easier approaches to understand from a conceptual viewpoint, it provides a link back to real transactions, and it does not require quite the same level of bespoke market research as other methods (even when research effort is expended on gathering market insights, suitable data is not always available).

From a competition perspective, as discussed in Chapter 6, most of the potential causes of harm do not appear to be present. Whilst markets have some aspects that are not transparent, such as pricing, many are an inevitable function of the type of service provided. It does not mean that price competition does not exist, and there is evidence that it does in relation to PPA work.

However, the market exhibits two possible failings. One is that there is potential for vertical relationships unduly to influence customer choice. This is because the need for the valuation is often identified by an intermediary for a particular purpose, such as a law firm in the case of bringing a case for IP infringement. At the very least, that intermediary will naturally share its view on the IP valuation firms that are suitably experienced; sometimes such work will be directly instructed on the client's behalf (with consent). Such behaviour is not inherently unreasonable, problematic or not in the client's best interests, but it will tend to weaken customer searching activity.

The other issue relates to weak search responses on the part of potential beneficiaries of IP valuation. This is attributable to insufficient incentives, arising from a lack of risk/reward appreciation. In other words, companies are insufficiently motivated to seek out suppliers of IP valuation because they do not have a clear understanding of the benefits such a process can deliver. Price sensitivity is closely linked to perceived value; unless (until) the added value delivered by the IP valuation process is more widely understood, a business cannot judge the reasonableness of the price charged, and so may tend to see it as off-putting and expensive.

In summary, it is not uncommon for companies to regard their IP as valuable, without feeling the need to quantify that value. There may be a link between this view and the small number of occasions on which IP is traded independently of a business; if sale and purchase of IP were more commonplace, there would be a greater understanding of its potential value as a business asset.

7.2. Areas of market immaturity

7.2.1. The impact of 'not-known value'

While the market size estimates produced in Chapter 5 are approximate, they lend weight to the conclusion that the number of business obtaining a specific valuation for their IP and intangible assets is low, whether viewed as a proportion of companies or of IP owners (which includes copyright owners). Furthermore, it appears to fall some way short of the possible number of specific, event-driven use cases that already exist, before considering wider strategic or tactical benefits shown to arise from the process.

As has been identified in separate research sponsored by the UK Intellectual Property Office, intangible assets are now the biggest area of investment for UK companies (estimated to be running at £126.8bn in 2011, compared with £88bn on tangible assets)[69]. However, without a process of intangible asset valuation, which as noted above is generally only conducted in response to a specific external event, the return on this investment can only be known in very general terms. Furthermore, as shown in Chapter 5, the difference in scale between the intangible asset valuation profession and the well-established industry operating to serve market needs for land, property and construction assets is noteworthy (at least 600 individuals, but compared with 125,000 qualified and trainee professionals)[70].

Since it has also been well established that IP rights go to the heart of company competitiveness and growth, the difficulties firms experience in demonstrating and quantifying the financial benefits of ownership benefits – in fact, to understand them as valuable business assets rather than simply costs – appears a legitimate area of policy concern.

The absence of a quantified value for these assets has a couple of specific implications. One is that if any value that exists is not known or not demonstrable, it is difficult for it to be fully exploited in transactional terms. Secondly, the lack of visibility of these values means that their worth cannot be properly factored into the companies' strategic (or tactical) thinking.

Even where IP valuation does occur, the process may not deliver the longer-term business benefits that it could. Where the valuation is done in response to an external event trigger, it will be optimised for that particular business purpose. For example, a report dealing with the commonly asked question, 'how much value do the identified intangible assets represent to this business at this point in time?' will be different in content and conclusions to a report asked to consider, 'how much could be realised from the sale of these assets in a distress

69 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/561709/Estimating-UK-Investment-intangible-assets-IP-Rights.pdf

70 Figure quotes by the RICS website: http://www.rics.org/uk/about-rics/who-and-what/

situation?' – not least because at the latter point in time, it may be harder to obtain reliable data to support the most commonly used, income-based IP valuation methods.

In theory, this is also true of tangible assets – the value of a machine to a business may be different from its market value, and different again from what can be achieved in a 'fire sale'. However, the practical consequences are not the same, for three key reasons.

Firstly, the way tangible assets are accounted for almost always focuses on the principle of fair value in a hypothetical sales scenario (not least, perhaps, because sufficient data generally exists to determine what this would be). If it were possible to be equally confident on the resale value of intangibles, the same logic would be applied to them too.

Secondly, investment in tangible assets that support business activities strengthens a company's balance sheet in ways that intangible asset investment does not.

Thirdly, intangibles do not (at least, not yet) offer the same collateral potential: a lender may mark down inventory or stock in trade by at least half its nominal resale price, and stock of this kind may be harder to re-sell if associated with a brand that is devalued or obsolete. However, there is a much closer relationship between the usefulness of intangibles and the human capital that produces and deploys them, and no lender has accumulated the experience to know what an appropriate risk weighting for these assets would be (another reason why policy intervention looks likely to be needed in order to get any such lending activity 'off the ground').

7.3. Perceived supply side failures

Two areas identified during this research may require particular attention. The first is the role of standards, and of standardised methods of IP valuation: the second is the role of intermediaries, in the light of the effects of vertical relationships described above.

Were standard methods of IP valuation absent, it could be further evidence of market failure. While this clearly is not the case, interviews (especially on the intermediary and demand sides of the equation) indicate that when people use the word 'standard' in connection with IP valuation, they can mean one (or more) of three different things:

- A few respondents (users and intermediaries) have said that a *single standard* for IP valuation would be advantageous. Taken in context, they are usually referring to a generalised and widely accepted way of determining IP value, in the same way that such a concept broadly exists for tangible assets (which usually focuses on their resale value at a point in time)

  A precise equivalent is very difficult to provide in IP terms, as the transactional data to underpin a generalised value is seldom available; however, when looking at the interview data from valuers, it is clear that the income method of valuation, and in particular the 'relief from royalty' principle, is used more frequently than anything else. It is interesting to note that (with input from UK professionals), the Malaysian IP office (MyIPO) has recommended[71] that this should also be the default method of IP valuation used in the context of the country's financing scheme, though it does not preclude the use of other, additional methods

- Some others have discussed the standard of valuation in terms of professional standards, as manifested in *report quality*. Here, valuers observe that there may be a difference of opinion between two experienced practitioners even when presented with the same data, but are sometimes talking about a more fundamental difference in rigour or detail. Concerns expressed related chiefly (though not exclusively) to the quality of explanation and supporting evidence provided – it is not necessarily that the valuation is wrong, but there is insufficient data provided to confirm that the view taken is reasonable

  Chapter 2 references the moves in the industry, led from the US but with active UK participation, to introduce new professional qualifications for enterprise and intangibles valuation, which appear directed at ensuring minimum quality standards are met (at least for financial reporting purposes) and that continuous professional development occurs

- The third meaning refers to the methods that are set out in national and international *accounting standards*, international *valuation standards* and similar guidelines and regulations, also discussed in more detail in Chapter 2 above. Without exception, all valuers interviewed use the standard accepted approaches of cost, market and/or income when performing IP valuations

  In formulating a plan to address information asymmetry points discussed in Chapter 6, it will be important to ensure there is clarity on the existence and application of standards, particularly in areas of emerging applications. Here, confidence needs to be built up that the outputs of the valuation process are appropriate for the context and have been derived with the required level of integrity

Secondly, intermediaries could do more to raise awareness of the benefits of valuation. Many groups are not currently giving consideration to IP's business value and commercial applications, primarily because they are not well enough understood among this group and because they will automatically focus on their first and immediate professional obligation. While there are some exceptions (some specialist lawyers and accountants are already engaged), this intermediary activity is important, as a valuer does not appear likely, in most cases, to be the person that currently first identifies that a valuation would be beneficial to a company. The realisation will be triggered by someone, or something, else.

In some cases, as described in Chapter 6, the intermediary can be associated in some way with the ultimate valuer, giving rise to a vertical relationship that might be regarded as anti-competitive. However, even where there is a close tie and apparent vertical integration (such as within large accounting firms), interviews indicate that competitive pressure is still present. It is more usual for the relationship to be less formal and based on track record and experience. Where these referral practices operate, the main incentive present appears to be the desire to get a good job done on behalf of the client.

71 MyIPO Salient Features brochure, available at http://iprmarketplace.myipo.gov.my/?page_id=1348

The intermediaries that have been described and interviewed for this study are chiefly those who may also specify, introduce and/or outsource valuations on behalf of clients. However, apart from government funded business support programmes (such as those run by the Enterprise Europe Network, Scottish Enterprise and the Welsh Government), it is also important for company accountants, solicitors, tax advisors, coaches, export advisors and other business advisers to discuss the commercial aspects of IP assets with customers, which could naturally lead to a discussion on asset value. There remains an apparent shortage of commercially-focused IP advice, a point further commented on below.

The intermediary survey indicated that 85% of over 100 patent attorneys interviewed had been asked about IP valuation by their clients or have recommended it, usually when their clients are considering merger or acquisition activity, an IP sale, auction or equity fundraising. However, this legal community does not appear to have these discussions very often, with more than 80% saying they discuss IP valuation less than 10 times a year, and over 75% of them stating that they do not know what standards should be applied to the valuation. The majority look for a specialist provider who can perform the valuation, although 24% attempt to perform a valuation themselves or refer to a colleague in their firm who assists with the valuation.

There could be a number of reasons for the low frequency of IP valuation discussions. It may be because clients are not aware that an IP valuation is possible, or why it might be of benefit to them; alternatively, clients might see it as a financial matter that should be discussed with someone else (for example their accountant). Whatever the reason, as what might be considered the primary audience for business queries about intellectual assets, attorneys could bring up the topic themselves; possible motives not to reference IP value include not feeling sufficiently knowledgeable in the subject, not themselves being aware of the benefits, or seeing it as a distraction from their normal duties.

7.4. Perceived demand side failures

The primary failing from a competition perspective appears to be the weak **searching behaviour** apparent amongst IP valuation clients, with many cases of reliance on recommendations provided by intermediaries. A low overall level of awareness and activity among businesses, and the close association between valuation activity and events, makes this intermediary dependency unsurprising. However, in a more mature market, potential end users would be expected to search more widely and frequently for the services they require.

In considering what the nature of this challenge actually is, and how it might be addressed, it is helpful to describe it in marketing terms. Reference to the classic model used over many years to characterise the consumer buying cycle, variously known as AIDA, AIDCA and AIDEA, may assist in this respect. It highlights the need to start by attracting attention or creating awareness, generating interest and stimulating desire (with or without commitment or evidence) in order to prompt action.

In the IP valuation market, companies' attention is generally only brought to the subject as a result of related events. Whilst the companies that provide valuation services do market their activities using a range of methods (typically internal and external networking, attendance at conferences and industry forums and publication of articles and papers), there are comparatively few that specialise in IP valuation to the exclusion of everything else. Accordingly, even among the limited number of firms offering specialist IP valuation services, only a proportion of their marketing effort is directed at selling these services.

As a result, it is fair to assert that there is low awareness of the subject of IP valuation amongst businesses in general and what the benefits of the process will be (in the absence of an event that requires it to be done). These two factors mean that there is very little chance of demonstrating sufficient interest to prompt searching behaviour, and thus no real prospect of stimulating desire, commitment or action.

Weak searching behaviour would be expected under these circumstances because of the absence of an external stimulus. If the stimulus is provided by a person acting in the capacity of an intermediary, requiring the valuation to be done, they are likely to have a role in suggesting what sort of valuation is needed and what sources for that valuation would be regarded as acceptable. This does not prevent further searching from occurring, but it probably makes it less likely to happen, and the lack of basic understanding of the valuation process is likely to leave users that do not receive guidance of this nature feeling unclear of what questions to ask, or where to find answers.

It also appears reasonable to suggest that the challenges in creating awareness are not insignificant because the person needing to be influenced is generally (as the study findings indicate) a member of a company's senior management team. In a small or medium enterprise such managers generally have many other demands on their time and attention and are only going to prioritise examining IP valuation in more detail (creating the possibility of stimulating not only interest but desire) if the process delivers clear and compelling benefits.

Ultimately, the success of marketing and awareness-raising activity will be linked to whether the incentives to value are sufficiently compelling. Here, the emerging applications referenced in survey and interview responses and described in Chapters 4 and 5 are of relevance.

The EC Expert Group noted this point in its four main recommendations regarding future policy directions. The second of these initiatives, concerning risk sharing guarantees, is directly concerned with demand side weaknesses identified in the present report (because it represents a powerful incentive to IP value realisation, and therefore valuation).

This is an area of ongoing attention in the UK, Europe and wider international markets. Before and since the publication of *Banking on IP?* in 2013, which articulated many of the issues faced by lenders in seeking to attribute value to IP assets, international attention to this area has been growing. It is estimated that in 2015, for example, around US $8bn was lent using IP-backed financing schemes in China, and activity levels have also been increasing in Korea and Singapore.

This policy direction has been given a further boost by the G20/OECD High Level Principles on SME Financing[72], published in November 2015, Principle 2 of which states:

72 https://www.oecd.org/finance/G20-OECD-High-Level-%20Principles-on-SME-Financing.pdf

> *Policy makers should consider enabling SMEs to use a broader set of assets beyond fixed collateral, such as movable assets, to secure loans. The feasibility of expanding the use of intangibles as collateral should be carefully considered, to ease access to lending particularly by knowledge-based companies, while taking into account potential risks.*

The main challenge with such schemes, and a subject of current debate in Europe and internationally, is how to enable risk sharing to progress on a sustainable basis. One answer is to bring private sector insurers to the table alongside government-backed guarantees, for which there is some appetite apparent.

7.5. Towards recommendations for action

As set out in section 7.1 above, the annual UK market for IP valuation reports is likely to be less than 5,000. However, the data also indicates potential for it to be several times larger. The question therefore arises of why the market is ***not*** larger, a point explored through questions in interviews and surveys, looking at responses provided both by those who have conducted or recommended IP valuations, and those who have not.

The detailed responses are contained in the report's Appendix and discussed in Chapter 3. A summary of the most common reasons provided is as follows:

- Suppliers consider the main barrier to greater uptake to be: *end users only have assets valued when they need to. They don't see the benefits of valuation, as they don't see (understand) that the valuation process adds value*

- End users that have experienced valuation can see the benefits, and say: *lack of awareness and knowledge are the main obstacles to more companies undertaking an IP valuation exercise* (though this does not mean that their initial interest in having a valuation completed was not triggered by a specific event)

- End users that have not experienced a valuation say: *they have little knowledge of the market, and there isn't enough information available to make an informed choice*

When asked about the incentives that might increase the uptake of IP valuations, interviewees commented frequently on raising awareness of the benefits of valuing IP and finding ways of stipulating that more valuations should be done. Closer links between IP and raising finance were frequently cited.

Promotion of IP valuation case studies that demonstrated these benefits and wider education programmes were highlighted as key. However, as well as different interpretations of the word 'standard' in this context, there is a difference of opinion on accounting and valuation standards; some feel that these would help – others do not.

7.6. Ways to address the potential failures identified

7.6.1. Overall strategy

The insights into the drivers of existing IP valuation activity gathered for this study suggest that two strategies might usefully be adopted to overcome the identified barriers on the supply and demand sides in order to increase user attention, and therefore interest and desire to purchase. These are to educate the market and create new incentives so that companies can be encouraged to engage in IP valuation. These could be used in combination within the context of a strategic programme to encourage more activity.

John Parry, a West Midlands-based engineering entrepreneur, needed a technology IP valuation to support a funding round, and found it helpful in convincing investors.

However, he pointed to what he saw as structural problems in UK that lead to a lack of appreciation of the value in intangibles.

Amongst these were the attitude of funders, ignoring the value of IP; and failure of education in banking, finance and insurance sectors.

Educational topics need to focus, above all, on answering the question of ‘why’ (why should my business have its IP valued?). The natural focus for such activity should be on illustrating and explaining the commercial (rather than IP-centric) benefits other, similar companies have obtained by attending to IP value.

If the ‘why’ is clearer to businesses, it is quite likely that they will start wanting to understand the ‘how’ in more detail. Feedback from the study research indicates that valuers do encounter clients that even after identifying a need, express scepticism about the benefits of the process. However, it would also appear that organisations are more likely to engage in IP valuation once they have already experienced the benefits.

Being able to demonstrate to decision-makers that there are IP valuation solutions that offer generally accepted and well-established ways of addressing particular needs will be helpful in turning desire into commitment and action.

The goal of this education needs to be carefully determined. Independent valuation is a feature of many transactions with tangible assets, helping to give both parties confidence that a figure is fair and reasonable. Not all these benefits flow from a process that is entirely self-managed. The first and most pressing priority is therefore to create a better-informed customer (and intermediary).

Incentive could come in many forms. It might be financial, either by providing grants or introducing other measures that make IP valuation more affordable to those businesses most likely to benefit from it (it is not clear that cost is a major obstacle when serving established needs at present, but it will be more of a factor the more speculative the benefit from valuation becomes; and *any* cost is an issue for a start-up or early stage business). Motivation to act is more likely to arise from placing IP valuation firmly onto the ‘road map’ of a wider corporate objective that the company already views as being desirable – such as setting up a franchise, for example.

New frameworks or standards for voluntary reporting that require IP valuation to be considered under more circumstances would be the biggest incentive of all. This has already happened in one recent instance, albeit mandatory, in terms of the introduction of FRS 102 to UK GAAP: this change will require smaller businesses acquiring other companies to account more fully for the intangibles they have now obtained. Other aspects of accounting regulations might, over time, be susceptible to change, but the barriers to amendment are high. Also, in general, there is little to be achieved by compelling businesses to value IP unless it serves a useful commercial purpose.

There is no reason why these two approaches of education and incentivisation should not be used in concert, preferably within the context of a strategic programme, and indeed there are areas of overlap. For example, by providing the incentive of improved access to finance suggested by the EC Expert Group, there would be an increased requirement for IP valuation (probably in quite a specific form) and it would also require an educational element in order for potential applicants to be suitably prepared.

Andrew Robinson of Deloitte comments:

'Greater transparency and commercial understanding of the drivers of value for businesses is required to increase the uptake and engagement in IP and other intangible assets valuation by business managers. Promotion of the benefits of valuing pre-existing IP would assist in this process, noting that only acquired IP is typically valued and reported in financial statements.'

'It would also allow the consumer to understand the questions they are asking of a valuer/advisor and therefore the parameters and the quality of the products and services that they are [setting] selling. As the benefits are not currently understood, valuation techniques used in Post Purchase Allocation are probably the most underrated tools for valuing businesses.'

7.6.2. Suggested focus on the opportunity-led context

IP valuation is not something that any company is likely to do for its own sake or out of curiosity – it has to be a means to an end. Where there is no element of compulsion, there has to be a clear benefit or specific goal that a company believes to be worth achieving.

In the established need category, the risk/reward equation is relatively clear. PPA valuation work will be done by someone when needed; if a legal case requires value to be quantified, an expert will be found to do it. Most of these cases of 'compulsion' fall within the categories of established use, as briefly referenced above and described in more detail in Chapter 4, and as noted above, further compulsion is not advisable without a strong business case based on resulting benefits.

This suggests that the primary focus for any new initiatives should be on the types of uses set out in the opportunity-led category, such as equity finance, licensing and franchising, all of which can be facilitated by quantification of IP value. Each of the areas set out under this heading represents an outcome that a business would consider desirable, because it improves access to capital, boosts revenues, settles disputes or delivers helpful strategic insights. Measures would therefore need to be directed at demonstrating the connection between quantifying and communicating hidden value, and the successful achievement of these goals.

Steps must also be taken to address the weak search activity currently in evidence, with a particular focus on the role of intermediaries. The question is then where such effort should be focused in order to make information as accessible as possible to companies. This is the essence of the approach of a strategic 'best practice' programme.

The emerging applications linked to finance (as seen in other countries) are also very likely to require IP to be valued as part of an overall process and will fall into a similar category, but are not significant factors in driving demand in the UK at present. Any initiatives that do encourage (for example) lending against IP assets (as have been introduced in other markets) are very likely to have a positive knock-on effect on IP valuation volumes.

However, these developments will not change the underlying dynamic, at least not in the short to medium term – there will just be a new form of incentive. Also, it is highly probable that the valuations conducted in that context will be optimised for the specific purpose, just like others are.

7.7. Suggested activities emerging from this research

Twelve recommendations that draw on the research conducted for this study, and the surveys and interviews that have focused on barriers and opportunities, are outlined below. It will be important to ensure that any new activities are co-ordinated as part of a strategic and wide-reaching best practice programme, working in partnership with professional trade and industry bodies.

7.7.1. Use case studies to highlight *the benefits to business of valuing their IP*

i) The interview findings and survey results highlight the importance of creating and promoting case study material in order to stimulate interest in IP valuation and strategic IP management through a better appreciation of the benefits. UK IPO has already initiated awareness-raising initiatives on the benefits of securing IP rights; new activities should build on this work by addressing the question of 'hidden value' within the case study programme, and demonstrating what companies are able to achieve once they unlock it.

7.7.2. Develop a directory of IP valuation suppliers and their specialisms

ii) One of the suggestions emerging from the research is that it would be helpful to publish an open directory of suppliers and their specialisms (one to which valuers could apply for listing). This should be set within the context of formulating a sound IP strategy for a business, and should include the list of purposes for which valuation may be required or helpful, in the form of a best practice guide.

7.7.3. Tailor an outreach programme targeted individually at businesses, intermediaries and investors

iii) The IPO's outreach programme to promote and embed awareness of IP should be continued, and extended, to embrace IP valuation.

The upside of the frequent involvement of intermediaries in the IP valuation process is that there is quite a wide variety of potential general business advisers who might get indications that a company could benefit from considering its IP value. The downside is that there are comparatively few who are likely to feel comfortable in delivering commercially-focused IP support to companies – a problem which was articulated in the Hargreaves Review[73], since which time the business support infrastructure has been subjected to further cost-saving measures (particularly in England).

Where general business advisors exist (as part of regional growth initiatives, or publicly funded innovation and export support), they should be encouraged to feature IP valuation in their dealings with business decision-makers. Since this frequently occurs at the business planning stage, one important step is to ensure that any templates or suggestions that are provided properly incorporate sections relating to IP strategy and the development of long-term business value.

iv) UK IPO already regularly runs an IP Masterclass programme that is primarily directed at business advisors. The amount of time devoted to IP valuation in these courses at present is relatively small, but could easily be increased. It might also be beneficial to offer these courses more frequently and to revert back to staging them across the country.

v) Efforts to educate a wider range of intermediaries on the potential benefits of IP assets generally, and IP valuation specifically, should be targeted in partnership with their professional bodies and industry associations. For the wider outreach on the promotion of IP assets, partnerships such as the FSB should be considered; for IP valuation specifically, professional associations such as CIPA for patent attorneys, CITMA for trade mark attorneys, ICAEW and ACCA for accountants and the Law Society for lawyers would be appropriate.

Courses to explain the uses and benefits of IP valuation could be devised and sponsored by these professional bodies, which members could attend as part of their Continuing Professional Development (CPD) requirements. This can be co-ordinated with existing activity streams: CIPA, for example, has already established an Exploitation Committee to consider matters of this nature and has an IP valuation sub-group that could take agreed initiatives forward.

UK IPO has already produced one toolkit providing a detailed view of the processes needed to assist companies in presenting their IP and intangibles as value-producing business assets in the context of **debt and equity finance**. It is also engaged in discussion with other policy forums seeking to find new ways of leveraging asset value.

73 Digital Opportunity, 2011

This activity should now be focused on the financiers themselves, working with the industry to produce evidence in support of new product development, as the nature of corporate assets continues to change in favour of increasing reliance on intangibles.

vi) UK IPO has a series of educational videos, branded as IP Basics, which highlight the fundamentals of intellectual property. One video in the series, entitled ‘Do I have intellectual property rights?’ discusses IP valuation in general terms[74], although it recommends using an accountant rather than a specialist valuer to perform a valuation. This is not appropriate advice for the target business audience, as their regular accountant is unlikely to be able to assist them. It should be updated and extended with relevant company interviews.

vii) Some smaller businesses and their advisers have indicated that the availability of individual grants to defray IP valuation costs would act as an incentive (in fact, these are sometimes available under certain circumstances and conditions as part of the existing IP Audits Plus scheme, though this is cost-capped).

Recognising that there is value in encouraging businesses to focus on their asset protection and management strategy (which is the main focus of the IP Audits Plus scheme), other opportunities should be found to enable small but innovative companies with genuine growth potential to reclaim part of the cost of an IP valuation. This might be done, for example, in the context of export support (where licensing may be an element of the company’s growth plans).

viii) To prompt companies to consider IP value at an early or growth stage, there is an opportunity to link valuation activity to government grants or loan funding relating to innovation. Whilst a full-blown IP valuation exercise is impractical when the assets have yet to be created, applicants could be incentivised to complete an evaluation exercise, to consider and explain the IP value expected to be added to the business as a consequence of the state-supported funded activity. This would also assist impact measurement, particularly if conducted both before and after the project (by which time a valuation should be possible).

Funding for this activity might, in some circumstances, be provided as part of the grant itself (or be partially or contingently reclaimable), an arrangement that would have some parallels with government-supported financing schemes in Asia.

ix) Those companies conducting IP valuations outside the ‘established need’ category are often doing so in order to raise equity finance. Whilst there are examples of good practice in the market, such as among some Scottish investment syndicates, there are untapped opportunities to engage angel investor groups and crowdfunding platforms and encourage them to obtain and share meaningful assessments of IP assets during the fundraising process. This should be beneficial to all parties in terms of substantiating share values, and improving the quality of investor due diligence (since research quoted previously in this report strongly suggests that better due diligence leads to more positive investment outcomes).

74 https://www.youtube.com/watch?v=8hhRvhFpaaI

UK IPO could play a greater role in making the case for IP valuation to investors; it might also be an appropriate avenue for providing some financial assistance, given that the companies themselves will by definition have limited budgets. As noted above, this would need to be carefully targeted towards deserving, IP-rich cases, though care should be taken not to focus any such support solely on scientific and technological innovation.

7.7.4. Research into links between intangible asset valuations and IP strategy

x) The work that is sponsored by UK IPO into intangible investment levels within UK companies is a valuable contribution to the base of knowledge on changing company attitudes and practices, and should continue. This IP research programme might usefully be extended to build a more sophisticated understanding of intangible asset valuations and IP strategy.

One area could relate to how valuations of the same assets have varied according to purpose and/or over time. For example, a comparison of valuations carried out by buyers vs. sellers in commercial negotiations may highlight the differences in value to a buyer and seller when they have different purposes and objectives for applying the IP. This in turn may provide insight for innovators in relation to future commercialisation scenarios.

7.7.5. Voluntary IP statements and/or labelling

xi) A number of SMEs interviewed for this study stated that they did not want reporting of intangible value in the annual accounts to be compulsory (fearing extra expense, time and red-tape commitments). However, a number did indicate that a voluntary statement (possibly made as part of the directors' declaration) could be useful to raise awareness of the presence and value of intangibles in the business. This statement might be quantitative (following an IP valuation) or qualitative (where the most important assets and simply identified and listed).

Fixing a specific number associated with IP within a company's accounts has potential disadvantages as well as benefits, as has been explained in this report. It will be important for companies to receive appropriate, tailored advice on this point. However, the idea of a non-binding addition that does not require production of a separate document appears to have merit.

Such a statement might, for example, be more akin to the forms of voluntary reporting and labelling that have occurred relating to other strategically important areas (e.g. energy efficiency). Further discussions should be held with trade and accounting bodies to determine how far such an IP statement and/or label could use a standard format in order to make it meaningful to external parties. This statement or label might be voluntarily declared under either financial or corporate social responsibility categories in annual reports.

8. Glossary

The following definitions have been drafted by the authors and compared with entries in a range of sources, primarily The Business Dictionary, Investopedia, The Oxford English Dictionary and WIPO.

Abbreviated accounts
A shortened financial statement that a qualifying small or medium sized firm can file with Companies House. This contains a short form balance sheet, but not a profit and loss account.

Acquisition
A corporate action in which a company buys most, or often all, of another firm's shares to assume control of it. Such activity is generally regarded as an acquisition (rather than a merger) when the buying company obtains more than 50% ownership in its target.

Amortisation
The process of reducing, or accounting for, a financial amount (typically a purchase) over a specified period of time according to a predetermined plan.

Arbitration
Settlement of a dispute (of fact, law, or procedure) between parties to a contract without resorting to court action by involving a neutral third party (the arbitrator). The arbitration process is usually voluntary, but is sometimes required by law.

Balance sheet
A statement of the assets, liabilities and capital of a company at a particular point in time. The balance sheet has been traditionally regarded as an indication of a firm's viability. Its relevance for intangible assets and intellectual property is that assets of this nature are often absent from the balance sheet, or if present, are only accounted for at cost.

Business angel/angel investor
'Business angels', also known as angel investors, are high net worth individuals or sophisticated investors who invest privately in small start-ups or entrepreneurial ventures, usually by way of equity rather than debt. Often, angel investors are the first line of capital after family and friends. Angel investors tend to provide advice and contracts to businesses in which they invest and may make an active management contribution. They may invest individually or in formal or informal syndicates.

Capitalisation
A term most frequently used to describe the accounting approach used to record cost as a fixed asset when it relates to an item that is expected to deliver value over time. This is typically done by placing assets on the company's balance sheet at a given value (which is then amortised or depreciated over a given period). However, in valuation practice, it may also refer to the practice of capitalising profits: this method applies a suitable multiple to historic profit data to arrive at a view of IP value.

Commercialisation
The process by which a new product or service is introduced to the market. This may consist of a number of stages, from initial introduction through to mass production and adoption. It involves not only operational considerations but also the marketing, sales and customer support required to achieve success.

Cost approach
One of the three main methods of IP valuation. Commonly divided into two types, reproduction cost and replacement cost. Reproduction cost involves determining value by establishing the cost of developing an identical asset, and is typically calculated with reference to actual cost less deductions for obsolescence. Replacement cost involves determining value by establishing what it would take to create or buy an asset of equal functionality or utility.

Crowdfunding
Crowdfunding is the attraction of small amounts of capital investment from a large number of individuals, typically obtained to finance a new business venture. Social media and specialist crowdfunding websites bring investors and entrepreneurs together. There are three main types: equity-based crowdfunding (where shares are offered in a new venture); debt-based crowdfunding (where loans are made – otherwise known as peer-to-peer lending); and reward-based crowdfunding, where funds may be sought to produce goods that the crowdfunder then receives.

Debt finance
The act of giving money (or, on occasion, property or other material goods) to another party in exchange for future repayment of the principal amount along with interest and/or other financing charges. A loan may involve a specific amount to be paid back over a set period of time (term lending) or can be provided as an open-ended 'line of credit' up to a specified limit or ceiling amount (typically in the form of an overdraft).

Depreciation
Accounting techniques used to reflect the decreasing value of an asset owned by a company on its balance sheet (or simply to spread its cost over a period of time – also called amortisation). Depreciation is typically calculated on a 'straight line', fixed percentage, or declining balance basis.

Due diligence
Refers in this context to the process of gathering all necessary information, typically during the process of evaluating a prospective transaction or investment. The term 'due' reflects the fact that enquiries should be sufficiently thorough to satisfy a reasonable and prudent person.

Equity financing
The process of raising business capital through the sale of shares in a company. The equity investor obtains an ownership stake in an enterprise as a result of their investment.

Franchising
An arrangement whereby one party (the franchisor) grants another party (the franchisee) the right to use its business systems, processes and assets such as intellectual property (including trade marks) to produce and market goods or services according to certain specifications. In exchange for these rights, the franchisee typically pays a sign-on fee and a percentage of gross or net sales by way of a royalty to the franchisor.

Income approach
One of the three main methods of IP valuation. The income approach bases its estimate of asset value on the income it is expected to generate over its lifetime, usually translated into a net present value using discounted cash flow techniques. There are a number of derivatives and variations, including the 'relief from royalty' method.

Industry association
A trade body that supports and protects the rights of a particular industry or sector, and/or the people who work in it.

Initial Public Offering (IPO)
This term describes the first time that the stock (share capital) of a private company is offered to the public. IPOs are typically made by smaller, younger companies seeking growth finance, but can also be done by large privately owned companies looking to become traded on open markets. In an IPO, the issuer will require professional assistance to determine the appropriate type of security to issue, the offering price, number of shares to be issued and the best time to bring it to market.

Innovation
Usually used to describe the process of translating an idea or invention into a good or service that creates value, or for which customers will pay. To be characterised as innovative, an idea must be novel, replicable at an economical cost, and satisfy a market need.

Intangible assets
Used to describe any asset without physical substance. Intellectual property is a subset of the category of intangible assets.

Intellectual capital
A term used to describe the overall intangible value of a business. A common method to describe intellectual capital is to divide it into the value delivered by the people who work for it ('human capital'), the value of its relationships ('relationship capital'), and all the assets that the business needs to operate successfully ('structural capital'). This last category is sometimes further subdivided into process, organisation and innovation capital.

Intellectual property
A term used to refer to 'creations of the mind' for which specific property rights are available in law.

Intellectual property rights
The legal protection afforded to specific types of intangible assets. In the UK, there are four types: patents (for inventions), trade marks (for brands), registered and unregistered designs (for styling) and copyright (for creative works, including software).

Intermediary
A person that acts as a linkage between other people or businesses in order to bring about an event or agreement. In the context of IP valuation, an intermediary is a person involved in specifying or recommending a valuation to be done who is not either the valuer or the client.

Insolvency
Insolvency occurs when an organisation, or individual, can no longer meet its financial obligations and pay its debts as they become due. Before an insolvent company, or person, becomes involved in formal insolvency proceedings, it may seek to enter informal arrangements with its creditors, such as making alternative payment arrangements.

Insolvency practitioners
A person licensed and authorised to act in relation to an insolvent individual, partnership or company. Insolvency practitioners may be specialists, or may be based in firms of accountants or lawyers.

Knowledge-based economy
A term used to describe the system of consumption and production that is based on intellectual capital, typically responsible for a large share of overall economic activity in developed countries. In the knowledge economy, a significant proportion of a company's value is likely to lie in its intangible assets and intellectual property rights.

Licence
A licence provides a licensee with authorisation from a licensor for one or more particular uses of the asset concerned. In intellectual property law, it is common to use licensing as a means to settle infringement disputes, or to generate additional income by granting rights for others to practise an invention, use a brand or reproduce a creative work. Licensing is typically either exclusive (granting rights to a single party), sole (only granting a licence to one party, but retaining rights of use) or non-exclusive (where multiple licences may be granted).

Liquidation
An event that usually occurs following a company's insolvency. If there is no prospect of a company continuing as a going concern, its operations will be brought to an end, and its assets divided up among creditors and shareholders, according to the priority of their claims. Under such circumstances, debt obligations usually rank ahead of the interests of equity holders (shareholders).

Litigation
The process of taking another party to court in order to resolve a dispute. In the intellectual property context, such activity may be required in order to determine whether an intellectual property right has been infringed, and/or whether that right is valid. The sanctions that are available following a court judgement vary according to territory but may include damages and injunctive relief.

Market approach
One of the three main methods of IP valuation. This method seeks to establish a value by examining the price paid for similar intellectual property in the market. There are typically two steps to the process: screening for comparable transactions, and making adjustments to account for differences.

Merger
A deal to combine two existing businesses into one new company. Mergers and acquisitions are commonly arranged in order to add shareholder value by diversifying a company's activities, obtaining access new technologies or competencies, expanding into new segments, realising synergies or cost savings, or gaining market share.

Purchase price allocation
This process (abbreviated to PPA in parts of this report) is required by national and international financial reporting standards. It categorises a price paid for a business into the different types of assets and liabilities acquired. At a high level, this involves determining how much has been paid for tangible assets, how much for identifiable intangible assets, and how much for goodwill (which in this context means the price premium paid to acquire a business over and above the value reasonably attributable to the assets). A large component of the PPA process therefore involves the identification and assignment of fair market value to a business's intangible assets.

Profit and loss account
The statement produced by a business through which its profitability is ascertained. Gross profits or losses of a business are ascertained by deducting costs of sales from income; net profit or loss is determined by deducting all other operating from the gross profit or loss. Net profit may also be described in other ways; the term 'earnings' may be used, often in the context of EBIT (Earnings Before Interest and Taxation) or EBITDA (Earnings Before Interest, Taxation, Depreciation and Amortisation).

Relief from royalty
A sub-set of income valuation methods, and one of the most popular. This approach involves calculation of the amount a third party might pay to license a given set of intellectual property and/or intangible assets from a business (the 'royalty') and expressing it as a net present day value using discounted cash flow techniques.

Searching behaviour
A term in competition economics used to describe how users research a market prior to making a purchase decision. Weak searching behaviour (as evident in this study) indicates that companies do not routinely make many enquiries prior to reaching a purchase decision.

Spin-out
A term most frequently associated with the creation of a new trading entity by a university or research institution, typically in order to commercialise a new technology that has been developed. The process of creating a spin-out establishes a separate company that can attract investment independently of the 'parent'. A corporation can also elect to spin-out part of its operations. In nearly all cases, the parent will retain an ownership interest in the new company, which may be linked to the intellectual property and other intangible assets that have been assigned to it.

Tangible Assets
A tangible asset is an asset that has a physical form. Tangible assets are usually taken to include both fixed assets, such as machinery, buildings and land, and also current assets, such as inventory.

Transfer pricing
A figure used (in this context) to transfer the ownership of an asset or group of assets from one entity to another. The term 'transfer' (rather than assignment) often indicates that the parties involved in such a transaction are related to each other. An IP valuation may be needed to establish an appropriate price at which the transfer should occur. This is an area of recent activity for the Organisation for Economic Co-Operation and Development (OECD) who have led international work on Base Erosion Profit Shifting (BEPS) intended to ensure that tax revenues are not undermined by the practice of transferring and licensing back intangible assets.

Venture capital
Equity financing provided as risk capital by investment groups or bodies to companies that are believed to have substantial long-term growth potential.

Vertical integration
A term used to describe a situation where activities upstream and downstream activities within a supply chain have been brought under common ownership and control. In the IP valuation context this would describe a situation where an accounting firm handling an acquisition recommends its own internal department or subsidiary to conduct the purchase price allocation work.

Vertical relationship
A term used to describe a situation where two parties within a supply chain have an established connection with each other but are not under common ownership.

9. Industry interviewees

The authors and their research team would like to extend their special thanks to the many industry representatives who have participated in this study, both on and off the record. Individual and company participants whose views have been specifically referenced in this report include:

Name	Company
Michael Charles	Amco Agency Ltd
Mark Stevenson	Anthony Jones Insurance Brokers
Peter Gouw	BDO LLP
	Begbies Traynor Group plc
Andrew Caudwell	Berkeley Research Group LLC
Jon Calvert	Clearview IP Ltd
Brent Manchester	Clifton Asset Management plc/Morgan Lloyd
Neil Phelps	Coutts & Co
Andrew Robinson	Deloitte LLP
Mark Bezant	FTI Consulting
Fabrice Bienfait	ETF Partners
David Baron	Gowling WLG International Ltd
Mike Thornton	Grant Thornton UK LLP
Paul Simpson	HM Revenue & Customs
Mark Collard	KPMG
Thayne Forbes	Intangible Business
Stephen Robertson	Metis Partners
David Stears	Menzies LLP
Andrew Catton	Miller Insurance Brokers
Michael Burdon	Olswang LLP
Roya Ghafele	Oxfirst Consulting
John Hull	Visiting Professorial Fellow at Queen Mary, University of London
David Bloom	Safeguard IP

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