SME intangible assets

RESEARCH REPORT NO. 93

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Certified Accountants Educational Trust, London, 2006

 Published by Certified Accountants Educational Trust for the Association of Chartered Certified Accountants, 29 Lincoln's Inn Fields, London WC2A 3EE.

ACKNOWLEDGEMENTS

Assistance in recruiting cases for study from among their membership was provided by iCentrum, a West Midlands regional ITC project, and the Kleinwort Benson Entrepreneurs' Club, and is gratefully acknowledged. Business Link Derbyshire gave permission for the authors to contact a number of family businesses involved in the East Midlands Family Business research project. Members of the Intellectual Property Awareness Network commented on the research proposal and the Patent Office provided case studies involving patents.

Professionals at intellectual property valuation specialists, Forensic Accounting and Valuation Consulting; accountants, Grant Thornton, Langard Lifford Hall, and Silver Levene; company brokers and transfer agents, Beer Mergers, Lakey & Co, and Turner Butler; and the Bank of Scotland and Strathadon Venture Capital all gave time and the benefit of their experience to the project.

The support of the Chartered Accountants Educational Trust, Small Business Service and Intellectual Property Institute is gratefully acknowledged.

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THE ISSUE

This report investigates the nature of SME intangible assets and the ways in which they are developed, protected and transferred, and, finally, identifies valuation methodologies.

Intangible assets are knowledge-based assets that are sources of future economic benefits, contribute to individual SMEs' uniqueness and provide sources of competitive advantage. SMEs are heterogeneous and issues involving intangible assets depend on the nature of an SME's activities, and its size and stage of development. Some SMEs are built entirely around their intangible assets, whereas in others intangible assets primarily complement physical and financial assets. The issues involved in developing and exploiting intangible assets differ from those involved in managing physical and financial assets. The lack of concrete form and the general absence of functioning markets for intangible assets make their valuation problematic in comparison with that of physical assets that are regularly bought and sold in transparent markets.

METHODOLOGY

A qualitative, case-study-based research approach was adopted, involving a literature survey, collecting data, undertaking interviews with professionals, developing analytical frameworks, analysing the data collected, drawing conclusions and, finally, identifying the implications for SMEs' accountants and business advisers.

Twenty SMEs of varying size and from different sectors were initially recruited, interviews undertaken and intangible assets identified and analysed using strategy mapping approaches. A further 29 SMEs were then brought into the research to develop and populate the framework for categorising the SMEs by an underlying business model. The 49 SMEs used in this research are listed in Appendix 1 (see pages 66 and 67).

Discussions were held with ten professionals to obtain their views and perspectives on SME intangible assets. The professionals were from intellectual property valuation specialists, accountants, company brokers and transfer agents, and a bank and venture capital company.

Data were first collected at the SME level in the form of case studies that outlined entrepreneurial history, identified the main customer perspectives and described how intangible assets formed part of customer relationships, internal functions and learning and growth perspectives. The way in which intangible assets indirectly influenced financial performance was identified. The individual SME intangible assets identified in this research, over 350 in total, were put on a database so that they could be readily accessed and reviewed both by type of intangible asset and by SME category.

FINDINGS AND CONCLUSIONS

The nature of SME intangible assets

SME intangibles assets are:

- knowledge-based, non-physical sources of future economic benefits, owned and controlled by an enterprise and forming part of its intellectual capital
- sources of differentiation and competitive advantage for individual SMEs that cannot be readily acquired in market-based transactions
- not usually included in accounting balance sheets, as they do not comply with conventional definitions of assets and their value is uncertain.

The specific intangible assets identified in this research were:

- customer capital – trade marks; names protected as intellectual property; brand image and business reputation

- customer relationships – service, maintenance and customer supply contracts, people-based customer relationships, customer lists and websites that attracted customers and provided routes for placing orders
- external approval and licences – quality approvals, external endorsements, licence arrangements and franchise agreements
- proprietary products and services – incorporating protected intellectual property, other product designs and proprietary products, creative works, proprietary product documentation and successful service formats
- technical and process knowledge – proprietary business processes, proprietary software, trade secrets, technical know-how and job cards, drawings and patterns
- supplier and input relationships – favourable supply contracts, advantageous supplier relationships and employment contracts with key employees
- people-based assets: employees with proprietary knowledge and an assembled workforce
- learning and growth: owners' entrepreneurial outlooks, networks and collaborative agreements, and 'atmospheres' encouraging innovation and change.

These main features of SME intangible assets were identified.

- Individual intangible assets form part of wider clusters relating to products, business reputations, capabilities and other aspects.
- Intangible assets can be found in one or more of the different forms of intellectual capital: human, structural and customer capital.
- Some intangible assets are legally protected as intellectual property, such as patents, trademarks and copyrights.
- Most intangible assets form barriers to competitors in ways that reflect their inherent complexity, obscurity and replication costs.

Development processes and stages

The creation and development of intangible assets involve complex innovation and business development processes.

- The accumulation of intangible assets often reflects the idiosyncratic entrepreneurial histories of SMEs and their owners.
- Owners' entrepreneurial outlooks, networking and creative 'atmospheres' were often instrumental in the creation of other intangible assets.

For most SMEs in this research intangible assets have been created as a consequence of a range of operational and developmental activities. As SMEs grow in size and maturity, accumulated experience and knowledge form the basis of an increasingly complex set of intangible assets, often reflecting the business life-cycle stage reached, such as:

- start-up trade-skill-based businesses, inventors and other entrepreneurs with no customer capital or customer relationship intangible assets
- small, established SMEs with established customer bases and reputations, but no other intangible assets
- established SMEs built around one or two quite specific intangible assets
- established SMEs with two or three clusters of intangible assets

- medium-sized mature firms in which substantial intangible assets form the basis of a number of core competences that underpin a number of products and services.

The development of customer capital and customer relationships as intangible assets characterises the transition from the 'start-up' to the 'established' stage, when an SME becomes more confident about short-term order flow.

The way in which intangible assets underlie core competences in medium-sized mature SMEs resembles the role of the more generic, overarching intangible assets characteristic of large enterprises. For most SMEs, though, more granular and micro approaches are appropriate that reflect the idiosyncrasies of individual enterprises.

Protection methods

SMEs were found to use a number of different approaches, or take no particular steps, to protect the intangible assets that formed barriers to their competitors and protected profitability.

The SMEs studied in this research that used the formal intellectual property system were those exploiting physical product inventions, commercialising new intangible software products, and, in one case, an author writing a book. They used the intellectual property system in different ways and for different reasons.

- The physical product inventions were relatively easy to copy, requiring legal protection and the ability to enforce intellectual property rights.

- The new intangible software products being developed were not easy to copy but the developers needed to demonstrate ownership to commercialise their innovations.

- The author was using the copyright system to sell foreign publication, translation and audio-tape rights.

Other SMEs in this research used the following methods to protect their intangible assets.

- Reputations and company images were protected by providing high levels of customer service and maintaining effective customer relationships.

- Intangible assets providing a competitive technological edge were protected by investment and the early adoption of new equipment and technology.

- Employment contracts and conditions were used by a few SMEs in attempts to protect trade secrets and proprietary knowledge.

Most SMEs, however, relied for protection upon the inherent inimitability of their intangible assets and the way in which copying would involve replicating their entire enterprise.

Transferability

Specific SME intangible assets must normally be transferable to have a market value in their own right. This research found that, apart from intellectual property, most specific intangible assets are not very transferable for the following reasons.

- The intangible asset is not independent, but formed part of a cluster of interrelated complementary assets.

- Lack of clarity exists over whether the SME owns the intangible asset, particularly where assets involved human capital.

- The intangible asset comprises more than one form of intellectual capital.

- The intangible asset involves tacit knowledge acquired through experience that is inherently difficult to transfer by comparison with explicit knowledge in the form of, for example, documented systems and procedures.

Valuing of specific intangible assets

This research found that, in most cases apart from intellectual property, specific intangible assets cannot be valued separately. They are sources of value for SMEs in different ways, usually contributing to enterprise value as a whole.

To value a specific intangible asset it must be both unambiguously owned by an SME and transferable. Even then, valuations may be problematic because:

- open and transparent markets for intangible assets that can be used to provide the basis of market valuations seldom exist
- specific intangible assets do not have identifiable associated income streams that can be used for making income-based valuations
- the replication cost of a specific intangible asset may relate to inimitability, but this is not a good indicator of value.

A specific value can be placed on intellectual property intangible assets when:

- legal rights actually exist to prevent the use of the intellectual property
- the ownership of the rights can be proven and enforced, and
- the legal rights relate to a product, service or business that produces an income stream.

Where it was possible to value the intellectual property considered in this research, the methods used were not 'black box' calculations. Valuation involves interactive processes between the valuer and client that requires an understanding of the nature of the asset being valued and the valuation context. Valuations are made at a specific time and will alter if market sentiment or other factors change.

Intangible assets as indirect and direct sources of SME value

This research found that intangible assets are indirect sources of value in most SMEs and direct sources of value in some. A strategy-mapping approach was used to identify the relationships between underlying business models and the ways in which intangible assets were sources of SME value.

Specific SME intangible assets were found to form part of three key strategy-mapping perspectives:

- customer perspectives, reflecting customer expectations and ways in which SMEs deliver value to their customers.
- internal perspectives, showing how value is delivered to customers at cost and efficiency levels compatible with the financial perspective.
- learning and growth perspectives, identifying how SMEs develop and innovate.

These all relate to a financial perspective that consists of the key financial parameters and relationships that determine profits and reflect how cash is generated in a particular SME. The financial perspective includes sales, margins, overhead structures, utilisations and other accounting-system performance measures.

The factors and relationships forming the financial perspective were found to be related to the fundamental business and economic models underlying

particular SMEs. A framework for categorising SMEs by underlying business model was developed. The SMEs involved in this research were classified by types of asset primarily involved:

- human – people-based services for time-related charges
- physical – concrete products with physical characteristics
- intangible – knowledge-based products and problem-solving capabilities

and in terms of the sorts of right being sold:

- creators – create assets that customers are free to use or resell in any way
- distributors – buy assets and resell without significant transformation
- landlords – rent the right to use assets in specified ways
- brokers – facilitate market functioning by introducing buyers.

These classifications gave 16 individual SME categories, namely: trade-skill businesses, professional practices, physical product distributors, intangible product distributors, standard product manufacturers, proprietary product manufacturers, engineering solutions providers, inventors, advertising media, subscriber services, intellectual property licensors, creative problem solvers, intangible artefacts creators, and artistic creators.

SMEs in each of the 16 individual categories were found to share underlying business and economic models that reflected the nature of the assets involved and types of right being sold.

When SMEs in each category were viewed from the financial perspective, the same factors and relationships were identified as important. For example, physical product distributor SMEs' profits (from the financial perspective) were determined by volume, gross margins and overheads, and those of the broker SMEs by the number of transactions, commission per transaction, direct costs and overheads.

In this research, strategy mapping provided the detailed micro and 'granular' approach necessary to identify the way in which intangible assets related to the financial perspective in individual SMEs.

Intangible assets were **indirect sources of value** for most SMEs in ways that reflected the particular business model underlying each category. Specifically, they:

- underpinned sales and maintainable income
- supported price premiums
- provided cost advantages.

Typically, these intangible assets related to sales, utilisations, margins, overhead economies and other factors and relationships that constituted the uniqueness of individual SMEs.

Intangible assets were also found to be **direct sources of value** in the SME categories involving intangible products and for the inventors of physical products. These SMEs involved the explicit exploitation and commercialisation of intangible assets, usually protected intellectual property. Intangible assets lay at the centre of these SMEs. Again, strategy mapping provided insights into how intangible assets in these SMEs related directly to financial and customer perspectives, and intangible assets consisted of broader clusters.

Intangible assets and maintainable income-based SME valuations

In many sectors, efficient markets do not exist for the sale and transfer of small and medium-sized privately owned businesses. This creates problems in determining the market value of a private business, in contrast with the relative ease with which the value of property or of shares in publicly quoted companies can be established. Transferring SMEs also often involves entrepreneurial activity. Businesses may have different values to different owners.

This research shows that intangible assets often act as indirect sources of business value underpinning sales and maintainable income, supporting price premiums and providing cost advantages. In these situations, intangible assets contribute to enterprise value as a whole, with specific intangibles often having little or no value in isolation from their enterprise and organisational contexts.

The realisable value of an SME was found to be influenced not only by maintainable earnings but also by physical and net financial assets employed in the business, actual and potential liabilities and the presence of factors that enhance or diminish value. The uncertainties surrounding realisable SME values are often not resolved until transactions actually occur.

Four levels of earnings, forming part of the financial perspective for each SME category, were identified:

1. income – total revenue received from customers and clients, including the effect of any premium prices

2. gross profit – income less the costs directly associated with producing the income

3. operating profit before owners' remuneration – gross profit less overhead costs but excluding owners' salaries, drawings, dividends and other benefits

4. operating profit after owners' remuneration at market rates for work done – earnings before exceptional items, interest and tax (EBIT).

Intangible assets were found in this research to contribute indirectly to earnings at levels 1, 2 and 3 by underpinning sales and maintainable income, supporting price premiums and providing cost advantages. Intangible assets often play critical roles in maintaining sales, margins, asset utilisations and resource efficiencies in ways that reflect the business models underlying particular SMEs.

The realisable market value of most SMEs is, in the experience of the company brokers and transfer agents interviewed in this research, based on four principal factors:

1. maintainable income (before or after owners' remuneration) derived from recent accounts.

2. multipliers reflecting enterprise size and market conditions.

3. asset values – the realisable value of physical and financial assets employed in the business.

4. risks associated with potential future liabilities.

Considerable uncertainty, however, often surrounds realisable SME values, because markets are not transparent. Valuations remain opinions until an actual transaction occurs. Prices at the higher end of valuation ranges can often be achieved only if the vendor is also prepared to take a risk and defer receipt of part of the sale price. All valuations are made at a specific time and may alter if market sentiment or other factors change.

Some purchasers may be prepared to pay premium prices for under-exploited brands, products and other intangible assets. The vendor will, however, achieve the

price premium only when competition to buy the business exists. Where there is little competition, the additional value associated with intangible assets may pass to the purchaser without being reflected in the selling price.

The problems in valuing SMEs as enterprises result in difficulties in placing a monetary value on intangible assets that is derived from the way in which they underlie maintainable earnings. The role and importance of intangible assets is, however, often critical as a means of supporting maintainable sales, margins, and use of assets and resources in ways that reflect the business models underlying different SMEs. A crude measure of the value of these intangible assets can be obtained by deducting the realisable value of the physical and financial assets employed in the business from the maintainable-earnings-based valuation of the SME. Alternatively, the earnings associated with the intangible assets can be tentatively identified by deducting from total earnings the imputed costs of using the other assets involved in the business.

Intangible assets and future income stream SME valuations

SMEs in this research included the 'inventors' of physical products and 'creators' of new intangible artefacts. These SMEs were involved in the direct exploitation and commercialisation of legally protected intellectual property. Their values were found to depend upon assessments of future income streams, rather than maintainable earnings.

The accountants and venture capitalist interviewed emphasised the way in which the valuation of SMEs involved in the exploitation of new knowledge and inventions could be based only on judgements about future income streams. No history exists on which to base estimates of maintainable income. In these situations, considerable emphasis is usually given to the strength and experience of the management team and its ability to develop the potential of the innovation.

With these SMEs the value of intangible assets was found to relate both to aspects of the innovation process and to future income, cost and profit streams. Realising the potential of a new product involves developing clusters of intangible assets. The value of an individual intangible asset often depends upon its position in a cluster.

In terms of innovation processes, the value of specific intangible assets relates to how they:

- represent market knowledge about the potential market, applications for and users of the innovation
- relate to the strength of the artefact, comprising the inherent benefits to ultimate users and the absence of dependence upon complementary assets
- prevent benefits seepage to copiers, imitators and the owners of key complementary technologies and distribution channels.

In terms of future income, cost and profit streams, the value of specific intangible assets relates to how they help:

- to contain the marketing costs involved in bringing the artefact/invention to market, eg distribution channel development and advertising
- to contain development costs, especially those incurred before the generation of a sales income stream
- to reduce manufacturing/replication costs.

The key intangibles, however, are those that protect the innovation, and prevent copying and the seepage of benefits. These enable SMEs to obtain prices for their inventions and innovations that reflect the benefits to customers of using these. If competitors were free to enter the market, competition would eventually drive

prices down to levels determined by production and distribution costs.

Considerable risks are associated with innovation processes, and uncertainties surround enterprise valuations based on discounting future income streams. As a consequence, there are difficulties in placing a monetary value on the intangible assets themselves. Developing appropriate intangible assets is nonetheless critical to the successful commercial exploitation of new physical products and intangible artefacts.

Implications for SMEs' accountants and business advisers

Intangible assets provide the basis of superior profits and enterprise value beyond that determined by competitive market conditions. The development of intangible assets is a wealth-creation activity, providing opportunities for accountants and advisers to add value to their clients' businesses.

The intangible asset perspective enables SMEs' accountants and business advisers to use frameworks and tools that can be applied to a wide variety of individual and different SME situations.

This research has a number of implications for accountants and business advisers in terms of helping clients to build, value and transfer intangible assets. These include what advisers need to know about intangible assets, issues related to intellectual property and how value can be added to advisory processes.

Business development and innovation

The research identifies the way in which SMEs can:

- strengthen individual intangible assets, in particular, reputation and customer relationships that form the basis of an established customer base and recurring business
- develop clusters of interrelated intangible assets that form the basis of niche market positions and standard product enhancements
- create new business concepts and formats, but then need to develop other intangible assets to exploit the new opportunity.

Adviser knowledge and expertise

Advisers need to be able:

- to recognise SMEs' individual intangible assets as representing valuable proprietary knowledge that cannot be readily acquired in market-based transactions and that makes particular SMEs different from their competitors
- to recognise clusters of intangible assets that form the basis of SMEs' competitive advantage or core competences
- to identify how intangible assets underpin maintainable income and operating profit at different levels, support maintainable profits and underlie earnings-based SME valuations
- to appreciate the relationships between the roles played by intangible assets and SMEs with different underlying business models
- to appreciate the way in which intangible assets can be as or more important, relative to size, in very small enterprises as in larger enterprises.

Intellectual property issues

Where SMEs have intangible assets and own intellectual property that has the potential to transform their scope and value, generalist advisers need to be able:

- to recognise where appropriate specialist advice is needed from patent agents, copyright lawyers and other professionals

- to help SMEs identify specialist professional advisers who understand their particular product or service and with whom a constructive relationship can be developed

- to assist SMEs to develop a strategy for realising the value of their intangible assets and intellectual property, involving building an SME of value, licensing the intellectual property, or other appropriate approaches.

Value-adding advice

Advisers can provide value-adding advice by:

- helping clients to appreciate, and not underestimate the value of, their intangible assets, especially brand, reputation and customer relationships

- advising clients on how best to protect their valuable intangible assets

- identifying how clients can fully exploit the potential of underutilised intangible assets

- helping clients to strengthen existing intangible assets and develop new ones, especially where intangible assets of significant value can be created at relatively low cost

- helping clients move towards becoming more knowledge-based businesses that create, license, distribute and provide other intangible-asset-based products and services

- helping clients to improve the transferability of intangible assets and increase the value of their businesses by developing structures, systems and documented procedures and, consequently, reducing dependency on specific people.

1. Aims, objectives and methodology

1.1 INTRODUCTION

Intangible assets are knowledge-based assets that contribute to individual SMEs' uniqueness and provide sources of competitive advantage. SMEs are heterogeneous and issues involving intangible assets depend on the nature of each SME's activities, size and stage of development. Some SMEs are built entirely around their intangible assets, whereas in others intangible assets primarily complement physical and financial assets. The issues involved in developing and exploiting intangible assets differ from those involved in managing physical and financial assets. The lack of concrete form and the general absence of functioning markets for intangible assets make their valuation problematic in comparison with physical assets that are regularly bought and sold in transparent markets.

This report investigates first the nature of SME intangible assets and the ways in which they are developed and protected. Then at the issues surrounding the transferability and valuation of individual intangible assets are identified. Next, the way in which intangible assets relate to earnings in different business models and influence whole enterprise values is considered. Finally, conclusions are drawn and the implications for SME accountants and business advisers are identified.

1.2 AIMS AND OBJECTIVES

The specific objectives of this research were:

1. to investigate how SMEs in different sectors build, view and protect their intangible assets

2. to relate SMEs' intangible assets to underlying business models and sector-specific technological, structural and economic characteristics

3. to characterise the methodologies currently used to value SMEs and their intangible assets

4. to identify the relationships between underlying business models, intangible assets and transfer routes

5. to establish how business and professional advisers can help SMEs to build, value and transfer their intangible assets.

1.3 METHODOLOGY

Qualitative approach

A qualitative, case-study-based research approach was adopted, to provide insights into issues relating to the research objectives, and to develop understanding of the relationships and processes involved.

The qualitative methodology involved a literature survey, the collection of SME intangible asset data, professional interviews, and development of analytical frameworks. Then the data collected were analysed, conclusions were drawn and finally, the implications for SME accountants and business advisers were identified.

Literature survey

A literature survey was undertaken covering intellectual capital, intangible assets, market structures, business models and SME valuation.

SME case studies and examples

Twenty SMEs (see those marked † on page 66) were of varying size and from different sectors were recruited through a number of routes. Interviews were undertaken with owners, directors and managers and the first working-paper case studies written, identifying the main features of the SMEs and their entrepreneurial histories. The intangible assets identified were analysed using a strategy-mapping approach. The first write-ups were returned to SMEs.

The initial case studies were located on a conceptual framework for categorising SMEs, developed from the literature.

Further SMEs were then brought into the project, each with sufficient information to identify key intangible assets, and located on the emerging conceptual framework. These additional SME illustrations came from a variety of sources, including the authors' previous research and consultancy work and from businesses advertised for sale on the websites of some of the company broker and accountancy practice websites.

Finally, SME case study second write-ups examining the relationships between intangible assets and business value for each particular SME were developed and returned to the initial case study SMEs.

Appendix 1 (see pages 66 and 67) lists the 49 SMEs used in this research and their source.

Intangible asset investigation

Three research approaches were used to investigate intangible assets in the SME case studies and examples.

A checklist of intangible assets was developed from the literature survey and used to recruit SMEs for the research. The checklist enabled business owners to indicate the intangible assets of significant importance to their businesses. This was used as an initial basis of discussion with SMEs.

Strategy mapping based on Kaplan and Norton's balanced scorecard approach (2004) was used to help understand relationships between intangible assets and identify how they were sources of value and importance.

Finally, core competence approaches were used with some of the larger SMEs to investigate how intangible assets formed part of competences underlying products, services and wider capabilities.

Professional interviews

Discussions were held with ten professionals to obtain their views on SME intangible assets. The professionals were from intellectual property valuation specialists Forensic Accounting and Valuation Consulting; accountants, Grant Thornton, Langard Lifford Hall, and Silver Levene; company brokers and transfer agents, Beer Mergers, Lakey & Co and Turner Butler; and the Bank of Scotland and Strathadon Venture Capital.

The discussions were unstructured and held with principals, directors and senior managers at the practices. Businesses advertised for sale on some of the professionals' websites were discussed in the interviews and used to help develop an earnings model for each category of SME in the conceptual framework.

Analysis of data and development of relationships

Initially, case studies were written up that outlined entrepreneurial history and identified the main customer perspectives. The ways in which intangible assets formed part of relationships with customers, internal functions and learning and growth perspectives were analysed. The direct and indirect influences of intangible assets on financial performance were identified.

A conceptual framework for categorising SMEs was developed from the literature. This set out the type of asset involved and the nature of the rights being sold. The framework was tested using the initial SME case studies and then developed using the additional SME examples. Relationships between intangible assets and earnings were identified for different categories of SMEs.

The individual SME intangible assets identified in this research, over 350 in total, were put on a database so that they could be readily accessed and reviewed both by type of intangible asset and by SME category.

2. The nature of SME intangible assets

2.1 INTRODUCTION

The purpose of this section is to explain the insights gained from this research into the nature and characteristics of SME intangible assets.

Intangible assets are knowledge-based assets, form part of an SME's intellectual capital, and are sources of firm-level differentiation and competitive advantage (Teece 2000). Intangible assets are not usually included in accounting balance sheets (Citron et al. 2004), either because they do not comply with conventional definitions of assets or because their value cannot be measured with reasonable certainty. They comprise proprietary knowledge, skills and relationships that cannot easily be acquired in market-based transactions and form the basis of the uniqueness of individual SMEs.

2.2 INDIVIDUAL INTANGIBLE ASSETS

This research identified the 29 individual intangible assets, forming eight groups with common features, contained in Appendix 2 (see page 68). Knowledge, input resources and assets that could normally be readily acquired in market-based transactions were rigorously excluded when identifying individual intangible assets. Most of the SMEs involved in the research had only a small number of individual intangible assets, depending upon their activities, size and stage of development.

Customer capital

'Customer capital' intangible assets were identified as registered trade marks and names protected as intellectual property, brand image and business reputation. The defining features of customer capital intangible assets are the ways in which they are located in the minds of buyers and represent the ways that SMEs are trusted and their products and services appreciated. The professionals interviewed emphasised the value of customer capital intangible assets; they enable SMEs to make sales without incurring further marketing expenditure.

Customer relationships

'Customer relationship' intangible assets were identified as service, maintenance and customer-supply contracts, people-based customer relationships, customer lists, and websites that attracted customers and provided a route for placing orders. They represented a basis for regular income, repeat sales, avenues for generating enquiries and a means of influencing customers' design thinking. Service and maintenance contract intangibles might represent sources of assured income, whereas other customer relationship intangible assets created opportunities only to quote for business.

External approvals and licences

'External approval and licence' intangible assets consisted of quality approvals, external endorsements, licences and franchise agreements. They represent a means for an SME to benefit exclusively from the brand value, reputation or kudos of a larger or better-known business or organisation. For example, in the experience of one of the accountants interviewed, the quality endorsement associated with the award of Michelin stars to a restaurant has a dramatic effect on the prices it can charge. At a less elevated level, a newspaper award for the best fish and chips in Worcestershire and authorisation to undertake MOT tests were of value to two micro enterprises involved in this research.

Proprietary products and services

'Proprietary product and service' intangible assets identified were: products and services incorporating protected intellectual property; other product designs and proprietary products; creative works; proprietary product documentation and successful service formats. Proprietary product and service intangible assets exist where SMEs have their own products and services that exploit niche markets or meet the needs of particular

groups of customers. Examples of proprietary products and services identified in this research ranged from biometric security solutions to specialist building skills for 'invisible' cosmetic repairs to new houses, and from proprietary ways of meeting the needs of large international automotive organisations to specialist knowledge of the starter kits for keeping fish. In each case, though, the proprietary product and service knowledge represented a key intangible asset not possessed by immediate competitors.

Technical and process knowledge

'Technical and process knowledge' intangible assets identified were: proprietary business processes, proprietary software, trade secrets, technical know-how, and job cards, drawings and patterns. Sometimes technical and process intangible assets underlay SMEs' products and services but in other cases they formed part of wider competences and abilities to access historic production-route information. They ranged from website optimisation capabilities to flock-coating manufacturing know-how.

Supplier and input relationships

'Supplier and input relationship' intangible assets identified were: favourable supply contracts, advantageous supplier relationships and employment contracts with key employees. Proprietary supplier and input relationships are sources of competitive advantage when they provide such benefits as supply price privileges, security of supply and access to particular resources. For example, the steel service centre and paper merchant SMEs in this research had both developed value-adding relationships with their steel and paper mill suppliers respectively. In the case of the small Internet bookseller, the business was built around the owner's knowledge of sources of remaindered and returned books.

People-based intangible assets

People-based intangible assets identified in this research were employees with proprietary knowledge and a trained and assembled workforce. Skills and expertise available in employment markets were excluded when identifying intangible assets, on the basis that these skills were also available to competitors. Specialised employee skills and expertise specific to a particular SME were identified as intangible assets. Similarly, the ways in which a particular workforce had learned to work effectively in teams, incorporating skill mixes that were difficult to replicate, were also identified as intangible assets.

Learning and growth intangible assets

'Learning and growth' intangible assets identified were: owners' entrepreneurial outlooks, networks and collaborative agreements, and 'atmospheres' encouraging innovation and change. In this research some owners were innovators whose entrepreneurial outlooks were overtly driving their businesses forward.

The learning and growth intangible assets were fundamentally different from the other intangible assets identified in this research. The firm-based learning and growth capability that they represented made critical contributions to SMEs' ability to strengthen existing assets and create new ones.

2.3 CLUSTERS

Individual intangible assets were found to form clusters of intangible assets in a number of SMEs involved in this research. Mapping the SMEs' intangible assets using the strategy-mapping approach highlighted the ways in which customer-perspective intangible assets, in particular image and reputation, were usually underpinned by related internal technical and process-knowledge intangibles. Mapping also demonstrated how products, services and capabilities involved clusters of interrelated intangible assets.

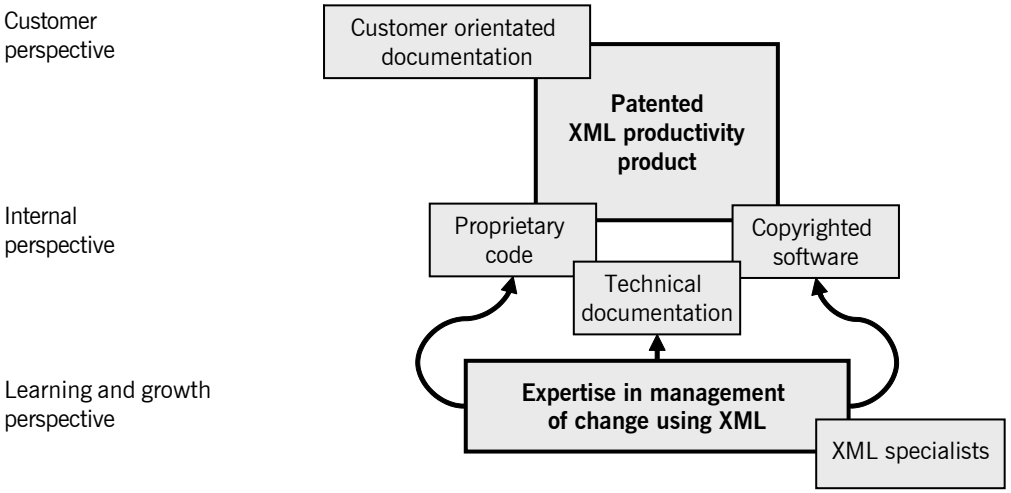
Examples of clusters concerned with product, brand, business reputation and creative research capability are now considered.

Product-related intangible asset cluster

The SME that marketed an XML productivity tool worked at the intersection of two disciplines: change management technologies and XML. A key intangible asset was its patent application covering a method of recording changes to large mark-up language files involving application-defined tags.

The XML productivity product, however, consisted not only of the patent but also of the copyrighted code for making the patented method operational, proprietary customer-orientated user manuals, algorithms for comparing and handling large files, and technical documentation capturing and protecting the knowledge built into the product. A further key intangible asset, the generalised expertise in the management of change using XML, underpinned and contained the capacity to maintain and continually develop the product as a whole.

Figure 2.1: Product-related intangible asset cluster

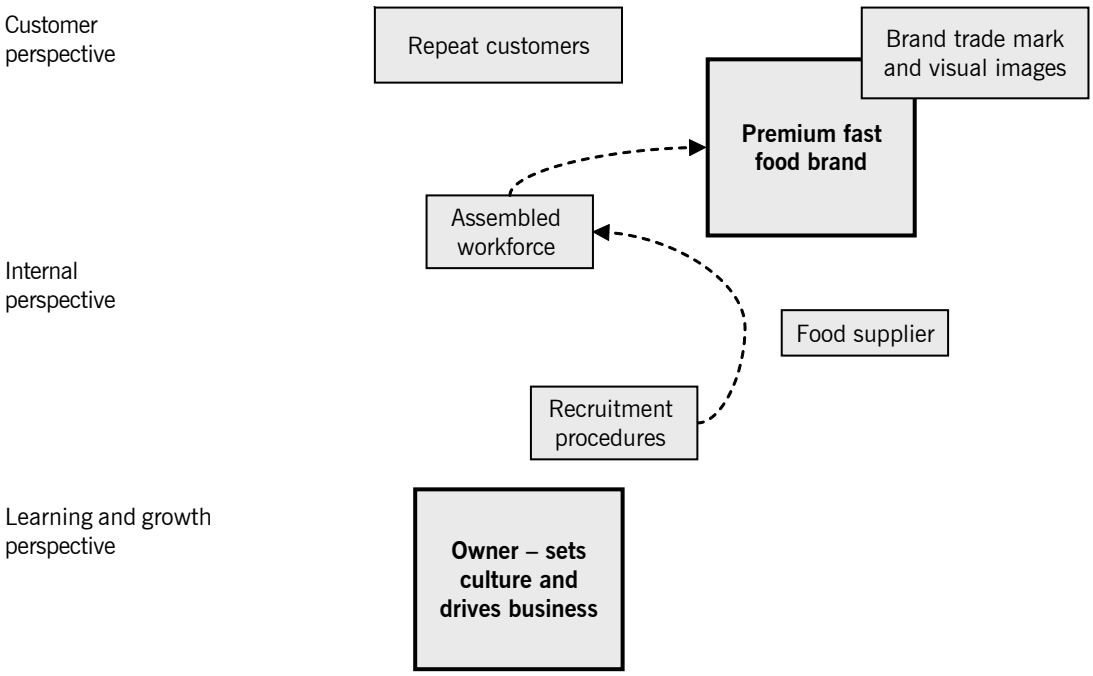


Brand-related intangible asset cluster

The premium fast-food chain SME was a young business selling freshly made 'deli' bagel sandwiches from outlets at an airport, prestige shopping malls, central London tourist attractions and north London residential locations. Brand was a key intangible asset, being developed not only to define the bagel sandwich product, service and customer experience, but also to communicate core values and the company ethos internally to employees.

The customer experiences, core values and coherence that comprised the brand formed the basis of relationships with repeat customers and positive associations with the visual images associated with the brand. Internally, the 'dream big, work hard' brand values formed the basis of workforce cohesion and commitment in conjunction with proprietary, tested recruitment procedures. The relationship with the food supplier reflected the product branding. Finally, the way in which brand values permeated the business was being driven by the owner in setting the culture and developing her business.

Figure 2.2: Brand-related intangible asset cluster

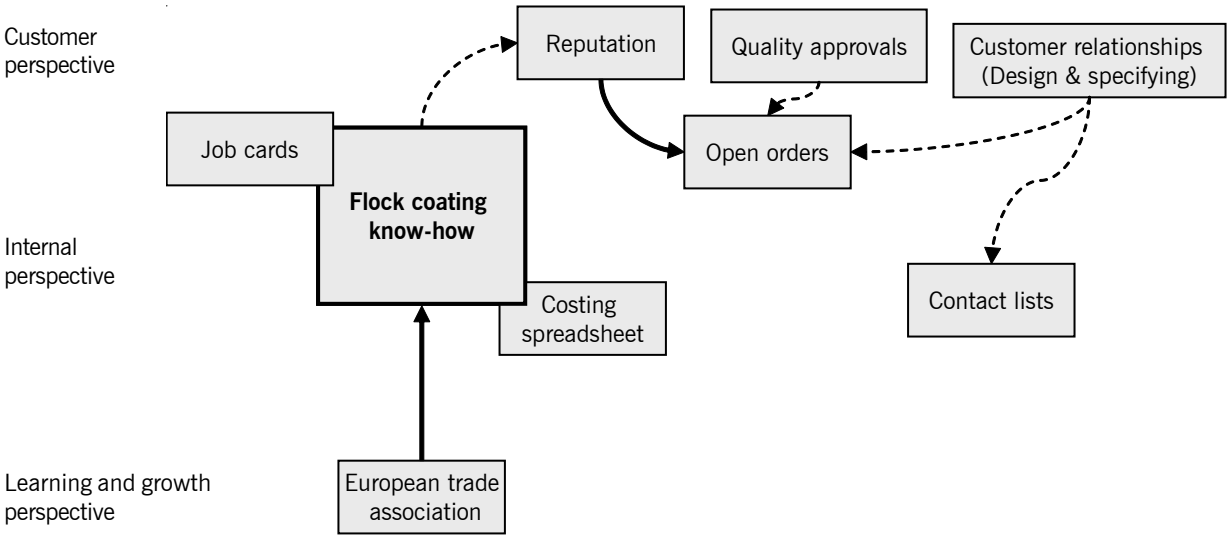


Know-how-related and reputation-related intangible asset cluster

The 3-D surface coating SME was a leading provider of flock-coating services to the UK automotive industry supply chain, with a reputation built on knowledge gained from coating high-volume components for over 25 years. Know-how covering surface preparation, jigging arrangements, adhesive performance, material quantities and equipment production rates enabled this SME to meet customer quality requirements, schedules and volume requirements consistently.

Flock-coating know-how lay at the heart of this SME. The know-how underpinned the SME's reputation in the automotive industry, quality approvals and the relationships with customers' design staff that created opportunities to obtain open orders for new business. Job cards provided written records of the way particular components were coated. Information about coating rates and material quantities were built into the costing spreadsheet. The owner's membership of the European flock-coating trade association was an important source of knowledge about new equipment and developments in the industry.

Figure 2.3: Know-how-related and reputation-related intangible asset cluster

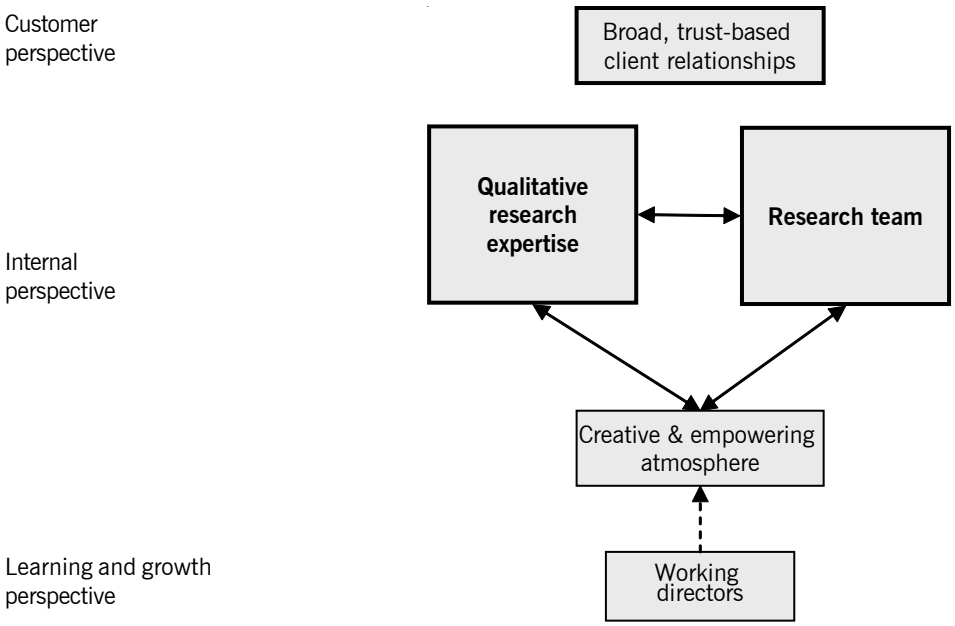


Creative research capability-related intangible assets

The qualitative research consultancy specialised in undertaking qualitative research and consultancy projects, including branding, policy formulation, creative development and communications strategy research for both the commercial and social sectors. Its researchers came from a wide range of backgrounds, including advertising, psychology, fine art, design, law, sociology, financial services and publishing.

Key intangible assets were the consultancy's qualitative research expertise and the mix of expertise and experience within the research team that brought quality of thinking and appropriate approaches to projects. The creative and empowering atmosphere, which included a democratic management style and frequent opportunities for discussion, also contributed to the quality of the research work. These interrelated intangible assets all helped to develop and underpin robust and broadly based relationships with blue-chip clients that knew and were happy to work with the consultancy.

Figure 2.4: Creative research capability-related intangible asset cluster



2.4 INTELLECTUAL CAPITAL LOCATION

Intangible assets identified in this research were located in different parts of each SME's intellectual capital.

Intellectual capital (Stewart 1997) consists of human, structural and customer capital. Human capital comprises the way in which individuals' skills, capabilities and knowledge are utilised. It lies with people who arrive at work in the morning and leave in the evening. Structural capital consists of hard, explicit knowledge incorporated in systems and as intellectual property, but also has softer aspects such as culture and 'ways of doing things' that engender creativity and effectiveness. Finally, customer capital is derived from beneficial market relationships and lies with customers' attitudes towards, and perceptions and favourable experiences of, an SME.

In this research some intangible assets were identified with a single, unambiguous location. Brand image and business reputation consist of existing and potential customers' awareness of trademarks, reliability, value for money and other general characteristics of an SME. Other intangible assets resided specifically with the skills and expertise of owners and key employees. A few SMEs had developed self-contained systems incorporating proprietary knowledge and processing activities. Most intangible assets identified, however, did not have a single location in terms of human, structural and customer capital. Technical know-how, for example, frequently comprised both accumulated knowledge within the workforce and formal procedures and records. Supplier relationships consisted both of trust-based personal relationships and knowledge of suppliers' businesses. People-related customer relationships and business reputation were often closely related intangible assets.

2.5 INIMITABILITY

The inimitability of an intangible asset, or the difficulty with which it can be copied by a competitor, was found in this research to be related to technological complexity, obscurity to outsiders, the cost of replication and the existence of legal protection. Almost all the intangible assets identified could be replicated by competitors given sufficient time, resources and incentive. Many, in particular customer capital, could be developed over time by competitors by providing high levels of service and innovation to build their own business reputations.

Technological complexity

Some intangible assets were intrinsically more technologically complex and difficult to imitate than others. The office furnishing design project management SME was built around the proprietors' knowledge gained from working in the office furniture industry and an ability to interpret end-user requirements and produce a design brief. Although broad in scope, the office furniture knowledge involved was not technologically complex in the same way as, for example, the presswork tooling engineer's intangible assets, which were related to the design and flexible manufacture of multi-station, automated presswork tooling.

Obscurity

Some intangible assets identified in this research were more obscure to outsiders than others. For example, the proprietor of the fine sand caster SME possessed skills involving melting and pouring metal and positioning patterns to maximise weight of castings in a mould. He was also able to identify, in ways that were not obvious to outsiders, how jobs were different and the techniques appropriate in particular situations. On the other hand, in the case of the fish tank manufacturing SME, the technical knowledge of the way tanks were strengthened by adding strips of glass reinforcement and how stands were designed to carry the weights of water involved, could be deduced using simple engineering principles.

Cost of replication

The cost of replication of an intangible asset was also a disincentive to imitation by competitors. Some product-related intangible assets, once developed, were easy for a competitor to copy by reverse engineering. For example, the wire connector manufacturer SME had invented, patented and developed a simple and ingenious two-piece ball-bearing wire-joining product with a very obvious and transparent design that was easy for competitors to copy, but for the patent protection. The encryption and matching software underlying the functionality and integrity of the biometric security solution SME products, on the other hand, could be replicated only by a competitor who went through the same learning and development processes and incurred similar development costs.

2.6 BARRIERS TO COMPETITORS

The nature of the specific intangible assets determines how effective they are as a barrier to competitors, how much they protect SMEs' profitability and the extent of the competitive advantage they provide over other SMEs.

The characteristics of intangible assets that contribute to higher and lower barriers to competitors are summarised in Table 2.1. Some intangible assets can be more easily copied than others because they involve lower-level technology and skills, are visible to outsiders and have low costs of replication. Intangible assets that form higher barriers to competitors are parts of clusters, involve different forms of intellectual capital, comprise multiple technologies, involve non-obvious knowledge and have high costs of replication.

Table 2.1: Intangible assets as barriers to competitors

Characteristic	Lower barrier	Higher barrier
Cluster	Intangible asset involving a single knowledge asset not directly related to other intangible assets.	Intangible asset forms part of a complex cluster that underlies a product, brand, reputation, creative capability or other unique feature of an SME
Location	Simple intangible asset unambiguously located within human, structural or customer capital	Multi-faceted intangible asset encompassing different forms of intellectual capital: human, structural and customer capital
Inimitability:		
• technological complexity	Intangible asset involving a single, relatively low-level technology or skill.	Intangible asset involving multiple, high-level technologies and expertise.
• obscurity	Where the knowledge comprising the intangible asset is transparently obvious from outside the SME	Where the knowledge underlying the intangible asset is not obvious from outside the SME and cannot be easily exposed by reverse engineering
• cost of replication	Where the cost of copying or functionally replicating the intangible asset is relatively low	Where relatively high costs are involved in copying or functionally replicating the intangible asset

3. Development processes and stages

3.1 INTRODUCTION

The purpose of this section is to explain the insights obtained from this research into the ways in which SMEs develop intangible assets at different stages of the business life-cycle.

3.2 ENTREPRENEURIAL HISTORY

The way in which the accumulation of intangible assets reflects the idiosyncratic entrepreneurial histories of SMEs and the experience of their owners was apparent in several of the case studies, as the following examples illustrate.

The owner of the 3-D surface-coating SME had originally been involved in plastic injection moulding. He first became involved in surface coating using the flocking process when he was buying a second-hand compressor that was being sold with some flocking equipment. It then took six years to learn how to use the flock coating equipment, including making contact with the European industry to obtain technical knowledge. Flock coating became progressively more important as it became clear that it was a more attractive business area than the highly competitive plastic injection-moulding industry.

The founder of the XML productivity tool SME had previously worked for a large electronics company and developed the use of CADCAM systems to manage circuit board design processes. Having been made redundant, he worked on developing electronic data exchange standards, including using XML for product data exchange. This led to his patenting and exploiting commercially a method for the recording and validation of changes to mark-up languages developed by applying the same principles to XML as he had used when managing printed circuit board design changes.

3.3 DYNAMIC INTANGIBLE ASSETS

The three 'learning and growth' intangible assets identified in this research are: owners' entrepreneurial outlooks; networks and collaborative agreements; and 'atmospheres' encouraging innovation and change. These are 'dynamic' intangible assets because they contribute dynamically to the strengthening of existing, and development of new, intangible assets ranging from customer capital through technical and process knowledge to people-based intangible assets identified in Appendix 2 (see page 69). Complex entrepreneurial processes are involved when learning and growth intangible assets develop and create other intangible assets.

Owners' entrepreneurial outlooks

Owners' entrepreneurial outlooks enable SMEs to adapt to change and manage the development and protection of other intangible assets. Owners are assets to their businesses where they are a source of knowledge, vision and entrepreneurial drive, setting the culture and inspiring a creative atmosphere. Not all owners, though, are assets to their businesses in this way. Some only respond reactively to changes and some are completely preoccupied with the present. The paper merchant SME case study that follows illustrates how two owners, although usually preoccupied in operational issues in a fast-moving business, also possessed the ability to take a strategic view.

Example: Owners with a 'helicopter' ability

The paper merchant SME was an independent, regional firm supplying customers in an intensively competitive market that demanded high levels of customer service, timed deliveries and competitive prices. It had 45 employees, extensive paper stocks, an automated warehouse and its own fleet of trucks and vans, all of which had to be coordinated on an hour-by-hour basis.

The two owners, who were very involved in day-to-day operational issues, had an ability to take a 'helicopter' view and quickly switch between operational and strategic issues. This enabled the paper merchant to innovate and respond strategically to changes in the paper industry, and so to exploit opportunities to improve margins, optimise volumes and develop new service propositions.

Networks and collaborative agreements
Networks and collaborative agreements are important intangible assets involving industry and other networks and specific collaborative agreements with complementary technological and business partners. These provide access to markets, sources of new technology, and learning and development that strengthen existing, and create new, intangible assets.

'Atmospheres' encouraging innovation and change
'Atmospheres' that encourage innovation and change include open door approaches and empowerment cultures that engender creativity and learning orientations, leading to the development of new intangible assets.

3.4 BUSINESS LIFE CYCLE

This research involved SMEs of different sizes and at different stages of the business life cycle. They ranged from an electrician, a self-employed surface finishing adviser and an Internet bookseller with few intangible assets to a medium-sized steel centre business collaborating with Mitsui & Co, a large Japanese steel and trading company.

Some of the SMEs in this research were involved in the creation and exploitation of new intangible assets. One, for example, was developing biometric security solutions, which involved owning key patents and developing international standards.

For the majority of SMEs, however, intangible assets were created as a consequence of a range of operational and developmental activities. As these SMEs grew in size and maturity, accumulated experience and knowledge formed the basis of an increasingly complex set of intangible assets.

Table 3.1 illustrates a relationship between intangible asset complexity and the business life cycle, deduced from the SMEs involved in this research. For example, a newly self-employed skilled electrician must develop some customer capital in order to have a business with a number of customers. An electrician obtaining contract work through an agency at the going rate for freelance electricians does not have the opportunity to earn a profit derived from charging what customers are prepared to pay for the quality and convenience of the services provided. A number of small enterprises in the research were based upon one or two quite specific intangible assets. In larger enterprises, intangible assets formed either two or three clusters of interrelated intangible assets or formed the basis of core competences that underpinned product and service ranges.

Table 3.1: Business life-cycle, increasing size and intangible asset complexity

Life cycle stage examples	Business?	Intangible assets
Newly self-employed skilled electrician with no customer base or work	No	None
Self-employed skilled electrician, obtaining contract work through an agency	No	Reputation and relationship with employment agency
Established self-employed electrician with a range of customers and a local reputation	Yes	Business reputation and customer relationships
Entrepreneur with a new product or service idea	No	Product/service idea of unproven value and attractiveness to customers
Small technology-based business with patented product, start-up venture capital funding and customers trialling product	Yes	Patented product, venture capital relationship, limited customer relationships (needs to develop customer capital to ensure business viability)
Small established enterprise with a distinctive offering built around a small market, service or product niche	Yes	Business reputation and customer relationships (usually) plus one or two quite specific intangible assets
Owner-managed business, with typically 15–50 employees with an established position in a particular industry or sector	Yes	Two or three clusters of interconnected intangible assets
Mature medium-sized established enterprise utilising multiple technologies and a range of products/services	Yes	Substantial intangible assets forming the basis of a number of core competences underpinning product/service range.

Increasing intangible asset complexity does not necessarily equate with greater value. To a self-employed electrician a good reputation and a wide customer base can be of considerable value relative to his earning power as an employed electrician. Particular intangibles, such as a Man Booker Prize nomination for an author or the exclusive knowledge of a pre-eminent expert witness, can be extremely valuable. The value of complex manufacturing process and technical know-how can be negated by buyer power or the ability of low-cost overseas suppliers to enter the market.

3.5 SME AND LARGE ENTERPRISE INTANGIBLE ASSETS

Considerable differences exist between the ways in which SMEs and larger firms innovate and use the formal intellectual property system, (Blackburn 2003). Smaller firms have advantages over larger firms in terms of speed of reaction, entrepreneurial management, efficient, informal internal communications and trust-based networks. Successful large firms, though, have considerable advantages over smaller firms for innovation, including resources devoted to research and development, scope for exploiting brands and opportunities to use the formal protection systems.

The DTI report, *Creating Value from Your Intangible Assets* (DTI 2001), contains a framework for intangibles based on the experience of the 50, mainly large, businesses involved in that research project. The framework consists of seven intangible assets that were stated by the companies interviewed to be the essential ingredients upon which future success would be built. The seven intangible assets were: external relationships, knowledge, leadership and communication, culture and values, reputation and trust, skills and competences and, finally, processes and systems.

Although these seven overarching intangible assets characteristic of larger enterprises were evident in some of the larger SMEs in the present research, a more micro and 'granular' approach is appropriate for most SMEs.

4. Protection methods

4.1 INTRODUCTION

The purpose of this section is to examine how the SMEs studied in this research protected and maintained the exclusivity of their intangible assets.

Kitching and Blackburn (2003) found that small-business owners tend to protect their innovations by using such approaches as maintaining lead-time advantages, developing high-trust relationships, and informal methods, rather than using the formal intellectual property system.

The ESRC-funded Intellectual Property Initiative (Adams 2003) shows that the use that UK SMEs make of the formal intellectual property (IP) system (patents, trademarks, copyrights and designs, and confidential information) varies with their sector and size. In certain research-intensive sectors, for example biotechnology and electronics, the use of patents is crucial. For most SMEs, though, the patent system is of little relevance, although R&D may be an important activity in these firms. Kingston (2004) concludes that the formal patent system, far from benefiting SMEs, leaves many SMEs worse off than if it did not exist at all. The system seldom works as intended and in many cases leads to actual harm. Blackburn (2003) identifies a number of issues related the use of the formal IP systems by SMEs, including:

- the lack of knowledge owner-managers have of intellectual property, in part a consequence of the complexity of formal intellectual property provisions
- the perceived cost of engagement with the formal intellectual property system, including patent lawyers and patent offices
- the perceived difficulty that owner-managers encounter in enforcing their intellectual property rights, especially when in conflict with larger organisations
- the contrast between informal and trust-based relationships that often characterise small firms and the bureaucratic, legalistic regulatory systems associated with intellectual property protection.

This section first examines the use of the formal IP system by the SMEs studied in this research. Other approaches taken to protecting intangible assets are then identified, namely: close customer relationships, adoption of new technology, employment contracts and conditions, and reliance on the inherent inimitability of intangible assets.

4.2 FORMAL INTELLECTUAL PROPERTY SYSTEM

Eight (out of the 49) SMEs studied in this research used the formal intellectual property system. The remainder used other methods, or took no specific steps, to protect their intangible assets. The eight SMEs that used the formal intellectual property system are shown in Table 4.1.

Product inventions

Four SMEs in Table 4.1 were using patents to facilitate the exploitation of inventions. Two, Freshorise and Intelligent Textile, were in the initial stages of developing viable businesses. Provis was exploiting its chairman's specialist knowledge and long experience of the contact lens industry. Gripple, as explained in the mini-case study below, has built a successful business based on the commercial exploitation of a simple wire-joining concept.

Table 4.1: SMEs using the formal intellectual property system

SME	Use of intellectual property system
Product inventions	
Freshorise 3-in-1 – air freshener product	To protect and facilitate the commercial exploitation of a new product without risking exploitation by dominant industry players
Intelligent Textile – materials with electrical properties	To demonstrate ownership of technology to business partners and potential licensees
Provis – one-day disposable contact lens	To protect new contact lens concept by copyrighting trademark and filing patents to safeguard specialist manufacturing knowledge
Gripple – wire-joining products	Patented and trademarked wire-joining products form basis of an innovation-oriented business
Innovative software and systems	
XML productivity tool developer	Patented method prevents others from using the product without a licence and provides a basis for realising the value of the business
Biometric security solutions developer	Patented biometric identification methods, controlling device and fingerprint capture system underlying development of high-growth biometric security system business
Computer games developer and distributor	Reduce exposure to commercial risk in the games industry by ensuring that the rights of others are not infringed and by comprehensively using and enforcing own trademarks and copyrights
Artistic works	
Novelist	Obtain income from foreign, audio and film rights

Example: Gripple's patented wire-joining products

In 1988 Gripple's chairman, Hugh Facey, had a simple idea for a new two-piece ball-bearing wire-joiner method. Since then the Sheffield-based company has developed a range of patented joining, tensioning, terminating and suspending wire and wire rope products. Initially the invention was used in vineyards, but subsequent continuous development has resulted in a range of products for agricultural, construction, security, wire rope and gardening applications. The effective use of patents, coupled with registering brand names and developing low-cost proprietary manufacturing methods, has been the cornerstone for developing a manufacturing business with a turnover, at the time of the study, of over £15m, and 15% margins.

Hugh Facey commented: 'Patenting should be driven by market and business needs. The patents that are most likely to be commercially successful are those that involve a principle and provide solutions to problems in particular sectors or application areas. Businesses should take out patent insurance from the start and actively contest any infringements'.

The four SMEs exploiting inventions were seeking to develop a market position using patents as a barrier to competitors and to demonstrate that they themselves owned the products. In all four cases, without the patent protection, it would be relatively easy for larger, established companies already in the market to copy the product ideas.

Innovative software and systems

Three of the SMEs in Table 4.1 were involved in software and systems innovation. The computer games developer and distributor was using trademarks and copyright to protect its intellectual property and build a reputation as a publisher of high-quality computer games. Two firms, the XML productivity tool and the biometric solutions developers, were seeking to build businesses of value around their intellectual property. Both SMEs consisted of clusters of interconnected intangible assets involving considerable technological complexity, as illustrated by the case study below.

Example: Senselect biometric solutions developers

Senselect is a leader in advanced biometric identity management, specialising in high assurance security systems targeted at passport, national ID, border control, electronic payment and other applications. Senselect's systems capture, encrypt and store fingerprint, iris and other data, including the sequence in which data are entered. Its intellectual property includes a patented fingerprint capture system, a method for comparing entries of biometric data, and an identification system controlling device. Other key intangible assets include proprietary biometric identity and privacy management software; BiometricPIN and other trade names; an internationally accepted high assurance biometric framework; and relationships with technology and system integrator partners.

Chief Operations Officer, Russ Davis, commented: 'Senselect is making a major investment in intangible assets to turn the original simple and elegant idea for using finger sequences for access control we patented, into a world-class, biometric identity management and privacy protection system'.

The SMEs involved in innovative software and systems were using the intellectual property system to demonstrate ownership of the intangible assets being used to build their businesses, generate licensing income and reduce the risks of infringing the intellectual property rights of others.

Artistic works

The final SME in Table 4.1 is an author who has successfully published her first novel and has been shortlisted for a Man Booker Prize. She has made effective use of the copyright system and has sold foreign publication rights to 11 different countries as well as translation rights and permission for an audio tape version of her book.

4.3 ABILITY TO ENFORCE PATENT RIGHTS

The professionals interviewed emphasised the importance of demonstrating that an invention has economic viability in the marketplace. The most successful patented inventions are usually where the invention is capable of making a change within an industry. Patents, however, cannot be valued in isolation from other assets and factors involved in the change.

When an invention has economic viability, a patent has value because it gives the right, which is very expensive to enforce, to stop other people directly copying the idea. Making the patent application involves disclosing the idea and this enables others to learn about the innovation and, possibly, work around the patent. Some unscrupulous organisations deliberately infringe patents in the knowledge that the patent holder does not have the financial resources to defend the patent in the courts.

Where the protection of intangible assets involves the use of patents, SMEs must, in the view of the professionals interviewed, be able to enforce their patent rights. In this research, most of the SMEs using the patent system were doing so in order to demonstrate ownership of the invention to help realise business value, raise funds and enter into licensing agreements. Only the wire connector SME, Gripple, was identified as actively involved in defending its patents and using patent insurance.

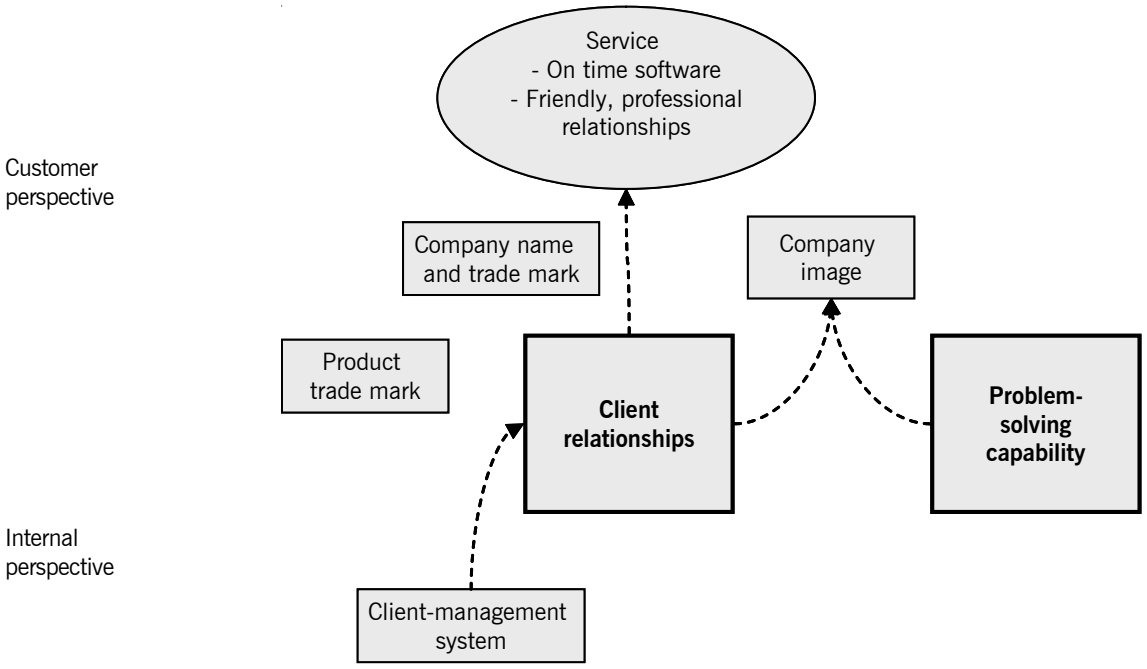
4.4 CLOSE CUSTOMER RELATIONSHIPS

Business reputation, company names and related brand marks were important intangible assets for a number of SMEs in this research. SMEs were conscious of the need to protect these intangible assets by maintaining high levels of customer service, usually through the maintenance of effective customer relationships, intangible assets in their own right. Reputations and company names were sometimes seen as fragile intangible assets that could easily be damaged by failing to 'look after' customers.

Fig. 4.1 contains part of the strategy mapping for the systems integrator SME. Customers were looking for software delivered on time and friendly, professional relationships as the customer service aspect of, in strategy mapping terms, the ‘customer perspective’. Customer service was delivered through the high-trust, partnership-based professional client relationships that the SME had developed with its blue chip clients, which also led to the development of clients' awareness of the SMEs' name and image, two key customer capital intangible assets. A multi-level client management system and database was an ‘internal perspective’ intangible asset that, in turn, supported client relationships.

One of the proprietors of the small lettings management and estate agency SME explained the importance of building their reputation by maintaining good relationships with both landlords and tenants as follows: 'Our business is a 'come back' business with satisfied landlords recommending us to friends and relatives. Tenants also look to us to be spontaneous when repairs are needed and to resolve problems quickly when they arise'.

Figure 4.1: Customer service related intangible assets for the systems integrator SME



4.5 ADOPTION OF NEW TECHNOLOGY

SMEs that were using equipment and technologies in their businesses protected their intangible assets by 'keeping one step ahead' of competitors and ensuring that they invested in new technologies as they became available in the industry. Both the 3-D surface coater and the printer SMEs had close relationships with equipment suppliers, which they used to identify methods that were becoming available in their respective industries.

4.6 EMPLOYMENT CONTRACTS AND CONDITIONS

Some SMEs attempted to protect their intangible assets through employment contracts and conditions. Two SMEs had built confidentiality terms into employment contracts to protect their proprietary knowledge and another included a clause that attempted to prevent a manager from setting up in competition if he left.

One SME explained that patenting enabled them to demonstrate that knowledge belonged to the company, not employees.

The consulting engineers sought to protect their key customer relationship intangible assets by attempting to ensure that key employees had no incentive to leave.

4.7 INHERENT INIMITABILITY

Several SMEs relied upon the inherent inimitability of their intangible assets as a means of protection. Where the individual intangible assets formed interrelated clusters or were in a number of locations, the competitors would need to recreate the entire business, rather than just copy individual intangible assets.

The qualitative research consultancy, for example, did not take specific steps to protect its key intangibles, relying on the fact that a competitor would need both to replicate its entire research team and then to spend a number of years building a reputation for qualitative research excellence.

In other cases, SMEs operating in niche markets were protected by the way in which the costs of replication, in relation to the size of the market, deterred competitors.

4.8 DIFFERENT PROTECTION APPROACHES

This research found that SMEs use a number of different approaches to protect their intangible assets, besides using the formal intellectual property system and relying on the inherent inimitability of their intangible assets. The ways in which the different approaches contribute to lower or higher protection is shown in Table 4.2.

Table 4.2: Protecting intangible assets

Method	Less protection	More protection
Formal intellectual property system	No attempt to register trade marks, brand names, domain names and, where appropriate, to take out patents	All intellectual property and intangible assets appropriately registered
Ability to enforce patent rights	Financial and management resources not available to enforce patent rights	Patent insurance, infringers identified and advice taken to defend patents
Close customer relationships	Poor customer relationships damage company reputations and images	Effective customer relationships that maintain and protect company reputations and images
Adoption of new technology	Intangible assets impaired as competitors gain competitive technological edge by adopting new technology	Intangible assets protected by being first to innovate and invest in new equipment when it becomes available in the industry
Employment contracts and conditions	No attempt made to use employment contracts to protect intangible assets	Access to proprietary knowledge and company secrets explicitly recognised in employment contracts
Inherent inimitability	Easy and low-cost copying of intangible assets possible	Where intangible assets are difficult, or uneconomic to copy

5. Transferability

5.1 INTRODUCTION

The purpose of this section is to explain the insights obtained from this research into the transferability of specific intangible assets.

Intangible assets must be transferable if they are to be sold in a market-based transaction. This section identifies the characteristics of intangible assets that make them either easier or more difficult to transfer.

5.2 OWNERSHIP CONTROL

An SME must be able to demonstrate unambiguously that it owns an intangible asset, in order to transfer the asset.

Undisputed patents, trademarks, copyrights and similar forms of registered intellectual property where clarity of ownership exists are more easily transferred than other intangible assets. The professionals interviewed in this research emphasised that SMEs must ensure that intellectual property actually belongs to a business. Professional practices should, for example, ensure that intellectual property belongs to the partnership, not an individual partner. Domain names and trademarks should be registered so that issues surrounding their ownership do not arise when businesses becomes successful.

Customer capital in the form of business reputations and brand awareness cannot be transferred as it consists of experiences and images residing in the minds of customers. These are not under the direct ownership control of the SME. Customers' favourable impressions or experiences of a particular brand or business may make the associated trademarks more valuable, but cannot be transferred per se.

Unambiguous ownership control of 'technical and process knowledge' intangible assets involving hard, technical knowledge and information, can be more easily demonstrated than ownership of intangible assets involving softer knowledge such as 'atmospheres' that encourage innovation and change and other 'learning and growth' intangible assets.

5.3 INDEPENDENT VS CLUSTERS

Intangible assets that are independent can normally be transferred more easily than those forming part of a cluster of interrelated, complementary assets.

Intangible assets identified at the SMEs considered in this research were often found to form parts of clusters related to products, brands, reputations, capabilities and core competences. Individual intangible assets often had a reality only in the context of their cluster, making transfer problematic.

Example: Payroll services provider case study

The payroll services provider offered a low cost, reliable 52-week-per-year payroll service on a nationwide basis. It had the expertise to administer tax credits, court orders, pension payments and other infrequently occurring payroll matters as well as supplying a basic payroll service. A large customer base provided a steady, recurring income stream as customers did not usually change their payroll suppliers unless problems arose or their own businesses changed. A key intangible asset was the in-house proprietary payroll software developed by the owner, which could handle many of the less common, time-consuming payroll matters.

5.4 LOCATION AND HUMAN CAPITAL

Intangible assets that form part of SMEs' human capital are particularly difficult to transfer, as employees are not 'owned' by SMEs in the same way as other assets. Employment contracts and trust-based relationships can enable SMEs to have some control over intangible assets involving proprietary knowledge possessed by employees, but transfer remains problematic.

5.5 LOCATION

Intangible assets involving multiple locations present transfer difficulties, especially where human capital is involved. The knowledge underlying the specific intangible assets identified in this research often did not take a single form of intellectual capital: human, structural or customer. Technical and process knowledge intangible assets, for example, often involved both systems and procedures coupled with accumulated experience residing with employees, managers and owners.

5.6 TACIT VS EXPLICIT KNOWLEDGE

The transferability of specific intangible assets was also influenced by the nature of the knowledge involved, irrespective of where the knowledge was located. Intangible assets involving explicit knowledge, or tacit knowledge that could be made explicit could be more easily transferred than those involving tacit knowledge acquired through long experience. For example, the small fine-sand caster enterprise studied in this research was built around the proprietor's casting-trade skills that had been acquired over many years of working in foundries. They involved considerable tacit knowledge about how to position components in a mould and how to pour hot metal. This knowledge was being slowly transferred to a relative of the proprietor as part of a craftsman–apprentice relationship. The Internet bookseller enterprise was also built around the proprietor's knowledge of sources of remaindered books. In the Internet bookseller case, however, the knowledge could be readily made explicit and transferable as a list of supply sources and contact details.

5.7 INHERENT TRANSFERABILITY

The characteristics of specific intangible assets that influence transferability are summarised in Table 5.1. Most specific intangible assets, apart from formal intellectual property rights, are not easy to transfer in market-based transactions. This research found that many SMEs rely upon the difficulty of transfer as the main means of protecting their intangible assets.

Table 5.1 : Transferability of specific intangible assets

Method	Easier to transfer	More difficult to transfer
Ownership control	Proven and enforceable intellectual property rights clearly defining the intangible asset and preventing its use by other businesses	Lack of clarity over whether the SME owns the intangible asset and its exclusivity
Independent vs clusters	Single, independent intangible asset	Where the intangible asset is not independent, but involves a cluster and interrelated complementary assets
Human capital	Where demonstrably reinforced by employment contract terms, the SME has rights over the employees' knowledge and relationships.	Where the intangible asset belongs to the employee, not the SME
Location	Intangible asset has a single location within the SME's structural capital, eg a self-contained system or database	Intangible asset comprises more than one form of intellectual capital, residing in multiple locations
Tacit vs explicit knowledge	Where the intangible asset involves knowledge that is already, or can be made, explicit	Where the intangible asset involves tacit knowledge acquired through experience that is inherently difficult to transfer

6. Valuing specific intangible assets

6.1 INTRODUCTION

The purpose of this section is to identify the issues associated with valuing specific intangible assets and to explain the ways in which intangible assets were found to be sources of value for SMEs.

6.2 VALUATION ISSUES

There are three basic methods (Sykes and King 2003) for valuing specific intangible assets or, for that matter, any asset. These are as follows:

1. market approaches, which arrive at the value of an asset by obtaining a consensus related to the price of other similar assets.

2. income approaches, which identify the income-producing capability of the asset and arrive at a value by discounting the net future cash flows at an appropriate discount rate

3. replacement cost approaches, which arrive at the value of an asset by ascertaining the replacement cost of a functionally equivalent asset. This may not be the same as the historic cost.

In the experience of the professionals interviewed in this research, only in a small minority of situations can specific intangible assets be valued separately in their own right.

Market approaches to intangible asset valuations are problematic because open markets and transparent prices seldom exist.

Income approaches can be used where an intangible asset is separable from the business as a whole, is transferable and has an identifiable associated income stream. This research has shown, however, that specific SME intangible assets are usually not readily transferable; they often involve human capital and form parts of clusters of complementary assets.

Replacement cost is an indicator of the inimitability of an intangible asset but not necessarily an indicator of value.

In summary, the professionals emphasise that, in most SMEs, intangible assets contribute to the value of the enterprise as a whole and cannot be valued in isolation. The value of many intangible assets is dependent not so much upon legal principles as upon the possession of something that is scarce, belongs to a business and is a source of income. The professionals see the intrinsic value of SMEs' intangible assets as associated with the way in which intangibles are sources of competitive advantage and uniqueness and, in particular, the way in which they protect income streams by forming barriers that prevent or delay competitors entering the same field. Intangible assets of value make individual SMEs different and underlie their unique selling points.

6.3 INTELLECTUAL PROPERTY VALUATIONS

In the experience of the professionals interviewed in this research, it may be possible to place a specific value on some intellectual property intangible assets if the following conditions are met.

1. Legal rights that prevent the use of the intellectual property by other businesses actually exist.

2. Ownership of the rights can be proven and enforced.

3. The legal rights relate to a product, service or business that produces an income stream.

Valuation then involves understanding the nature of the asset being valued, the valuation context, and applying a methodology appropriate to the reason for valuation.

Table 6.1: Sources of value of SME intangible assets

Type	Nature	Sources of value
UNDERPINNING SALES AND RECURRING INCOME		
Customer capital: registered trademarks, brand awareness, business reputation	The associations in customers' minds between brand images and products and services. Existing and potential customer association of an SME with integrity, reliability, technical competence, product quality and value for money	The income generated by existing customers making repeat purchases and potential customers buying for the first time without the need for advertising and marketing expenditure
Customer relationships: service and maintenance agreements, customer-supply contracts, people-based customer relationships, customer lists, websites	Established relationships between SMEs and customers, ranging from contractual order commitments from customers to lists of customer contacts	Recurring income from established customers and information about existing customers that can be used as the basis of marketing and selling activities
SUPPORTING PRICE PREMIUMS AND PROVIDING COST ADVANTAGES		
External approvals and licences: external quality approvals and endorsements, licence and franchise agreements	Endorsements by external bodies, quality approvals to supply and permissions to undertake activities	Reputation enhancement and creation of barriers that other suppliers need to overcome in order to compete
Proprietary products and services: patented products, copyrighted creative works, registered product designs, own products – unregistered, proprietary product documentation, successful service formats	Products, services and associated intangibles that form the basis of proprietary offerings to customers	Value lies in the strength and potential of the proprietary offerings and the extent to which patents, registered designs and copyright can be used to protect features from copying by competitors
Technical and process knowledge: proprietary business processes, proprietary software, trade secrets, technical know-how, job cards, drawings and patterns	Proprietary knowledge, systems and recorded information associated with an SME's products and services	Value lies in the extent to which the knowledge forms part of proprietary products and services commanding price premiums or provides competitive cost advantages
Supplier and input relationships: favourable supply contracts, supplier knowledge and advantageous relationships, employment contracts with key employees	Proprietary supplier knowledge, privileged supplier arrangements and exclusive contracts	Provide cost advantages not available to competitors and preferential access to input resources
People-based intangible assets: employees with proprietary knowledge, trained and assembled workforce	Employees with exclusive, proprietary knowledge and developed workforce teams	Can underlie proprietary processes, products and services. Can represent barriers to competition
SOURCES OF INNOVATION AND GROWTH		
Learning and growth: owner, networks and collaborative agreements, atmosphere encouraging innovation and change	Sources of new knowledge, innovative capacity and entrepreneurial drive	Dynamic capabilities that enable SMEs to adapt to change, and develop new, and strengthen existing, intangible assets

Robust valuations involve triangulation and the use of more than one method. Valuation methods are not 'black box' calculations but involve interactive processes between the valuer and client. The valuation of brands and other intangibles is 95% research and 5% calculation. All valuations are made at a specific time and may change if market sentiment or other factors change.

6.4 INTANGIBLE ASSETS AS SOURCES OF BUSINESS VALUE

Detailed analysis was undertaken to identify the ways in which the specific intangible assets were sources of value for the SMEs involved in this research. Intangible assets were found to underpin sales and maintainable income, support price premiums, and provide both cost advantages and sources of innovation and growth. Table 6.1 identifies the way in which different groups of intangible assets provide sources of enterprise value.

'Customer capital' intangible assets are particularly significant, as they result in repeat orders, referrals and recommendations. The hallmark of an established SME, as distinct from a start-up business, is a base of customers who are aware of the SME's reputation, service and products. Start-up businesses have to win every new order and customer from scratch.

7. Intangible assets as indirect and direct sources of SME value

7.1 INTRODUCTION

The purpose of this section is to explain how this research found intangible assets to be indirect sources of value in most SMEs, and direct sources of value in others. A strategy-mapping approach was used to identify the relationships between underlying business models and the ways in which intangible assets were sources of SME value.

The views of the professionals interviewed confirmed Kaplan and Norton's conclusion (2004) that intangible assets seldom create value by themselves and do not usually have a value that can be isolated from organisational context. Creating value from intangible assets (Kaplan and Norton 2004) differs in important ways from creating value by managing tangible physical and financial assets and depends upon the intangible assets' alignment with strategy. Value can be created by combining specific intangible assets effectively with other assets, both tangible and intangible. Intangible assets affect financial outcomes (increased revenues, lower costs, higher profits) indirectly through chains of cause-and-effect relationships rather than directly, as is the case when investing in physical assets (eg training expenditure *v*. investing in a new, more highly productive machine). The value of an intangible asset is based upon potential benefit to the business. The cost of building an intangible asset is seldom a good indicator of its value.

7.2 STRATEGY-MAPPING APPROACH

This research used Kaplan and Norton's strategy-mapping approach (2004) to analyse SME intangible assets. This involved identifying how specific intangible assets related to four key SME perspectives:

- financial perspective – the key financial parameters for particular SMEs, which determine profits and how money is made in the business
- customer perspective – customer expectations and the ways in which SMEs deliver value to their customers
- internal perspective – how SMEs deliver value to customers at cost and efficiency levels compatible with the financial perspective
- learning and growth perspective – how the SME adapts, innovates and builds intangible assets that support the other three perspectives.

Key physical assets were also included in the mapping when they related to identified intangible assets.

The strategy-mapping approach identified how SME intangible assets created value in ways that reflected underlying business models, rather than through a specific alignment with an articulated strategy. The financial perspectives – consisting of the key financial parameters – were similar for SMEs with the same business model. The uniqueness of particular SMEs, however, lay with the intangible asset configurations that underlay their financial, customer, internal and learning perspectives.

7.3 UNDERLYING BUSINESS MODELS

A framework for categorising SMEs by underlying business model was developed for this research. The framework was based on Weill et al.'s Business Model Archetypes (2004), used to classify the revenue streams and analyse the financial performance of the top 1000 firms in the US economy, supplemented by Rappa's taxonomy of Web-based business models (2005).

Sixteen different SME categories with different underlying business models were classified according to the types of asset involved (human, physical and intangible) and the nature of the rights being sold (creators, distributors, landlords and brokers). Table 7.1 shows how the SMEs involved in this research fell into the 16 categories.

Table 7.1: SME case studies and examples categorised by (i) type of assets involved and (ii) nature of rights sold

TYPE of ASSETS INVOLVED		
PHYSICAL PRODUCTS + service and quality	**INTANGIBLE PRODUCTS and PROBLEM SOLVING CAPACITIES + service and quality**	**HUMAN TIME and EXPERTISE + quality**

NATURE OF RIGHTS SOLD		
CREATORS: create assets that customers are free to use or resell in any way		**SERVICE PROVIDERS: supply people-based services for time-related charges**
Inventors: *wire connector manufacturer,* *Provis – one-day disposable contact lens*,* *Freshorise – 3-in-1 air freshener product** **Engineering solutions:** 3-D surface coater, presswork tooling engineer, *presswork engineering* **Proprietary products:** fish tank manufacturer, insignia manufacturer, *portable electrical generator manufacturer* **Standard products:** upholstery manufacturer, *stainless steel fabricator,* *plastics extrusion manufacturer*	**Creators – artistic:** creative arts project, *novelist** **Creators – intangible artefacts:** systems integrator, biometric security solutions, XML productivity tool, *computer games developer** **Creative problem solvers:** qualitative research consultancy, office furnishing design project management, open-source software developers	**Professional practices:** consulting engineers, expert witness, recruitment and selection consultant, surface finishing adviser **Trade skill businesses:** *building repair service, car repair garage, electrician,* fine sand caster
OWNERS: rent the right to use assets in specified ways		
Physical asset providers: *self-storage warehouse*, suburban hotel, *coastal guest house,* premium fast food chain, printer	**Intellectual property licensors**: *computerised training package supplier*, *Intelligent Textile – materials with electrical properties** **Subscriber services**: payroll service provider, *small business information provider* **Advertising media**: community magazine	
DISTRIBUTORS: buy assets and resell without significant transformation		
Physical product distributors: Internet bookseller, *motor parts distributor,* paper merchant, steel service centre_	**Intangible product distributor:** *Downloadable digitally recorded audio books*_	
BROKERS: facilitate market functioning by introducing buyers to sellers of assets		
Brokers: lettings management and estate agency, *property sales, employment and recruitment agency, specialist employment agency, Internet job board*		

Key to case:

Roman type = SME case studies

Italicised = SME examples

* = Patent Office case studies

Sources:

Framework based on MIT Business Model Archetypes, contained in Weill et al. (2004) and Rappa (2005)

The main features of the SMEs with regard to the different types of asset were as follows.

- People-based service providers – trade-skill businesses and professional practices that 'rent' their employees' time to customers and clients. SMEs that supply people-based services for time-related charges seldom enjoy significant economies of scale and employees can often leave and start their own businesses. These SMEs do not 'own' their employees in the same way that physical assets can be owned and SMEs are constrained by the employment and other rights of their employees.

- Brokers acting as intermediaries between buyers and sellers of either physical or intangible products were also identified as a single SME category.

- Physical product SMEs: owners, distributors, standard product manufacturers, proprietary product manufacturers, engineering solution providers and inventors. Physical products can potentially be examined, copied and reverse engineered by competitors and can have only one user at a time.

- Intangible product SMEs – distributors, intellectual property licensors, subscriber services, advertising media, creative problem solvers, intangible artefact creators and artistic creators. Intangible products are non-rival goods that can be used by many users at the same time. Intangible product SMEs usually involve high initial creation and development costs and have low replication and distribution costs.

The fundamental differences between the different categories of SMEs were reflected both in the financial perspectives and in the nature and configuration of the underlying intangible assets. Intangible assets were of particular significance in the case of intangible product SMEs and inventors of physical products. In these cases intangible assets lay at the centres of the businesses themselves whereas SMEs in other categories also had important physical or people dimensions.

7.4 THE FINANCIAL PERSPECTIVE

The financial factors, parameters and relationships underlying each SME category were identified from the SME strategy maps and through the professional interviews. The financial perspective for each SME category was found to reflect its particular underlying economics and features. When SMEs in each category were viewed from the financial perspective, similar factors and relationships were identified as important. For example, among SMEs that were physical product distributors, profits – from the financial perspective – were determined by volume, gross margins and overhead; in the broker SMEs they were determined by the number of transactions, commission per transaction, direct costs and overheads.

The key financial factors and related intangible assets identified for the 16 SME categories when viewed from the financial perspective are shown in Appendix 3 (see page 70).

Strategy mapping provided the detailed micro and 'granular' approach used to identify the way in which intangible assets related to financial factors and relationships for particular SMEs in different categories. In all cases, the intangible assets represented knowledge-based assets that were unique to the particular SME even if such assets were limited to a business reputation in a particular geographic locality.

7.5 INTANGIBLE ASSETS AS INDIRECT SOURCES OF VALUE

In most SMEs intangible assets are indirect sources of value underpinning sales and maintainable income or supporting price premiums and providing cost advantages. These intangible assets relate to sales, equipment and other physical asset utilisations, margins, overhead economies and other factors and relationships that comprise the financial perspective associated with each SME category.

Few of the SMEs studied had explicit business strategies. Intangible assets were linked to underlying economic and revenue models, rather than to explicit strategies. The implicit strategies adopted by SMEs, however, reflected their stages of business development and the nature of their underlying economic and revenue models.

7.6 INTANGIBLE ASSETS AS DIRECT SOURCES OF VALUE

In some of the SMEs studied, intangible assets were a direct source of value involving the exploitation and commercialisation of legally protected intellectual property. This was particularly the case for the SMEs in Table 4.1 (see page 30) that were directly involved with the intellectual property system. Intangible assets were also a direct source of value for SMEs where the product or service provided was itself intangible. Again, strategy mapping provided insights into how intangible assets related to customer perspectives and formed parts of broader clusters in particular SMEs.

8. Intangible assets and maintainable income-based SME valuations

8.1 INTRODUCTION

The previous section has highlighted the way in which intangible assets frequently exist as indirect sources of business value, underpinning sales and maintainable income, supporting price premiums and providing cost advantages. In these situations, intangible assets usually contribute to enterprise value as a whole with specific intangibles having little value in isolation from their enterprise and organisational contexts.

This section identifies the insights, obtained in this research, into how intangible assets influence enterprise valuations based on maintainable income.

8.2 SME VALUATION LITERATURE

Market inefficiencies

In most sectors an efficient market does not exist for transfer of small and medium-sized privately owned businesses (Jones and van Dyke 1998). This creates problems in determining the market value of a private business, in contrast with the relative ease with which the value of property, or shares in publicly quoted companies, can be established. Transferring private businesses also often involves entrepreneurial activity, with entrepreneurs both seeking to exploit market imperfections and businesses having different values in the hands of different entrepreneurial owners.

Valuation methods

An extensive literature exists on valuing small and medium-sized businesses, including practical guides for owners, technical guides for accountants, and theoretical papers. Practical guides for owners include Geoffrey Dalton's *What is Your Business Worth? A Guide to Valuing Your Company* (Dalton 1992), Business Hotline Publications' *Directors' Briefing CF1 – Valuing a Business* (2006), and Cobweb Information Ltd's *Cobweb 283 – A Guide to Valuing a Business for Purchase* (2006). Technical guides for accountants include Fédération des Experts Comptables Européens' *Business Valuation: A Guide for Small and Medium Sized Enterprises* (FEE 2001).

The general principles for valuing small and medium-sized businesses (FEE 2001) are the same as for large companies, with the exception that particular attention needs to be paid, first, to precisely what makes up the business being valued; secondly, to determining appropriate levels of management remuneration; and thirdly to ensuring the reliability of sources of information.

A business valuation determines the estimated market value of a business (Jones and van Dyke 1998). A thorough and robust independent valuation involves in-depth analysis that uses proven techniques, researches and analyses the specific company and associated industry and includes elements of judgement and intuition. The result is a well-founded estimate of the price that hypothetical informed buyers and sellers would negotiate at arm's length for the business.

Factors affecting value

The key to valuing a business (Dalton 1992) is to look at the business from the buyer's point of view and evaluate the particular benefits and advantages the purchaser can derive from buying the business. In general, businesses are valued on the basis of their earnings potential, their assets or a combination of both. Valuations also reflect the current economic outlook in the particular sector. Intangibles are normally reflected in the value of a business through their contribution to the performance and potential, ie future earnings. A brand, however, may be being under-exploited by the present owners and capable of creating considerable additional earnings in the hands of new owners willing to promote the brand aggressively. A useful axiom is, 'transactions take place when the business is more valuable to the buyer than the seller'.

8.3 COMPANY BROKERS' AND TRANSFER AGENTS' VIEWS

The company brokers and transfer agents interviewed also emphasised the way in which intangible assets usually contribute to realisable enterprise value as a whole. Intangible assets influence enterprise valuations by underpinning maintainable income, 'super-profits' and potential growth.

In the experience of the brokers and transfer agents interviewed, the realisable market value of most SMEs is based on four principal factors:

1. maintainable income derived from recent accounts
2. multipliers that reflect enterprise size and market conditions
3. asset values, and
4. risks associated with potential future liabilities.

All valuations are made at a specific time and may alter if market sentiment or other factors change. Valuations are subjective and, in the view of the professionals interviewed, only a few people are sufficiently close to the market to have an informed view of the achievable multiple for a particular business.

Although most SMEs are individual in nature and many uncertainties surround valuations, typically SMEs with maintainable earnings in excess of £100,000 would achieve a price representing a multiple of between four and six times earnings before tax and interest. This value includes assets needed for the continuing operation of the business. Small owner-managed businesses are usually worth between one and two times the operating profit before owners' remuneration, plus the value of assets used in the business.

Considerable uncertainty, however, often surrounds realisable SME values and markets are not transparent. Valuations become concrete only when actual transfers take place, when the price achieved may still remain confidential to the vendor, purchaser and their advisers and finance providers. Prices at the higher end of valuation ranges can often be achieved only if the vendor is also prepared to take risk and defer receipt of part of the sale price.

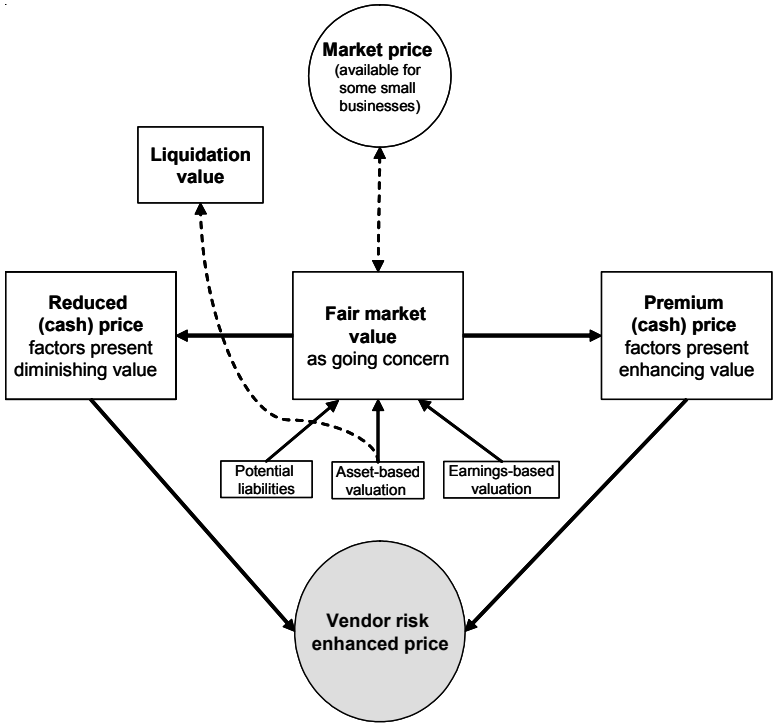
8.4 SME VALUATION MODEL

Fig. 8.1 contains a realisable value model for SMEs, developed from the literature and discussions with the professional interviewees. It shows how the realisable value of an SME is influenced not only by maintainable earnings but also by physical and net financial assets employed in the business, actual and potential liabilities, and the presence of factors that enhance or diminish value. The uncertainties surrounding realisable SME values are often not resolved until transactions actually occur.

Fig. 8.1 includes factors identified in the literature as diminishing and enhancing realisable business values, some of which explicitly involve the nature, location and transferability of intangible assets. Factors diminishing business value tend to make a business less valuable to all buyers, whereas factors enhancing value tend to make a business more attractive to specific buyers interested in particular factors.

The role of earnings-based valuations in relation to the other factors that influence the realisable value of an SME is shown in Fig. 8.1. The way in which buyers are prepared to pay premium prices for under-exploited brands, products and other intangible assets is also identified in this figure. The price premium, however, will be achieved by the vendor only when there is competition to buy the business. If there is little competition for the business, the additional value associated with intangible assets would normally pass to the buyer without being reflected in the selling price.

Figure 8.1: SME realisable value model



Factors identified in the literature as diminishing achieved price
Confused accounts
Poor house-keeping, doubtful debts, under-utilised equipment, outstanding litigation, etc
Over-dependence upon owner and key individuals
Over-dependence on small number of customers
Unrelated side activities
Poor or out-of-date company image
Long-term contracts about to finish
Poor liquidity
Poor performance
Minority and 'messy' ownership structures
Inability to substantiate ownership of assets, uncertainties surrounding liabilities, etc

Factors identified in the literature as enhancing achieved price
Transportable business with a transferable customer base
Provides attractive life-style for new owner
Non-cancellable service agreements and beneficial contractual arrangements
Unexploited property situations
Synergistic and cost-saving benefits
Under-exploited brands and products
Customer base providing cross-selling opportunities
Competitor elimination, increased market share
Complementary product or service range
Market entry – quick way of overcoming entry barriers
Buy into new technology
Access to distribution channels
Non-competion agreement

8.5 EARNINGS-BASED SME VALUATIONS

In analysing the case studies, the ways in which intangible assets influenced earnings were identified. This influence is exerted through the factors and relationships that form financial perspective, using strategy-mapping terminology.

Appendix 3 (see page 70) shows the factors and relationships comprising the financial perspectives for the 16 SME categories identified in Table 7.1.

Earnings levels

The intangible assets of the SMEs in the different categories were analysed in terms of the way they contributed value at four levels of earnings:

1. income – total revenue received from customers and clients, including the effect of any premium prices

2. gross profit – income less the costs directly associated with producing the income

3. operating profit before owners' remuneration – gross profit less overhead costs but excluding owners' salaries, drawings, dividends, bonuses and other benefits

4. operating profit after owners' remuneration at market rates for work done – earnings before exceptional items, interest and tax (EBIT). These are often referred to as EBIT earnings and used extensively as an indicator of maintainable cash generation and for earnings-based SME valuations.

To illustrate how the analysis was undertaken, Appendix 4 (see page 75) shows how intangible assets were related to earnings for two of the 16 categories: trade-skill businesses and SMEs that use physical assets.

Trade-skill businesses illustration

The trade-skill businesses (a car repair garage, an electrician, a building repair service and a fine-sand caster) involved providing time-based services and undertaking project work where costs were time-related. The prices that could be charged for time depended upon local demand and the scarcity of the skills involved. Local reputation, customer relationships and approvals to undertake inspections were key intangibles underlying local market share and sales turnover. Prices were largely determined by the market, although specialist skills and service formats aimed at niche markets enabled higher prices to be charged. An established, flexible team can also provide a source of competitive cost advantage.

Appendix 4 shows how these intangible assets influence earnings at different levels and how operating profit after owners' remuneration (level 4) is the reward for taking business risks, providing superior service and for specialist skills.

Physical-asset-using SME category illustration

The SMEs (a self-storage warehouse, suburban hotel, coastal guest house, premium fast-food chain and a printer), categorised as 'physical-asset-using SMEs', were characterised by the relative importance of physical assets to their business operations. The economics of businesses in this category were dependent upon the utilisation of the asset and the rents and usage charges achieved. In a particular period, physical assets can be used only once and the income from unused capacity in any period is lost for ever. Investment decisions about the location and features of an asset are usually critical, especially if the asset cannot be readily resold. The fast-food chain SME, for example, had developed valuable knowledge about the locations where its particular fast-food concept worked well.

Appendix 4 also contains the relationships identified by this research showing how intangible assets influence earnings at different levels for physical-asset-using SMEs. A line is included for charging for the use of the asset. This enables business operating profits, which reflect intangible assets, to be separated from rental incomes, which normally reflect location and market forces. The key intangibles were identified as customer relationships and marketing knowledge that contributed to a high utilisation of capacity. Reputation, distinctive service features and licences restricting competition are intangible assets that contributed to premium charges for using physical assets.

8.6 CONCLUSION

This section has identified how intangible assets influence SME earnings at different levels and usually contribute to the value of an SME as a whole. Frequently there is, however, uncertainty surrounding the realisable value of an SME. As a consequence, there are difficulties in placing a monetary value on the intangible assets themselves. Nonetheless, the role and importance of intangible assets are often critical in supporting maintainable sales, margins, and asset and resource utilisations in ways that reflect the business models underlying different SMEs. A crude measure of the value of these intangible assets can be obtained by deducting the realisable value of the physical and financial assets employed in the business from the maintainable earnings-based valuation of the SME. Alternatively, the earnings associated with the intangible assets can be tentatively identified by deducting from total earnings the imputed costs of using the other assets involved in the business.

9. Intangible assets and future income stream SME valuations

9.1 INTRODUCTION

In some SMEs, in particular those in Table 4.1 (see page 30), intangible assets involve the exploitation and commercialisation of legally protected intellectual property and are a direct source of value. The value of these SMEs explicitly depends upon future income streams, rather than being based upon maintainable earnings.

This section identifies the insights obtained into the ways in which intangible assets relate to enterprise valuations based on future income streams, taking 'venture capital' approaches.

9.2 INNOVATION PROCESSES

To analyse the way intangible assets relate to future income streams, a simple model of the innovation process, based on Teece (2000), was developed. The model addresses the following three fundamental issues that arise when an innovator seeks to exploit an invention and new knowledge commercially.

- How great are the potential benefits to the ultimate users of the invention and how large is the market?
- What share of the potential benefits can the innovator secure and to what extent will they need to be shared with, or lost to, other stakeholders?
- What development costs are involved and how do these relate to the share of the benefits that the innovator can secure?

Initial innovators (Teece 2000) are likely to be net beneficiaries of the innovation process when they are advantageously positioned in relation to the owners of complementary assets and when their invention can be legally protected and is technically difficult to imitate. Preventing the seepage of benefits to copiers, imitators and followers is particularly important when an invention can be easily copied by reverse engineering or the patent can be circumvented.

The above view of innovation processes was used as the basis for identifying how intangible assets relate to the financial perspective for those case study and example SMEs where approaches to valuation based on future income stream are appropriate.

9.3 ACCOUNTANT AND VENTURE CAPITALIST VIEWS

The accountants and venture capitalist interviewed emphasised the way in which the valuation of SMEs involved in the exploitation of new knowledge and inventions could be based only on judgements about future income streams. No history exists on which to base estimates of maintainable income. In these situations, considerable emphasis is usually given to the strength and experience of the management team and its ability to develop the potential of the innovation.

9.4 INTANGIBLE ASSETS AND FUTURE INCOME STREAM VALUATIONS

The SMEs in these case studies and examples that were categorised as 'inventors' of physical products and 'creators' of intangible artefacts were analysed using the model of innovation process described in section 9.2, as shown in Appendix 5 (see page 77).

The fundamental determinants of the future income stream from an invention or new intangible product are the size of the potential market and the benefits that

the innovation provides for users. This is highlighted in Appendix 5. Knowledge of the market and applications for the invention are important intangibles. The key intangibles, though, are those that protect the innovation, preventing copying and the seepage of benefits. These enable SMEs to obtain prices for their inventions and innovations that reflect the benefits to customers of using the innovation. If competitors were free to enter the market, competition would eventually drive prices down to levels determined by production and distribution costs.

In the case of both the 'inventors' of physical products and 'creators' of new intangible artefacts, future income streams were found to depend on developing a cluster of intangible assets, not just the new product itself.

9.5 CONCLUSION

This section has identified how intangible assets relate to the development of an operating profit stream from the commercialisation of a new physical or intangible product in a dynamic innovation process. There are, however, considerable risks typically associated with innovation processes. Also, uncertainties surround the value of the SME when based on the future income stream. As a consequence, there are considerable difficulties in placing a monetary value on the intangible assets themselves. The role and importance of intangible assets are, however, usually critical to the successful commercial exploitation of new physical products and intangible artefacts.

10. Summary of findings and conclusions

10.1 THE NATURE OF SME INTANGIBLE ASSETS

SME intangibles assets are:

- knowledge-based, non-physical sources of future economic benefits owned and controlled by an enterprise and forming part of its intellectual capital
- sources of differentiation and competitive advantage for individual SMEs that cannot be readily acquired in market-based transactions
- not usually included in accounting balance sheets as they do not comply with conventional definitions of assets and their value is uncertain.

The specific intangible assets identified in this research are:

- customer capital – trade marks, names protected as intellectual property, brand image and business reputation
- customer relationships – service, maintenance and customer supply contracts, people-based customer relationships, customer lists and websites that attracted customers and provided routes for placing orders
- external approvals and licences – quality approvals, external endorsements, licence arrangements and franchise agreements
- proprietary products and services, incorporating protected intellectual property, other product designs and proprietary products, creative works, proprietary product documentation and successful service formats
- technical and process knowledge – proprietary business processes, proprietary software, trade secrets, technical know-how, and job cards, drawings and patterns
- supplier and input relationships – favourable supply contracts, advantageous supplier relationships and employment contracts with key employees
- people-based – employees with proprietary knowledge and an assembled workforce
- learning and growth – owners' entrepreneurial outlook, networks and collaborative agreements, and 'atmospheres' encouraging innovation and change.

The main features of SME intangible assets are that:

- individual intangible assets form part of wider clusters relating to products, business reputations, capabilities and other aspects
- they can be located in one or more of the different forms of intellectual capital: human, structural and customer capital
- some are legally protected as intellectual property – patents, trademarks and copyrights
- most intangible assets form barriers to competitors in ways that reflect their inherent complexity, obscurity and replication costs.

10.2 DEVELOPMENT PROCESSES AND STAGES

The creation and development of intangible assets involves complex innovation and business development processes.

- The accumulation of intangible assets often reflects the idiosyncratic entrepreneurial histories of SMEs and their owners.
- Owners' entrepreneurial outlook, networking and creative 'atmospheres' are often instrumental in the creation of other intangible assets.

For most SMEs in this research, intangible assets were created as a consequence of a range of operational and developmental activities. The pattern that emerges is that as SMEs grow in size and maturity, accumulated experience and knowledge form the basis of an increasingly complex set of intangible assets, often reflecting the stage reached in the business life cycle:

1. start-up trade-skill-based businesses, inventors and other entrepreneurs with no customer capital or customer relationship intangible assets

2. small, established SMEs with established customer bases and reputations, but no other intangible assets

3. established SMEs built around one or two quite specific intangible assets

4. established SMEs involving two or three clusters of intangible assets

5. medium-sized mature firms with substantial intangible assets forming the basis of a number of core competences that underpin a number of products and services.

The development of intangible assets comprising customer capital and customer relationships characterises the transition from the 'start-up' to the 'established' stage when an SME becomes more confident about short-term order flow.

The way in which intangible assets underlay core competences in medium-sized mature firms resembled the more generic, overarching intangible assets characteristic of large enterprises. For most SMEs, though, more granular and micro approaches are appropriate.

10.3 PROTECTION METHODS

SMEs were found to use a number of different approaches, or take no particular steps, to protect the intangible assets that formed barriers to their competitors and protected profitability.

The SMEs studied in this research that used the formal intellectual property system were those exploiting physical product inventions, commercialising new intangible software products, and an author writing a book. They used the intellectual property system in different ways and for different reasons.

- The physical product inventions were relatively easy to copy, requiring legal protection and the ability to enforce intellectual property rights.

- The new intangible software products being developed were not easy to copy but the SMEs needed to demonstrate ownership to commercialise their innovations.

- The author was using the copyright system to sell foreign publication, translation and audio tape rights.

Other SMEs in this research used the following methods to protect their intangible assets.

- Reputations and company images were protected by providing high levels of customer service and maintaining effective customer relationships.

- Intangible assets providing a competitive technological edge were protected by investment and the early adoption of new equipment and technology.

- Employment contracts and conditions were used by a few SMEs in attempts to protect trade secrets and proprietary knowledge.

Most of the studied SMEs, however, relied for protection upon the inherent inimitability of their intangible assets and the way in which copying involved replicating their entire enterprise.

10.4 TRANSFERABILITY

Specific SME intangible assets must normally be transferable to have a market-based value in their own right. This research shows that, apart from intellectual property, most specific intangible assets are not very transferable for the following reasons.

- They not independent, but formed part of a cluster of interrelated complementary assets.
- There is lack of clarity over whether an SME owns the intangible asset, in particular, where assets involve human capital.
- The intangible asset comprises more than one form of intellectual capital.
- The intangible asset involves tacit knowledge acquired through experience that is inherently difficult to transfer.

10.5 VALUING SPECIFIC INTANGIBLE ASSETS

This research shows that, in most cases – apart from intellectual property – specific intangible assets cannot be valued separately. They are sources of value for SMEs in different ways, usually contributing to enterprise value as a whole.

To value a specific intangible asset it must be both unambiguously owned by an SME and transferable. Even then, valuations can be problematic because:

- open and transparent markets for intangible assets that can provide the basis of market-based valuations seldom exist
- specific intangible assets do not have identifiable associated income streams that can be used to make income-based valuations
- the replication cost of a specific intangible asset may relate to inimitability, but is not a good indicator of value.

A specific value can be placed on intellectual property intangible assets when:

- legal rights actually exist to prevent the use of the intellectual property
- the ownership of the rights can be proven and enforced, and
- the legal rights relate to a product, service or business which produces an income stream.

Where it is possible to value intellectual property, the methods used are not ‘black box’ calculations. Valuation involves interactive processes between the valuer and client that require an understanding of the nature of the asset being valued and the valuation context. Valuations are made at a specific time and will alter if market sentiment or other factors change.

10.6 INTANGIBLE ASSETS AS INDIRECT AND DIRECT SOURCES OF SME VALUE

This research found that intangible assets are indirect sources of value in most SMEs and direct sources of value in others. A strategy-mapping approach was used to identify the relationships between underlying business models and the ways in which intangible assets were sources of SME value.

Specific SME intangible assets were found to form part of three key strategy-mapping perspectives:

- customer perspectives reflecting customer expectations and ways in which SMEs deliver value to their customers
- internal perspectives showing how value is delivered to customers at cost and efficiency levels compatible with the financial perspective
- learning and growth perspectives identifying how SMEs develop and innovate.

These perspectives all relate to a financial perspective that consists of the key financial parameters and relationships that determine profits and reflect how cash is generated in a particular SME. The financial perspective includes sales, margins, overhead structures, utilisations and other accounting system performance measures.

The factors and relationships forming the financial perspective were found to be related to the fundamental business and economic models underlying particular SMEs. A framework for categorising SMEs in terms of their underlying business models was developed. The SMEs involved in this research were classified by the type of asset primarily involved:

- human – people-based services for time-related charges
- physical – concrete products with physical realities
- intangible – knowledge-based products and problem-solving capabilities

and in terms of the sorts of right being sold:

- creators – create assets that customers are free to use or resell in any way
- distributors – buy assets and resell without significant transformation
- owners – rent the right to use assets in specified ways
- brokers – facilitate market functioning by introducing buyers.

These classifications gave 16 individual SME categories, namely: trade skill businesses, professional practices, brokers, physical product distributors, intangible product distributors, physical asset users, standard product manufacturers, proprietary product manufacturers, engineering solutions providers, inventors, advertising media, subscriber services, intellectual property licensors, creative problem solvers, intangible artefacts creators and artistic creators.

SMEs in each of the 16 individual categories were found to share underlying business and economic models that reflected the nature of the assets involved and type of rights being sold.

When SMEs in each category were viewed from the financial perspective, the same factors and relationships were identified as important. For example,

among physical product distributor SMEs, profits – from the financial perspective – were determined by volume, gross margins and overhead and, in the broker SMEs, by the number of transactions, commission per transaction, direct costs and overheads.

In this research, strategy mapping provided the detailed micro and 'granular' approach necessary to identify the way in which intangible assets related to the financial perspective in individual SMEs.

Intangible assets are **indirect sources of value** for most SMEs in ways that reflect the particular business model underlying each category. Specifically, they:

- underpin sales and maintainable income
- support price premiums
- provide cost advantages.

Typically, these intangible assets relate to sales, utilisations, margins, overhead economies and other factors and relationships that provide the uniqueness of individual SMEs.

Intangible assets were also found to be **direct sources of value** in the SME categories involving intangible products and with the inventors of physical products. These SMEs involve the explicit exploitation and commercialisation of intangible assets, and usually protect intellectual property. Intangible assets lie at the centre of these SMEs' businesses. Again, strategy mapping provides insights into how intangible assets in these SMEs relate directly to financial and customer perspectives and consist of broader clusters.

10.7 INTANGIBLE ASSETS AND MAINTAINABLE INCOME-BASED SME VALUATIONS

In many sectors, efficient markets do not exist for the sale and transfer of small and medium-sized privately owned businesses. This creates problems in determining the market value of a private business, in contrast with the relative ease with which the value of property or shares in publicly quoted companies can be established. Transferring SMEs also often involves entrepreneurial activity. Businesses may have different values to different owners.

This research shows that intangible assets often act as indirect sources of business value, underpinning sales and maintainable income, supporting price premiums and providing cost advantages. In these situations, intangible assets contribute to enterprise value as a whole, with specific intangibles often having little or no value in isolation from their enterprise and organisational contexts.

The realisable value of an SME is, however, found to be influenced not only by maintainable earnings but also by physical and net financial assets employed in the business, actual and potential liabilities and the presence of factors that enhance or diminish value. The uncertainties surrounding the realisable SME values are often not resolved until transactions actually occur.

Four levels of earnings forming part of the financial perspective for each SME category were identified:

1. **income** – total revenue received from customers and clients, including the effect of any premium prices
2. **gross profit** – income less the costs directly associated with producing the income

3. **operating profit before owners' remuneration** – gross profit less overhead costs but excluding owners' salaries, drawings, dividends and other benefits

4. **operating profit after owners' remuneration at market rates for work done (EBIT)** – earnings before exceptional items, interest and tax.

Intangible assets are shown to contribute indirectly to earnings at levels 1, 2 and 3 by underpinning sales and maintainable income, supporting price premiums and providing cost advantages. Intangible assets often play critical roles in maintaining sales, margins, asset utilisations and resource efficiencies in ways that reflect the business models underlying particular SMEs.

The realisable market value of most SMEs is, in the experience of the company brokers and transfer agents interviewed in this research, based on four principal factors:

- **maintainable income** (before or after owners' remuneration) derived from recent accounts
- **multipliers** reflecting enterprise size and market conditions
- **asset values** – the realisable value of physical and financial assets employed in the business
- **risks** associated with potential future liabilities.

Considerable uncertainty, however, often surrounds realisable SME values, as markets are not transparent. Valuations remain opinions until an actual transaction occurs. Prices at the higher end of valuation ranges can often be achieved only if the vendor is also prepared to take risk and defer receipt of part of the sale price. All valuations are made at a specific time and may alter if market sentiment or other factors change.

Some purchasers may be prepared to pay premium prices for under-exploited brands, products and other intangible assets. The price premium, however, will be achieved by the vendor only when there is competition to buy the business. Where there is little competition, the additional value associated with intangible assets may pass to the purchaser without being reflected in the selling price.

The problems in valuing SMEs as enterprises results in difficulties in placing a monetary value on intangible assets, derived from the way in which they underlie SMEs' maintainable earnings. The role and importance of intangible assets is, however, often critical as a means of supporting maintainable sales, margins, and asset and resource utilisations in ways that reflect the business models that underlie different SMEs. A crude measure of the value of these intangible assets can be obtained by deducting the realisable value of the physical and financial assets employed in the business from the maintainable earnings-based valuation of the SME. Alternatively, the earnings associated with the intangible assets can be tentatively identified by deducting from total earnings the imputed costs of using the other assets involved in the business.

10.8 INTANGIBLE ASSETS AND FUTURE INCOME STREAM SME VALUATIONS

SMEs studied in this research included the 'inventors' of physical products and 'creators' of new intangible artefacts. These SMEs were involved in the direct exploitation and commercialisation of legally protected intellectual property. Their values were found to depend upon assessments of future income streams, rather than maintainable earnings.

The accountants and venture capitalist interviewed emphasised that the valuation of SMEs that are involved in the exploitation of new knowledge and inventions can be based only on judgements about

future income streams. No history exists on which to base estimates of maintainable income. In these situations, considerable emphasis is usually given to the strength and experience of the management team and its ability to develop the potential of the innovation.

With these SMEs, the value of intangible assets relates both to aspects of the innovation process and to future income, cost and profit streams. Realising the potential of a new product involves developing clusters of intangible assets. The value of an individual intangible asset often depends upon its position in a cluster.

In terms of innovation processes, the value of specific intangible assets relates to how they:

- represent market knowledge about the potential market, applications and users for the innovation
- relate to the strength of the artefact, comprising the inherent benefits to ultimate users and the absence of dependence upon complementary assets
- prevent benefits seepage to copiers, imitators and the owners of key complementary technologies and distribution channels.

In terms of future income, cost and profit streams, the value of specific intangible assets relates to how they:

- help contain marketing costs involved in bringing the artefact / invention to market, eg distribution channel development and advertising
- help contain development costs, especially those before the generation of a sales income stream
- help reduce manufacturing/replication costs.

The key intangibles, however, are those that protect the innovation, preventing copying and the seepage of benefits. These enable SMEs to obtain prices for their inventions and innovations that reflect the benefits to customers of using the innovation. If competitors were free to enter the market, competition would eventually drive prices down to levels determined by production and distribution costs.

Considerable risks are associated with innovation processes and uncertainties surround enterprise valuations based on discounting future income streams. As a consequence, there are difficulties in placing a monetary value on the intangible assets themselves. Developing appropriate intangible assets is, however, critical to the successful commercial exploitation of new physical products and intangible artefacts.

11. Implications for SMEs' accountants and business advisers

Intangible assets provide the basis of superior profits and enterprise value beyond that determined by competitive market conditions. The development of intangible assets is a wealth creation activity providing opportunities for accountants and advisers to add value to their clients' businesses.

The intangible asset perspective enables SMEs' accountants and business advisers to use frameworks and tools that can be applied to a wide variety of individual and different SME situations.

This research has a number of implications for accountants and business advisers helping their clients build, value and transfer intangible assets. These include what advisers need to know about intangible assets, issues related to intellectual property, and how value can be added to advisory processes.

11.1 BUSINESS DEVELOPMENT AND INNOVATION

The research identifies the way in which SMEs can:

- strengthen individual intangible assets, in particular, reputation and customer relationships that form the basis of an established customer base and recurring business
- develop clusters of interrelated intangible assets that form the basis of niche market positions and standard product enhancements
- create new business concepts and formats, but then need to develop other intangible assets to exploit the new opportunity.

11.2 ADVISER KNOWLEDGE AND EXPERTISE

Advisers need to be able:

- to recognise SMEs' individual intangible assets as representing valuable proprietary knowledge that cannot be readily acquired in market-based transactions and that make particular SMEs different from their competitors
- to recognise clusters of intangible assets that form the basis of SMEs' competitive advantage or core competences
- to identify how intangible assets underpin maintainable income and operating profit at different levels, support maintainable profits and underlie earnings-based SME valuations
- to appreciate the relationships between the roles played by intangible assets and SMEs with different underlying business models
- to appreciate the way in which intangible assets can be as (or more) important, relative to size, in very small enterprises as in larger enterprises.

11.3 INTELLECTUAL PROPERTY ISSUES

Where SMEs have intangible assets and own intellectual property that has the potential to transform the scope and value of the firm, generalist advisers need:

- to recognise where appropriate specialist advise is needed from patent agents, copyright lawyers and other professionals
- to help SMEs identify specialist professional advisers who understand their particular product or service and with whom a constructive relationship can be developed

- to assist SMEs to develop a strategy for realising the value of the intangible assets and intellectual property, involving building a firm of value, licensing the intellectual property, or other appropriate approaches.

11.4 VALUE ADDING ADVICE

Advisers can provide value-adding advice by:

- helping clients to appreciate, and not underestimate the value of, their intangible assets, especially brand, reputation and customer relationships

- advising clients on how to best protect their valuable intangible assets

- identifying how clients can fully exploit the potential of underutilised intangible assets

- helping clients strengthen existing and develop new intangible assets, especially where intangible assets of significant value can be created at relatively low cost

- helping clients move towards becoming more knowledge-based businesses that create, licence, distribute and provide other intangible-asset-based products and services

- helping clients to improve the transferability of intangible assets and the value of their businesses by moving out of people-based systems and into documented procedures, systems and structures.

12. Further research

This research project suggests a number of areas for further research, developing conclusions and addressing gaps.

- Based on the present research, an SME intangible asset diagnostic, development and benchmarking tool could be created to help business owners and their advisers to identify the actions needed to build intangible assets of value.

- Investigation could be carried out into how the intangible asset framework developed in this research provides insights into innovation processes and ways in which start-up businesses become established. This could involve viewing innovation processes as knowledge flows into intangible assets and investigating, for particular categories of SMEs, relationships between transfer processes and different knowledge forms.

- The scope of the research could be extended to cover financial sector SMEs that are creating new financial products and services, investing or lending financial resources, distributing financial products and acting as brokers between the providers and users.

Appendix 1: Case study and additional SME examples used

Table A1.1: Case study SMEs

SME	Owners	Employees with key skills*	Other employees	Total	Recruitment route/source
Internet bookseller†	1	–	–	1	Directly recruited
Surface finishing adviser†	1	–	–	1	via East Midlands family business project
Lettings management and estate agency†	2	–	–	2	Directly recruited
Office furnishing design project mgt†	2	–	–	2	Directly recruited
Recruitment and selection consultant†	2	–	–	2	Directly recruited
Fine sand caster	1	–	2	3	Author – action-research project
Community magazine†	2	1	1	4	Directly recruited
Expert witness	1	–	3	4	Author – consultancy project
Creative arts project†	–	3	2	5	Directly recruited
XML productivity tool developer†	1	3	1	5	via iCentrum
Payroll service provider†	2	2	6	10	via East Midlands family business project
Suburban hotel	1	–	10	11	Author – action-research project
Fish tank manufacturer†	4	3	5	12	via East Midlands family business project
Open-source software†	3	8	1	12	via iCentrum
Printer†	1	3	8	12	via East Midlands family business project
Qualitative research consultancy†	3	7	4	14	Directly recruited
Biometric security solutions†	3	9	6	18	via iCentrum
Insignia manufacturer	1	2	19	22	Author – action-research project
3-D surface coater†	3	2	25	30	Directly recruited
Systems integrator†	4	22	5	31	via iCentrum
Paper merchant	2	4	35	41	Author – action-research project
Presswork tooling engineer	2	4	40	46	Author – action-research project
Upholstery manufacturer †	3	3	50	56	via East Midlands family business project
Premium fast-food chain†	1	2	90	93	via Kleinwort Benson Entrepreneurs' Club
Consulting engineers†	10	70	30	110	Directly recruited
Steel service centre	1	15	200	216	Author – action-research project

* Employees with design, 'expert knowledge' and other critical skills.

Table A1.2: Additional SME examples

SME	Source
Building repair service	Lakey & Co website
Car repair garage	Author contact
Coastal guest house	Turner Butler website
Computer games developer	Patent Office case study
Downloadable digitally recorded audio books	Website
Electrician	Author contact
Employment and recruitment agency	Author – action-research
Computerised training package supplier	Lakey & Co website
Freshorise 3-in-1 air freshener product	Patent Office case study
Intelligent Textiles – materials with electrical properties	Patent Office case study
Internet job board	Grant Thornton website
Motor parts distributor	Directly recruited
Novelist	Patent Office case study
Plastics extrusion manufacturer	Beer Merger website
Portable electrical generator manufacturer	Author – consultancy project
Presswork engineering	Author – action-research project
Property sales	Beer Merger website
Provis – one-day disposable contact lenses	Patent Office case study
Self storage warehouse	Lakey & Co website
Small business information provider	Author contact
Specialist employment agency	Beer Merger website
Stainless steel fabricator	Turner Butler website
Wire connector manufacturer†	Directly recruited

Note: 20 SMEs (marked †) were initially recruited specifically for the project. Data from a further 29 SMEs were also used to develop the framework for categorising SMEs in Table 7.1. For the case studies in the Table A1.1 a strategy mapping approach was used to identify and analyse intangible assets in totality. For the additional SME examples in Table A1.2 only key intangible assets and underlying business models were identified.

Appendix 2: Individual SME intangible assets

Ref.	Intangible asset	Nature
	Customer capital	
1	Registered trade marks, brand names, company names, logos, shapes protected as intellectual property	Marks owned by a business that distinguish its products and services from those of others usually as part of an overall brand image.
2	Brand image	Awareness of existing and potential customers of trade marks, brand names and logos. The associations made in consumers' minds between brand images and products and services.
3	Business reputation	Awareness of existing and potential customers of the integrity, reliability, technical competence, product quality, value for money and other general characteristics of the business.
	Customer relationships	
4	Service and maintenance contracts	Contractually based arrangements involving customers paying regular licence fees and payments for maintenance, support, training and other services.
5	Customer-supply contracts	Open contracts, preferred supplier agreements, 'pay on fix' arrangements.
6	People-based customer relationships	Single or multi-level relationships with customers' senior staff and purchasing, technical, quality and other functional staff.
7	Customer lists	Customer buying, technical, quality contact databases containing details of previous requirements, capacity, technical specifications, applications, etc.
8	Websites	Websites designed to attract customers and provide a means for obtaining business and placing orders.
	External approvals and licences	
9	Quality approvals and external endorsements	Approvals to supply blue chip companies. Product endorsements by prestigious industry associations and other quality marks. Partnership arrangements with industry standard setters.
10	Licence and franchise agreements	Licences to undertake specialised activities. Franchises to operate a business format in a defined area.
	Proprietary products and services	
11	Copyrights, registered designs, patents protected as intellectual property	Legal rights preventing the copying of ideas and methods and providing a degree of protection from imitation and exploitation by others.
12	Creative works	Original creative works – literary, artistic, computer code, drawings, etc.
13	Product designs	Original three-dimensional product designs with distinctive appearance, colour, shape, etc.
14	Proprietary products	Products and product ranges, often developed for particular applications or as variants of standard products for particular market niches.
15	Proprietary product documentation	Manuals and technical literature that explain how to use a product.
16	Successful service formats	Proprietary ways of meeting the requirements of particular customers and knowledge of what works in particular situations.

	Technical and process knowledge	
17	Proprietary business processes	Proprietary knowledge associated with service delivery, meeting customer expectations, logistical performance and other internal business dimensions.
18	Proprietary software	In-house developed software that supports or delivers superior business processes and customer performance.
19	Trade secrets	Specific items of exclusive knowledge about how to make a product or solve a particular problem.
20	Technical know-how	Technical knowledge, that is not widely available, underlying products and services and about how to meet the requirements of particular customers and markets.
21	Job cards, drawings and patterns	Job cards, drawings and patterns all represent ways of recording how jobs have been done in the past.
	Supplier and input relationships	
22	Favourable supply contracts	Special discounts, exclusive supply arrangements and preferential access to input resources.
23	Supplier knowledge and advantageous relationships	Superior knowledge of suppliers' businesses and understanding constraints of suppliers' processes.
24	Employment contracts with key employees	Contracts tying key employees into the business.
	People-based intangible assets	
25	Employees with proprietary knowledge	Employees with key firm-specific proprietary knowledge or exclusive expert knowledge in their fields.
26	Trained and assembled workforce	Motivated workforce containing established teams, developed working relationships and appropriate skill mixes.
	Learning and growth intangible assets	
27	Owners' entrepreneurial and developmental outlooks	Owner(s) as a source of knowledge, vision and entrepreneurial drive. Way in which an owner can set the culture and inspire a creative atmosphere.
28	Networks and collaborative agreements	Involvement in industry and other networks and specific collaborative agreements with complementary technological and business partners.
29	Atmosphere encouraging innovation and change	Culture and creative, open-door approaches that encourage innovation and change

Appendix 3: SME categories – financial perspectives and related intangible assets

SME categories ***(Case studies and illustrations)***	**Financial perspective**	**Underpinning sales and recurring income**	**Supporting price premiums and providing cost advantages**	**Involving legally protected intellectual property**
PEOPLE-BASED SERVICE PROVIDERS				
Trade skill businesses *(Car repair garage, an electrician, a building repair service and a fine sand caster)*	Sales turnover, utilisation of time, price premiums, employment costs, overheads	Local reputation (3), customer relationships (6) and approvals to undertake inspections are key intangibles underlying a local market share and recurring sales turnover	Specialist skills (20) and service formats aimed at niche markets (16) that support premium prices. An established, flexible team (26) providing a source of competitive cost advantage	
Professional practices *(Consulting engineers, expert witness, recruitment and selection consultancy and a surface finishing adviser)*	Number of fee earning professionals, staff utilisation, normal mark-up on employment cost, expertise premiums, support and overhead costs	Contacts and relationships with clients (5), presence on tender lists (5) and professional reputation (3) influence the amount of work a professional practice obtains	Acknowledged expert knowledge (20), expert witness status (9), licences to operate specialist tests (10) contribute to premium fees, and assembled, motivated and flexible professional team (26) contributes to the high utilisation of professional time	
BROKERS				
Brokers *(Lettings management and estate agency, property sales business, employment and recruitment agency, specialist employment agency and an Internet job board)*	Number of transactions, commission per transaction, direct costs and overheads	Name and reputation (3). Client relationships and involvement in networks (6) providing sources of both sellers and buyers. Expanded reach provided by website (8). Management contracts for handling recurring transactions e.g. collecting rent from tenants, regular temporary staff requirements (4 & 5)	Flexible, responsive and individual relationships with clients (6). Assembled and motivated workforce (26). Reduced premises costs from virtual transactions matching on website (8)	
PHYSICAL PRODUCT SMEs				
Physical assets using SMEs (*Self-storage warehouse, suburban hotel, coastal guest house, premium fast food chain and a printer)*	Capacity, capacity utilisation, achieved rental/usage charges, costs of any services provided	Knowledge of equipment configurations and where service models work (16 & 19). Relationships with asset gate-keepers (23). Relationships with repeat customers (6) and customer lists (7). Know-how for cross-selling and maximising trading-offs between charges and utilisation (20). Rental and letting agreements (5)	Reputation for quality and service (3), distinctive branding (2) and planning consents (10) support premium charges. Advantageous exclusive relationships with suppliers (23). Assembled workforce and proprietary recruitment procedures (26 & 20)	

Note: Bracketed numbers, eg (6) and (9), refer to the intangible asset reference numbers in Appendix 2.

SME categories ***(Case studies and illustrations)***	**Financial perspective**	**Underpinning sales and recurring income**	**Supporting price premiums and providing cost advantages**	**Involving legally protected intellectual property**
PHYSICAL PRODUCT SMEs (continued)				
Physical product distributor SMEs *(Paper merchant, steel service centre, a motor parts distributor and an Internet bookseller)*	Volume, gross margins and overheads	Reputation and accumulated customer satisfaction with different aspects of service (3 & 6). Brand awareness (2). Long-term knowledge-based and people-centred relationships with end-users (6). Knowledge of sources of product and access to suppliers (23)	Proprietary ways of meeting the requirements of demanding customers (16). Value-adding relationships with suppliers (23). Quality approvals (9). Knowledge of how to exploit anomalous pricing situations (19). Proprietary systems linking with suppliers (18). Industry-leading expertise (20) providing distribution and processing cost advantages	
Standard product manufacturer SMEs *(Upholstery manufacturer, a stainless steel fabricator and a plastics extrusion manufacturer)*	Sales turnover, material costs, direct labour costs, overheads	Reputation (3) and customer relationships (6) largely determine market share and sales volume for a specific pricing policy. Superior customer service packages in terms of flexibility and lead time (16) help secure a loyal customer base	Advantageous exclusive relationships with suppliers (23). Assembled workforce (26) and access to previous manufacturing routes (21) that are superior to those of competitors. Design and pattern banks (21) enable new designs to be developed quickly and reduce planning time for existing products	
Proprietary product manufacturer SMEs *(Fish tank, insignia, portable electrical generator manufacturers)*	Product price premium, sales turnover, material costs, direct labour costs, overheads	Reputation (3), customer relationships (6) and supply contracts (5) providing repeat customer orders. Customer databases (7) for targeted marketing. Maintenance contracts (4) representing recurring income	Exclusive and proprietary relationships with material and component suppliers (23)	Product designs (14) and unique service packages (16) that contribute to product performance, add customer value and differentiate from other manufacturers in the sector. Specialist techniques, know-how (20) and trade secrets (19) underlying product manufacture
Engineering solution provider SMEs *(3-D surface coater, a presswork tooling engineer and a presswork engineering business)*	Service price premium, sales turnover, material costs, direct labour costs, overheads	Reputation (3), customer relationships (6) and supply contracts (5) providing repeat customer orders	Technical reputation (3). Technical know-how (20). Relationships with customers' design and manufacturing departments enabling proposal of cost-effective solutions (6). Ability to recognise and deliver add-on benefits and services (16). Bulk-buying arrangements with suppliers not available to competitors (22). Flexible work force (26)	

SME categories ***(Case studies and illustrations)***	**Financial perspective**	**Underpinning sales and recurring income**	**Supporting price premiums and providing cost advantages**	**Involving legally protected intellectual property**
PHYSICAL PRODUCT SMEs (continued)				
Inventor SMEs *(wire connector manufacturer, Provis's one-day disposable contact lens, Freshorise's 3-in-1 air freshener product)*	Size of potential market, strength of invention, ability to prevent benefits seepage, marketing costs, manufacturing costs, development costs	Owner's (27) and key employees' (25) exclusive knowledge of the industry and potential for the invention	Networks and collaborative agreements (28), innovative atmosphere (29), and technical know-how (20) that help contain and minimise development costs. Access to markets and distribution channels through networks and collaborative agreements (28) and external endorsements (9) that give marketing cost advantages	Patented products (11), registered trademarks and brand names (1), employment contracts (24) that hinder the diffusion of knowledge relating to the innovation or make it more difficult for followers to copy or imitate the invention. Trade secrets (19) and proprietary technical know-how (20) that provide manufacturing cost advantages
INTANGIBLE PRODUCT SMEs				
Intangible product distributors *(downloadable digitally recorded audio books)*	Insufficient data available to identify financial perspective and related intangible assets			
Intellectual property licensor SMEs *(Computerised training package supplier and Intelligent Textiles – materials with electrical properties)*	Market potential, income per licence, licences sold determining income from new and existing licences. Direct costs, overheads	Customer relationships (6), endorsement by industry bodies (9), networks and collaborative agreements (28), recurring income from existing licensing arrangements (4)		Innovativeness and value-adding potential of the intellectual property being licensed (11), strength of the licensor's brand name (1)
Subscriber service SMEs *(Payroll service provider and a small business information provider)*	Market size, strength and functionality of underlying asset, reputation and strength of image determining subscription and usage charges,direct costs, employee costs	Customer lists (7), user relationships (6), website with revenue-generating potential (8), marketing and partnership relationships (28)	Content (14), proprietary, innovative software (18) incorporating technical know-how (20) and trade secrets (19), assembled and motivated workforce (26)	Brand awareness (2) and reputation (3)
Advertising media SME *(Community magazine)*	Circulation, readership profile and standing of media determining advertising rates and income, publishing and distribution costs, employee costs, overheads	Relationships with distributor in achieving comprehensive distribution in target areas (23), relationships with local businesses with regular and periodic advertising requirements (6), owners' and a key employee's (25) knowledge of how advertiser decisions made, lists and files of current and past advertisers (7)	Quality and visually attractive magazine published at low cost on in-house technology, with electronic communication with printer and advertisers. Competitive printing costs and cost-effective distribution (16)	Magazine's style and brand – solid, dependable, trustworthy local information (1&2), by implication endorses advertisers' messages. Reputation as an advertising medium in the local community (3)

SME categories *(Case studies and illustrations)*	Financial perspective	Underpinning sales and recurring income	Supporting price premiums and providing cost advantages	Involving legally protected intellectual property
INTANGIBLE PRODUCT SMEs (continued)				
Creative problem-solver SMEs *(Open-source software company, an office furnishing design project manager, and a qualitative research consultancy)*	Problem-solving premium, income, direct project costs (employee & other), overheads	Name and reputation for successfully undertaking challenging assignments (3), trust-based client relationships and tender list approvals (6)	Research expertise, ability to solve difficult problems and specialist knowledge (20), proprietary relationships with other key resources (23), experienced and motivated teams (26), multi-level working and director involvement (27), templates and methodologies (21), creative and empowering atmosphere, single-status structures (29)	
Creator (intangible artefacts) SMEs *(Systems integrator, biometric security solutions, XML productivity tool and a computer games developer)*	Size of potential market, strength of artefact, ability to prevent benefits seepage, marketing costs, manufacturing costs, development costs	Income-generating licence arrangements (10), maintenance contracts (5) and 'fix on fail' (6) arrangements. Owners' (27) and key employees' (25) application knowledge and industry relationships (28). Product champions within customers (6) acting as unpaid salesmen. Websites (8) that provide low-cost routes for placing orders	IT provider relationships (23), specialist knowledge of key employees (25), effective and creative teams (26 & 29) that contribute to successful and cost-effective development processes. High-trust, technology partnership arrangements with complementary asset owners (28) that provide routes to market at reduced marketing costs and enhance credibility (9)	Patent protection (11), registered trademarks, brand names and logos (1) that users associate with artefact benefits and a reputation (3) for capability, trust-worthiness and quality. The patented methods (11), proprietary software (18), non-obvious algorithms (19) and technical and user documentation (15) that make up the new intangible artefact
Creator (artistic) SMEs *(Creative arts project and a novelist)*	Reputation and creative appeal determining royalty incomes	Booker prize shortlist (9)		Book and CD copyrights (12)

Note: Bracketed numbers, eg (6) and (9), refer to the intangible asset reference numbers in Appendix 2.

Appendix 4: Intangible assets and maintainable earnings

Table A4.1: Trade skill businesses

Earnings level	Explanation	Related intangible assets (Intangible asset reference number)
1. Sales turnover		Local reputation (3). Customer relationships (6). Approvals to undertake inspections, etc (9)
Direct costs	Materials and parts	
Employee costs	Wages, NI and other employment costs	Established, flexible team (26)
2. Gross profit		Specialist skills (20) and service formats (16) for niche markets commanding higher prices
Overheads	Premises, insurance, telephone, etc	
3. Operating profit before owners' remuneration		
Owners' remuneration at market value for work done	Owner(s) remuneration for time spent working in the trade and managing business	
4. Operating profit	Rewards for risk, service, specialist skills and expertise	

Note: Bracketed numbers, eg (6) and (9), refer to the intangible asset reference numbers in Appendix 2.

Table A4.2: Physical-asset-using businesses

Earnings level	Explanation	Related intangible assets (Intangible asset reference number)
Capacity	Size, location and other characteristics of the asset	Knowledge of equipment configurations and where service models work (16 & 19). Relationships with asset gate-keepers (23)
Achieved rental/ usage charges	Largely market determined for particular asset and location	Reputation for quality and service (3), distinctive branding (2) and planning consents (10) support premium charges
Utilisation of capacity	Level of effective use of finite, time-based capacity	Ongoing relationships with repeat customers (6), customer lists (7). Know-how for cross-selling and maximising trading-offs between charges and utilisation (20)
1. Income		Rental and letting agreements (5)
Material costs	Material costs associated with services being provided when asset used	Advantageous relationships with suppliers providing competitive advantages (23)
Direct labour costs	Direct labour costs associated with services being provided when asset used	Assembled workforce and proprietary recruitment procedures (26 & 20)
2. Gross profit	Income available to pay asset rent, overheads and owners' remuneration	
Actual or notional asset rent	Rent for using the asset is deducted to separate business operating profits and rental incomes	
Other overheads	Other overheads associated with using asset	
3. Operating profit before owners' remuneration		

Note: Bracketed numbers, eg (6) and (9), refer to the intangible asset reference numbers in Appendix 2.

Appendix 5: Intangible assets and future income streams

Table A5: Intangible assets and future income streams

Earnings level	Explanation
Potential market	The range of applications for and the number of potential users of the artefact/invention
Strength of artefact	Inherent benefits to ultimate users and the absence of dependence upon complementary assets
Prevention of benefits seepage	The extent to which the innovator can appropriate end-user benefits and prevent seepage to copiers, imitators and to the owners of key complementary assets such as associated technologies and distribution channels
1. Sales revenue stream	Future sales revenue stream generated from the artefact
Marketing costs	Cost of bringing artefact/invention to market; distribution channel development, advertising, etc
Manufacturing / replication costs	
2. Gross profit stream	Future gross profit stream before development costs
Development costs	Cost of developing the artefact and bringing to market – likely to be incurred before the generation of a sales revenue stream
3. Operating profit stream	Profit stream that, when discounted appropriately, provides an indication of SME value

Related intangible assets (Intangible asset reference number)	
Inventor SMEs	**Creator intangible artefact SMEs**
Owner's (27) and key employees' (25) exclusive knowledge of the industry and potential for the invention	Owners' (27) and key employees' (25) application knowledge and industry relationships (28)
(Technical characteristics and features of the *physical* asset that has been invented)	The patented methods (11), proprietary software (18), non-obvious algorithms (19) and technical and user documentation (15) that make up the new intangible artefact
Patented products (11), registered trademarks and brand names (1), employment contracts (24) that hinder the diffusion of knowledge relating to the innovation or make it more difficult for followers to copy or imitate the invention	Patent protection (11). Registered trademarks, brand names and logos (1) that users associate with artefact benefits and a reputation (3) for capability, trust-worthiness and quality
	Income-generating licence arrangements (4), maintenance contracts (5) and 'fix on fail' (6) arrangements
Access to markets and distribution channels through networks and collaborative agreements (28) and external endorsements (9) that give marketing cost advantages	High-trust, technology partnership arrangements with complementary asset owners (28) that provide routes to market at reduced marketing costs and enhance credibility (9); product champions within customers (6) acting as unpaid salesmen; websites (8) that provide low-cost routes for placing orders
Trade secrets (19) and proprietary technical know-how (20) that provide manufacturing cost advantages	
Networks and collaborative agreements (28), innovative atmosphere (29), technical know-how (20) that help contain and minimise development costs	IT provider relationships (23), specialist knowledge of key employees (25), effective and creative teams (26 & 29) that contribute to successful and cost-effective development processes

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RR/093/001

ISBN: 1 85908 426 5

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