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CHAPTER 2

A SECTOR RICH WITH OPPORTUNITIES



A SECTOR RICH WITH OPPORTUNITIES

Policy drivers and the role of Higher Education

A great number of social and economic factors are currently at play which will have a significant effect upon the immediate future of Higher Education. As with other industries which have received Government subsidy as a strategically significant national asset, the Higher Education sector has grown through an expansion in numbers with the creation of a wave of more than 60 new universities since the Further and Higher Education Act (HMSO, 1992) which, at a stroke, doubled the number of universities in the UK market. Subsequently, this machine needed to be fed, a policy pursued by the Blair government (1997-2007) which, through a series of initiatives that included Foundation Degrees, Aim Higher and widening participation programmes, managed to increase demand for – and access to – Higher Education significantly. This expansion in Higher Education provision needed to be funded without an excessive burden falling upon the taxpayer. The National Committee of Inquiry into Higher Education (1997) recommended the ending of universal free higher education, with students beginning to contribute towards the cost of their tuition. Since then, the Higher Education audience has grown by around 40% (HESA, 2011).

today,
the UK Higher Education sector
has its challenges and its opportunities

This growth was not to continue unhindered and despite a continued increase in demand for Higher Education, the credit crunch of 2007 led to a severe global economic recession and a drastic review of government spending. Today, the UK Higher Education sector has its challenges (significant capacity in varying states of repair, competition for lucrative students, and an ageing workforce) and its opportunities (unprecedented demand, government and business support of its mission). At a micro level, these competitive forces are felt most strongly in the following areas:

commercial consumers of our research need evidence

that their investment may deliver a suitable return

Applied research with impact

Business and the community have always appreciated the benefits of engagement with Higher Education. A great deal of research exists to evidence the higher lifetime earning potential of graduates in recognition of their superior value-adding skills. However, the survival of business and community organisations is predicated by their ability pay their way on a monthly and annual basis, so as not to perturb their stakeholders unnecessarily and jeopardise their ability to serve the needs of end-users. This mindset means that commercial consumers of our research need evidence that their investment (whether Research Council grants or daily consultancy activity) may deliver a suitable return. More guidance and background information can be found under Pathways to Impact from Research Councils UK (www.rcuk.ac.uk).

Excellence in teaching and learning.

Key to the student experience is their engagement with teaching and learning whilst at university. Since 2004, satisfaction with this activity has been measured at most Higher and Further education institutions across the UK as part of the National Student Survey. The survey asks students to contribute their opinions on what they liked about the time at their institution or on their course, as well as things that they felt could have been improved. Student feedback is used to compile year-on-year comparative data that is made available to prospective students and their advisors to help them make informed choices of where and what to study. Good institutional performance in the National Student Survey gives a boost to future recruitment.

Employability

The Destinations of Leavers from Higher Education (DLHE) survey, administered by the Higher Education Statistics Agency (HESA), reports on the career status of graduates six months after they have completed their studies, with a follow-up survey three years later. Institutions are understandably eager to demonstrate the timely employment of their alumni in graduate-level roles, as it points to the higher value of their courses. As with the National Student Survey, this resource also provides an important input for prospective students to assess their study choices and strong performance boosts recruitment.

**institutions seeking
to charge higher fees**

need to justify the value of their offering

Student top up fees

Whilst the National Student Survey and the Destinations of Leavers from Higher Education survey provide useful feedback for institutions seeking to improve their effectiveness, they become crucial to prospective students seeking the optimum mix of course and institution. At the time of writing (October 2011) student fees are again rising in response to the recommendations of the Independent Review of Higher Education Funding and Student Finance (2010). Annual top-up fees up to the maximum of £9,000 will be charged by UK universities from the 2012/3 academic year. Institutions seeking to charge higher fees will need to justify the value of their offering in comparison to lower priced courses.

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for social justice

and economic competitiveness

Widening participation to drive social mobility

The Higher Education Funding Council for England (HEFCE) aims to promote and provide the opportunity for successful participation in higher education to everyone who can benefit from it, addressing the large discrepancies in the take-up of higher education opportunities between different social groups. HEFCE works with higher education institutions to raise aspirations and educational attainment among people from under-represented communities to prepare them for higher education, ensure success on their programme of study, improve their employment prospects and open possibilities for postgraduate study, giving them opportunities to return to learning throughout their lives. This is vital for social justice and economic competitiveness.

Overseas students

With limits on the number of domestic students that each UK institution can recruit (mainly at undergraduate level), and the fees that they can subsequently be charged – as this fee has been partially subsidised by the government – universities look to recruit numerous and highly lucrative undergraduate students from outside the European Union. Masters level student are even more attractive. This means that many institutions invest considerable resources in attracting prospective students to study in the UK. Non-UK students diversify the campus population, adding an international perspective for students and faculty alike. This is a highly competitive market with rich pickings for the winners.

In summary, tomorrow's academic (ie you) will need to contribute new knowledge to society, making a significant impact through the quality of students produced who go on to have long and productive working lives. This, and other knowledge exchange activities that take place through a range of partnership arrangements, will nourish the fabric of society and the economy. The process will need to be managed to the satisfaction of many wide and varied stakeholder groups. This is a challenging game for a complex organisation. However, we can rise to this challenge. There is comfort in the knowledge that if you view universities as engaging in the generation, packaging and application of useful knowledge, as such they undertake the same resource-transformation activities as any industry. Then there are many examples of rebirth and growth. In the last three decades, we have seen the rise of the media and finance industries and the decline of the car and steel industries in the UK. Growth has been accompanied by wild speculation, creation and loss of vast fortunes and the destruction of traditional investment models.

Decline of mass manufacturing industries has seen polarisation – massive global organisations with higher turnovers than a number of sovereign nations – and a host of small and specialist niche operators making a good return delivering high quality products from growing client bases. Higher Education is facing some tough challenges. Previously security was sought in size. Now, as course offerings become more complex, the institution loses its focus and runs the risk of becoming a ‘supermarket institution’ with offerings becoming ever more confused. The main competitive tool is becoming price, which ultimately erodes product quality and therefore effectiveness. Specialisation and collaboration will shape the sector over the coming decade and knowledge exchange will play a key role in diversifying this risk.

**specialisation
and collaboration**
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The Commercialisation Continuum

There have been many attempts to define the meaning of the term 'entrepreneurship' and amongst them Stevenson's (1985) stands out: "The pursuit of opportunity beyond the resources you currently control." This begins to indicate the high level of inherent risk in entrepreneurial activity. The statistics paint a sobering picture as Storey et. al (1987) identified that in the first year of operation, nearly one third on average of all start-ups could fail. The proportion of failures then declines for each subsequent year but the cumulative failure rates are high: 62% after three years and 74% after five years (Urwin, et al, 2008). In other words, no more than about one quarter of enterprises could survive for five years. What is the main reason for such a catastrophic rate of entrepreneurial attrition? In the majority of cases, failure was due to inefficient financial management – or to you and me, cashflow, which is the ability to meet your financial obligations as they fall due. Shortage of cash means loss of supplies, accommodation and employees, which leaves an organisation in no fit shape to serve demanding customers. Now that we are aware of the financial risk we face as entrepreneurs, how can we mitigate these risks to ensure that our initial entrepreneurial efforts gain a toehold in the market and we begin to develop a good reputation with our target customer base?

take a staged approach
to developing their entrepreneurial
activities, building skills,
confidence and a good reputation

The purpose of the Commercialisation Continuum model (Figure 1) is to enable the entrepreneurial academic to gain an understanding of how he or she can take a staged approach to developing their entrepreneurial activities, building skills, confidence and a good reputation as they go.

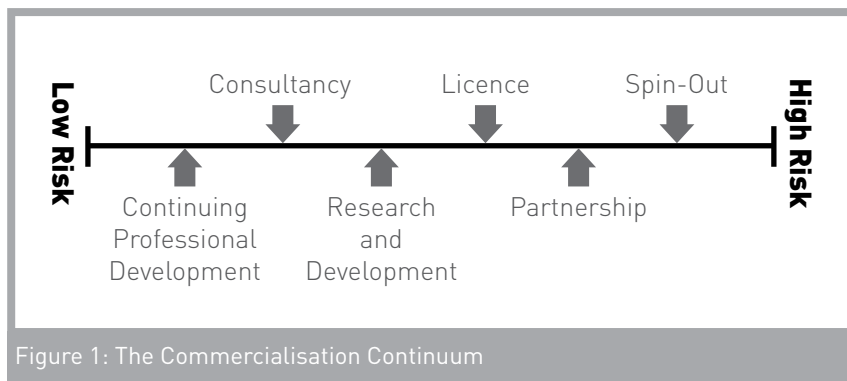


Figure 1: The Commercialisation Continuum

CPD's goal

is to achieve and maintain a professional standard

Continuing Professional Development (CPD)

The Institute of Continuing Professional Development (2006) stated: "Continuing professional development is the systematic maintenance and improvement of knowledge, skills and competence, and the enhancement of learning, undertaken by an individual throughout his or her working life." In order to develop knowledge, skills and competence, the individual has a number of learning opportunities at his or her disposal. The terms 'CPD', 'teaching' and 'training' are often interchanged but it is important to make a clear distinction here, based on their learning goals. Teaching's goal is to develop thinking skills through the use of theory; training's goal is to develop individual skill sets, and CPD's goal is to achieve and maintain a professional standard. Distinction can also be drawn, based on the assessment. Teaching is assessed using tests of knowledge which are then judged by an independent body against rigorous criteria. Training is assessed by the learner and their employer, based on changes in job performance. CPD in its formal sense is judged by the appropriate professional body that assesses the learning activities and self-evaluation undertaken by the learner after reflecting upon their activities. Whatever the outcome, a good educator will construct pedagogically-sound programmes which identify learning outcomes, design the learning activities to deliver these outcomes, and then assess both the learner and the programme, based on how well the outcomes have been achieved. So, whether you are delivering an undergraduate course, a series of CPD events or a one-day training course, you are using precisely the same skill set.

There is very little trading risk in such an activity as the modules you may look to use were designed using robust pedagogues and have been delivered before, and thus the kinks have been ironed out.

commercial clients work in a similar way,

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Consultancy

Consultancy involves the understanding of a problem encountered by the client, evaluation of its causes, then the generation and selection of options to address that problem within given parameters. In this respect it calls upon the research skillset which is common in Higher Education. In practice, it differs little from working with a Masters level student to articulate a research aim which is probed using a small number of research questions. The student will then examine what is already known about the problem and its likely solutions (the secondary research). If this brings an insufficient solution, they will design a primary research programme to find an answer to the problem. Commercial clients work in a similar way, except they expect you to do most of the work. Still, you are reliant on the client to identify the problem, state the objectives, clarify the limitations, describe success and supply data. As with an academic research project, your responsibility to the client will end with making the recommendations necessary to solve their problem. Consultancy projects can last for one day or many years, depending on the scale of the problem and your relationship with the client (ie if you are well positioned to deal with a wide range of challenges).

Research and Development

R&D takes the consultancy relationship further: into implementation of the solution. This will require an in-depth relationship with the client in order to address the main problem and determine how to make the solution happen. This complex relationship will call upon a wide variety of skills and as such, R&D projects are normally conducted in teams with colleagues from your institution and a number of the client's staff. The client will expect to have more involvement than they would for a consultancy project as they may not only be looking to address technical issues but cultural ones, plus organisation, manufacturing, distribution, marketing and finance challenges also. This can be a very lucrative arrangement for the institution as the client is looking to it for leadership in product design and in effect, outsourcing this activity to a better-qualified organisation. The institution will also benefit from seeing the recommendations from their research being implemented in practice, providing valuable additional research data and teaching case studies.

Licence

This is where the rights to use a piece of intellectual property (ie a design, publication, or learning materials) are rented to a client for a specified sum and period of time. Licensing is a hugely common and popular business model, but it does rely on the licensor having valuable and unique intellectual property that has been suitably protected. Drugs, technology, coffee shop brands and soft drink distribution are broader examples of licensing activity. The licensor (the institution or the academic, depending on who owns the intellectual property) will benefit from the wide dissemination of their knowledge which will generate a financial return at very little risk and cost to themselves, whilst the licensee (the client) gains advanced knowledge or a strong market reputation without having to invest large sums into in-house R&D programmes, subsequently giving them an advantage over their competitors. Licensing should never be attempted without the help of a profes-

sional as Higher Education is littered with examples of licensing agreements that have been too generous, effectively giving away the intellectual property, or too greedy, with no deals done and intellectual property, which could have had a significant impact on society, being left on the shelf.

valuable and unique intellectual property

that has been suitably protected

Partnership

This is where a minimum of two organisations enter into a legal agreement to pursue an opportunity jointly. This is a higher risk to an institution but with potentially higher rewards. Typically, the institution will contribute funds, technical expertise, and use of the university brand to add legitimacy to the project and the client will contribute funds, manufacturing and distribution, and sales and marketing expertise. As with a licence, a partnership can be limited by time, geography or market. In industries other than Higher Education this has acted as a prelude to a merger of both organisations. Where a new venture is required, partnerships can work well since both partners have clear and distinct expertise to contribute, and both partners contribute sufficient resources to generate commercial scale in the market in order to take a large share and not just survive as a niche operator. However, given the 'committee' nature of their constitution, they can lack longevity if cultures do not adapt and strategic approaches and decision-making are inconsistent.

Spin-Off

A spin-off is a completely new commercial venture that is administratively independent but may be owned in whole or in part by another organisation. The venture is established to pursue a dedicated commercial goal. There are examples of highly successful academic entrepreneurs who have taken their – or their institution's – intellectual property into spin-off companies. However, the high failure rate, expense and reluctance of academics to devote themselves full-time to a commercial venture at the expense of their teaching and research interests means this is rarely a successful career route. Well-funded ventures, with world-leading intellectual property led by competent and experienced professionals, are the gold standard in this area and can be highly successful.

**there are examples
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academic entrepreneurs who have
taken their – or their institution's
intellectual property into spin-off companies

Intellectual property (IP)

What is intellectual property?

IP is the physical manifestation of an idea and it can come from a wide range of sources:

- **Students through projects**
- **Staff through their teaching and research practice**
- **Clients through their everyday activities of creating products that benefit end-users**

Here are a few suggestions of where valuable intellectual property may be found from your everyday academic activities:

- **Teaching tools (to include modules, materials, exercises, audio and video recordings)** – all teachers value creative and innovative new pedagogical tools
- **Diagnostics** – whether medical, computational or psychological, this is the distillation of extensive knowledge into easy-to-use tools
- **Designs** – physical (eg engineering, drugs) and visual aspects (eg works of art)
- **Software** – coding, processes and databases
- **Publications** – books, journals, guides, examples

Why manage intellectual property?

From a societal perspective, knowledge benefits the most people when it is shared. The metaphor of “standing on the shoulder of giants” is often used to promote the commercialisation of IP in its widest possible sense. It emphasises the role we play as builders of knowledge that will benefit society. Without a concerted effort to disseminate knowledge, these benefits simply would not accrue. However, we cannot ignore the operational issue that research needs to be funded if it is to take place at all. To this effect, there needs to be a payment of some kind and funding will not be forthcoming if our rights, and the rights of our investors, are unprotected.

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Ownership of intellectual property

Broadly, if you are employed to invent, then the inventions in the fields in which you are employed belong to your employer. Other inventions belong to you. If you are a freelancer, IP belongs to you unless there is a contract specifying otherwise. Your institutional Intellectual Property Policy will help you to understand the local rules for ownership of IP.

Intellectual property acid test

There is no doubt that you and your colleagues will be able to identify a great deal of intellectual property once you know where to look for it. However, the acid test to identify IP that could have a commercial application is represented by the following three questions:

- **Where is the pain?** Identifying what specific problem you are solving, and precisely who you are solving it for, will help you to communicate better with your target audience. If you are uncertain, or there is a wide range of potential sectors you plan for commercial exploitation, you need the help of an experienced marketer.
- **Who will buy?** The person or organisation who buys your solution (the customer) may not necessarily be the same person or organisation that uses it (the consumer). There is every chance they have different needs, with the customer needing to understand value for money and the consumer needing to understand how they can implement the product to achieve the desired outcome. Clear identification of the target customer will also depend upon how 'market-ready' the product is (ie how well-developed it is to be used by the ultimate end-user). Some products may still simply be unproven designs that have not yet been prototyped, developed and tested. This 'early stage' IP could be licensed to organisations that will prototype, manufacture, sell and distribute the end product to wholesalers/retailers or directly to the end-user. Low 'market readiness' will hinder a quick adoption.

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the commercialisation to an external organisation

- **How will I get it to market?** Getting products into the hands of eager end-users is a complex business with a great deal of risk and competition along the way. Figure 2 outlines potential routes to market, from supplying directly to the end user (common for many web-based businesses) to supplying via a range of intermediaries, such as wholesalers and retailers who break up bulk for manufacturers, allowing customers to buy in small volumes. Agents and licensees/franchisees act as intermediaries, working independently from manufacturers and wholesalers on a contractual basis. It may be easier and less risky to outsource the commercialisation to an external organisation, accepting lower risks and lower unit rewards (potentially on a much larger scale).

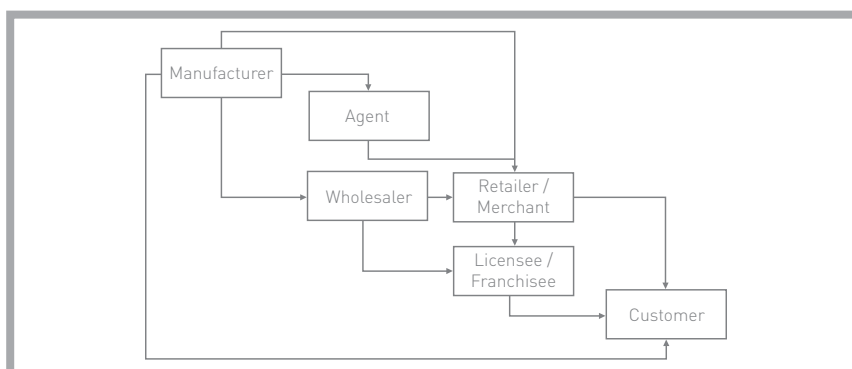


Figure 2: Routes to Market

Protecting intellectual property

Here are some common misconceptions regarding the commercial exploitation of intellectual property:

- **“I must publish my invention for the benefit of the world”** This greatly reduces the chance of anyone investing in it in order to benefit a great number of people.
- **“I must publish or perish to benefit my academic career”** The idea that patenting prevents academic publication is incorrect. A patent can be filed in hours, and then you are free to publish.
- **“I must protect my valuable ideas”** Discoveries or theories cannot be protected. You only have an enforceable ethical right to be known as the originator of these.

discoveries
or theories
cannot be protected

Figure 3 outlines the types of IP and how they can be protected.

| Type of IP | What is covered | How to protect it | Warnings |
|-----------------------------------|---|---|--|
| Know-how and trade secrets | Any skills or technical or commercial information not otherwise covered | Keep it secret. Inform employees of their duty of confidence. | Once revealed, a secret cannot be retrieved. Knowhow is more valuable than people recognise. |
| Copyright | Writings, works of art, computer programmes and much more | Automatic right (but not in the USA) | Be able to prove your authorship © name, date is helpful but not essential |
| Design right | Internal or external shape or configuration | Automatic right in Europe | Keep evidence of dates of conception and first marketing |
| Registered design | Features of appearance: shape, texture, colours, graphic symbols | Register at the Design Registry in the Intellectual Property Office | |
| Patent | An invention capable of industrial application | File at the Intellectual Property Office | If you reveal your invention before you file, patenting will be impossible in most countries. Apparently trivial ideas can give valuable patents |
| Trade mark | A badge of origin of goods | By registration at the Intellectual Property Office | Trademarks can become very valuable over time, after other rights have expired |

Figure 3: Intellectual property overview

Once the IP has been protected, you are only partially along the road to a successful commercialisation. You have an asset which has a value, and that value is determined not by you or by an arbitrary formula. It is determined by how much a client is prepared to pay for it. The best method of intellectual property protection is to commercialise, for example through a licence, partnership or spin-off. Commercialising IP takes it to a wider audience and reinforces the legitimacy of the commercialising party. Hopefully, it will win funding, customers and profits that will allow the venture to grow, reaching a wider audience and offering many other beneficial products or services in the years to come.

value is determined by how much a client is prepared to pay for it

Policies and procedures

Take time to become familiar with your institution's policies and procedures as they will help you identify sources of support for your venture, minimise your risk of getting it wrong (this applies to yourself, the institution and the client), and will avoid wasting valuable time.

Intellectual Property Policy - this should explain how the institution intends to commercialise its intellectual assets and who will benefit (ie you, your department and the institution as a whole) from individual ventures.

Consultancy Policy – this will clarify the process for undertaking consultancy work, either on behalf of the institution or independently, and in what areas the institution could add value to your activities.

Full Economic Costing (FEC) – this will detail the cost structure for your work as it can be hard – though not impossible – to justify undertaking work at a loss. FEC is normally calculated on an individual basis, considering the cost of your employment and the facilities you use. It comprises three components that represent the minimum level at which you should price your work.

- **Direct cost** – that is the cost of paying your salary and other employment benefits. This represents the cost of replacing you for other activities, so that you can undertake your ‘knowledge exchange’ work
- **Overheads** – the cost of running the institution to include management, facilities, central services
- **Surplus** – every organisation needs to plan to generate a surplus in case costs have been underestimated or to invest in future work

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Agreements - when engaging in any commercial relationship, it is wise to give it a sound legal footing. In the UK, general guidance can be sought by visiting the Intellectual Property Office web pages to view the Lambert Tool Kit (www.ipo.gov.uk/lambert).

The following agreements should be used as appropriate:

- **Confidentiality Agreement (one way and two way)** – agrees what you can publicly disclose about your venture
- **Collaboration Agreements (one to one and multi-party)** – how both parties will behave and what they will deliver to achieve the common goal
- **Contract for Services or Consulting Agreement** – for bought-in expertise
- **Material Transfer Agreement** – responsibilities of both parties who contribute or received borrowed materials or equipment
- **Research Agreement or Development Agreement** – an early stage agreement for R&D activity
- **Licence** – granting the rights to an external organisation to use your IP

All of these agreements will be unique to your own institution and local advice should be sought from the appropriate departments.

IP commercialisation in practice

Here are a few points to summarise the treatment of intellectual property in this section:

- **Much IP is given away through ignorance** – take care, take time and accept expert advice
- **Money does not motivate everyone** – especially academics. It is what you can do with the money that counts (ie new equipment and facilities, additional staffing, funds to re-invest in teaching or research)
- **Collaboration pays** – why take on all the risk and expense yourself? Someone else might be better than you at an aspect of commercialisation. As Roy Disney (business partner of brother Walt) once said, “There’s no limit to what can be achieved when it doesn’t matter who gets the credit.”
- **Innovation (the process of turning ideas into common usage) does not come shrink-wrapped** – it often takes time, expertise, effort and expense to get it ‘market-ready’. Be patient if going it alone or get a partner on board if not.
- **Culture change requires great patience and flexibility** – colleagues may regard you with suspicion in the early days due to your new approach to IP
- **Evaluation is subjective** – your valuation is not that of your client or your partner. In this event you should negotiate and remain open-minded.

much IP

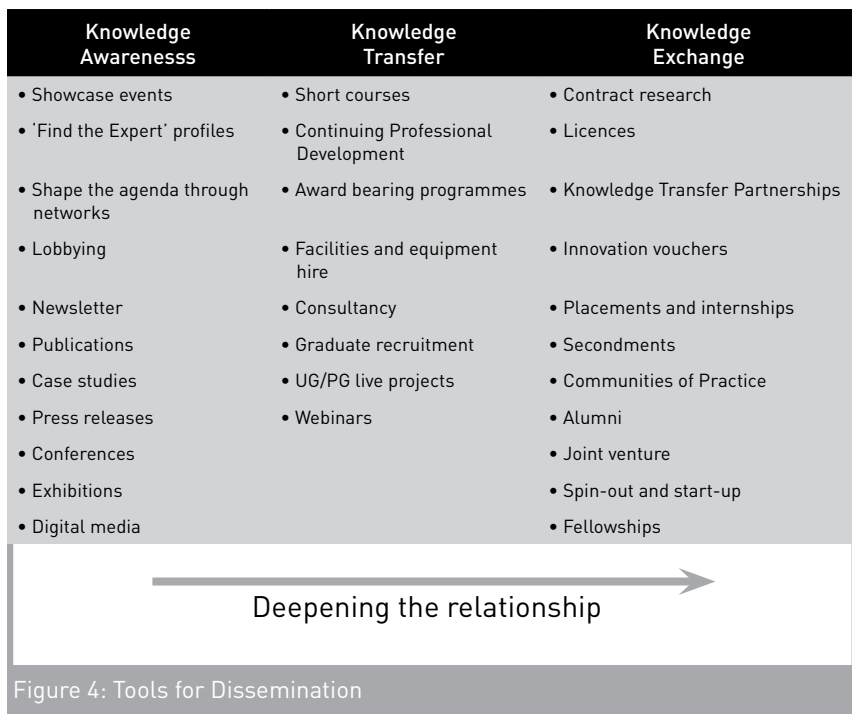
is given away

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Tools for Dissemination

Innovation in Higher Education does not limit itself to the five routes laid out in Figure 1. These are only indicative of a route that you could take. As mentioned earlier, the development of a commercial relationship should not be rushed if it is to bear fruit for a long time into the future. However, we should not be slow to seize opportunities when they arise, since they will be driven by the strength and currency of the client's need, their readiness to buy, and the level of trust in your relationship. Figure 4 looks in greater detail at a selection of the possible tools, classified under three headings that represent the maturity and closeness of the commercial relationship with the client. To find out more about these tools and others, please contact Knowledge Exchange Office (or equivalent) at your institution:

- **Knowledge Awareness** - showcasing the available knowledge when you are exploring market sectors and identifying potential clients.
- **Knowledge Transfer** - a one-way process of transferring knowledge that significantly improves the capabilities of the receiving clients.
- **Knowledge Exchange** - a two-way process of transferring knowledge that significantly improves the capabilities of all parties.



As the relationship with the client deepens, moving from the initial awareness and trust developed at the 'Knowledge Awareness' stage, one or a series of projects may take place at the 'Knowledge Transfer' stage. Ultimately the relationship could develop from that of a supplier-customer relationship to more of a partnership, where both parties work to develop each other's capabilities, achieving a better future for all concerned. If successful, this relationship will spread from isolated parts of each organisation to cover multi-disciplinary and cross-functional challenges in a dynamic environment. At this point, both organisations are working as one.

Assessing capability and capacity within the academic team

When assessing our readiness to undertake knowledge exchange work, it is important to make a distinction between capacity (how much resource – especially time – we have available) and capability (whether the team has the appropriate skills and mindset to undertake the work). It is a rough generalisation that in working life, the most capable people are the busiest, with the least capable having the largest capacity for extra work.

Capacity has been addressed in our earlier discussion regarding academic workloads. Your time, unless dedicated solely to knowledge exchange activities, will probably need to accommodate a wide range of work demands that will include teaching, research, management and collaborative activities.

a mindset that is open

to new opportunities and trying new ways of working

Capability relies on a mindset that is open to new opportunities and trying new ways of working, and the following skillset that will open up your team's expertise to a commercial audience:

- **Currency** – hopefully you will have current or recent experience of working in the sector, either as an employee or as a consultant. This will give you a unique perspective on the challenges faced by the sector you are targeting, and their attitude to change. Cultural references also play a strong part in developing credibility with the client. These will include a shared history and a shared language.

- **Relevance** – your teaching references (ie not teaching from case study examples that are out of date) and research activities will be informed by – and focused upon – current and emerging challenges for the sector.
- **Applied research** – some of your research activity will be applied in nature, which will be intended to be practical and applicable to a current or emerging challenge.
- **Sector affinity** – you will have some links to the client’s sector but will also have experience of similar sectors which will enable you to transfer appropriate good practices.
- **Learning and teaching expertise** – you will need to be an effective communicator (that’s listening and talking) and able to communicate complex concepts in a way that empowers and motivates the client.
- **Commitment to the institution’s knowledge exchange goals.**

you will need
to be an effective communicator
(that’s listening and talking)

Conducting your own opportunity audit

Now that you have begun to think about opportunities, capability and capacity, you probably have a wide range of ideas that you need to get into some sort of order. Complete your own Opportunity Audit and rank each of the ideas under Capability as high (we have very close links with this sector and have a new product that is ready to be supplied) and give it three points; medium (we have some links with this sector and have a new product that is under development) and give it two points, or low (we have few links with this sector and a few ideas for a new product) and give it one point. Next, assess Capacity in the same manner. So, score it as high (we have lots of spare time, money and equipment to throw at this opportunity) and give it three points; medium (we have some spare time, money and equipment to commit) and give it two points, or low (we have very little time, money or equipment to spare) and give it one point. When you have completed the scoring, multiply the columns to give a score. The resulting score will help you to prioritise. Figure 5 shows a worked example of the Opportunity Audit.

| Opportunity | Capability H/M/L | Capacity H/M/L | Score | Priority |
|---|---------------------|-------------------|-------|-----------------|
| Convert a Post Graduate module into a 1-week short course | H=3 | L=1 | 3 | 4 th |
| Offer a professional coaching programme | M=2 | L=1 | 2 | 5 th |
| Consult on improving security and diagnostic procedures | M=2 | L=1 | 4 | 3 rd |
| Licence teaching materials, to include audio and film | M=2 | H=3 | 6 | 2 nd |
| Provide access to anonymised data sets | H=3 | H=3 | 9 | 1 st |

Figure 5: Opportunity audit

support departments play a significant part

in the success of a client-based project

Capability and capacity within the wider team

Support departments (ie non teaching or research) within your institution play a significant part in the success of a client-based project, particularly, although not exclusively, in the following areas:

- **Facilities** will help to ensure that when clients and learners are brought on-site, appropriate meeting and learning spaces are available.
- **Finance** will help to establish and structure budget centres, issuing purchase orders and invoices as appropriate. They may also be able to help you identify internal start-up funding to cover up-front expenses. They are also likely to be the department best equipped to advise whether the institution has a trading history with the client, and highlight whether there have been any problems (ie disputes, late payment or bad debts). Identifying existing internal links with the client will help you work in collaboration with your colleagues, if you choose, to provide better value and a more comprehensive range of services to the client.
- **Knowledge Exchange Office** will provide commercial guidance, market intelligence, business contacts, pro-forma contracts and intellectual property advice.

- **Library** provides access to a vast treasure trove of market information and importantly, guidance on how to access what is required.
- **Marketing** will help you to develop appropriate promotional tools, using a wide range of media, to reach a wider target audience than just a handful of potential clients. Avoid the temptation to design a brochure on your PC and print it from your desktop printer. This looks cheap and indicates unprofessionalism to your potential clients. Investment in effective promotional tools is never a waste of money. The marketing team will help you ensure that your promotional budget is well spent.
- **Personnel** will help you to find colleagues, both inside the organisation and possibly from a pool of associate staff, to augment the offering to your client. They can also help you to bring in appropriately-qualified visiting academic staff should there be a need to cover your teaching commitments at short notice, so you can work on a commercial engagement.

**investment in effective
promotional tools**
is never a waste of money

- **Quality** will have an important input to make if you are tailoring an award-bearing programme into a smaller credit package. From the perspective of a client seeking a tailored award bearing programme, they are a key party to involve, especially when discussing work-based learning and practice-based assessment. However their role does not end there. Anyone with a serious interest in continually improving their learning and teaching practice should build a strong relationship with this team.
- **Registry** ensures that learning activity, programme enrolment and assessment are administered centrally. Students on one-off non award-bearing programmes need not necessarily go through the Registry process. For longer award-bearing programmes delivered to a large number of learners, working with Registry's administrative systems will greatly simplify your life.

The intellectual property pipeline

The results of the Opportunity Audit help us to focus our efforts.

- Ready now – the top scoring opportunities are the ones closest to, or ready to be, commercialised. What's stopping you?
- Ready in 12 months – the middle-scoring opportunities need some more work so give yourself time to do the work necessary to take them to market.
- Ready in two years – the lowest scoring opportunities require some hard decisions. If they truly have a significant commercial potential, you are giving yourself enough time to take the necessary action.

The real challenge comes when other, brighter prospects come along and you need to decide whether to abandon the old opportunities and pursue the new, or to stick with your original projects.

what's stopping you?

Increasing capacity and capability

Capacity increases can be achieved simply by winning more resources internally – such as funding, assistance with teaching or research duties, or taking a break from leadership and management duties – with a compelling proposal. Capability can be increased through a training and development campaign, or by more effective communication with your team and people who could assist you. The final option is to change your commercialisation strategy and bring in potential partners to lead the process. Going back to the sample Opportunity Audit in Figure 5, the two lowest-scoring opportunities could be addressed as follows:

| Opportunity | Original strategy | New strategy to improve capability and capacity |
|---|--|---|
| Convert a Post Graduate module into a one-week short course | Original teaching staff to deliver as a summer school | Run over a series of weekends delivered by visiting teaching staff with industry experience |
| Offer a professional coaching programme | Deliver on a large scale using a large proportion of the academic team | Deliver on a small scale (two or three staff) as a pilot to assess the likely demand |

Figure 6: Increasing capability and capacity

Beginning to trade by offering a Continuing Professional Development programme

How do academic and CPD programmes differ?

As discussed earlier, one of the easiest and least risky products that can be used to begin your academic enterprise activity is CPD. Figure 7 examines the key issues to be considered when re-structuring an existing module into a CPD course.

| Pedagogy | Academic | CPD/Training |
|------------------------|--|--|
| Delivery | Short bursts over a long period | Long bursts over a short period |
| Materials | Lecture notes, exercises, extensive reading list | Lecture notes, exercises, extensive reading list |
| Location | Institution | Institution or workplace |
| Group size | Small to large | Small |
| Assessment | Exam, report | Work-based, feedback, anecdotal |
| Group learning | Low | High |
| Application/practice | Low | High |
| Learning style | Visual, auditory | Kinesthetic |
| Learning outcomes | Incremental | Transformational |
| Back office complexity | High | Low |

Figure 7: Course adaptation guide

With this overview you can begin to design your post graduate module into a CPD course to test in the sector, to determine whether a wider roll out is justified. Choosing whether to run an open course, upon which anyone can enrol, or a closed course which is dedicated to one particular organisation, is illustrated in Figure 8.

| Aspect | Open | Closed |
|--|------|--------|
| More administratively demanding | ✓ | |
| More profitable if <u>fully</u> subscribed | ✓ | |
| More profitable if <u>under</u> subscribed | | ✓ |
| Quicker to market | | ✓ |
| Highest range of expectations on the day | ✓ | |
| Cheaper to promote | | ✓ |

Figure 8: Open v. closed courses

Student Enterprise

The Lambert Review (2003) identified graduates moving into the workforce as being the single most effective method of widespread knowledge transfer. The Review recognised the good work undertaken by universities to develop the entrepreneurial capabilities of students, improving their employability, and driving a required growth in the number of high quality start-ups to provide social and economic benefits to the wider population. This cultural shift in Higher Education required examination as to how closely the attitudes of staff met the ambitions of students. Research by Corcoran (2008) examined these attitudes with specific focus on the role that student enterprise programmes played in the academic development of students, with the following findings:

What use are qualifications?

At the time of the research, there was still concern in the sector that Higher Education would no longer seem relevant to ambitious students who wished to follow the examples set by some of the most successful entrepreneurs who were university dropouts. These include Michael Dell of Dell, Inc. (University of Texas at Austin), Larry Ellison of Oracle Corporation (University of Chicago), Bill Gates of Microsoft Corporation (Harvard University), Steve Jobs of Apple, Inc. (Reed College) and Mark Zuckerberg of Facebook (Harvard University). Our respondents had a different view on the role of Higher Education in their careers:

“My IT qualification has supported my business so that I can spend more of my time selling.”

“the University gave me lots of skills but if I’d left

with just the degree it wouldn’t have been enough.”

“The business structuring lectures had me wondering why we were doing this because I wanted to be a teacher not a businessman, but that’s really paying off now.”

When working alongside their studies, learners can clearly rationalise the purpose of their learning, beyond the achievement of a qualification.

Shouldn't our graduates go into proper careers?

There remains a common misconception in some parts of academia that students are being prepared for a working life with a small number of employers. In fact, employment patterns have changed greatly over the last two decades due to technological change (enabling 24/7 and mobile working), industry changes (driven by global competition meaning that some industries and organisations can no longer survive), social change (older workforce and mothers returning to work), and an entrepreneurial culture driven by television programmes such as 'Dragon's Den' and 'The Apprentice' which both serve to encourage individuals to work for themselves. Our respondents saw a different purpose and function to their working lives:

**“the best thing is that I
can juggle my time to fit around being
a parent and doing other stuff I want to do.”**

“I measure my success by how much I've grown from a job.”

**“It linked the intellectual property with research and
teaching and has helped me to help my students to
embrace opportunities at the University.”**

In 1989 and again in 1994, Charles Handy wrote of the 'portfolio career' in which instead of working a traditional full-time job, we would work in an ever-moving array of part-time jobs (including part-time employment, temporary jobs, freelancing, and self-employment) with different employers which, when combined, are the equivalent of a full-time position.

Portfolio careers offer more flexibility, variety and freedom, but also require organisational skills as well as risk tolerance, a key attribute for would-be entrepreneurs. This attitude is clearly represented in the mindset of learners and should be adopted by staff with a willingness to develop students' entrepreneurial capabilities alongside their academic ones, in order to produce a rounded and prepared graduate, capable of taking on a wide range of working patterns.

It'll take them years to get established

It is true that successful and sustainable businesses, employing many, can take a long time to grow. However, size is not the only qualifier for credibility in the market place. Niche businesses can – and do – perform very well for the small number of people engaged in them. During the first years of trading, our sample demonstrated some surprising results:

“My clients include Mars UK, Norwich Union, Crowther Beard, Neoco, and Haymarket Events.”

“I was always going to grow my business idea with or without the university start-up programme, but being accepted onto the programme helped me to do it much quicker.”

“In my first year of trading I've turned over £45,000 and this is only with giving it two days per week alongside the final year of my degree.”

With the right support, motivated students can make considerable achievements during the early days of their new venture. This highly visible success is infectious across campus, but sadly this influence can be lost once students graduate and leave the institution.

portfolio careers

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They must choose between study and business

Concerns are justified that students would struggle to meet the twin challenges of setting up and running a new business and getting the most out of their studies. However, it is common for younger students to maintain part-time work to pay for their studies and living expenses. Mature students are incredibly adept at handling multiple challenges, often maintaining careers and relationships with their friends and families. Our respondents testify to a 'high performance' mindset in the field of student enterprise:

“I still very much want to do my PhD based on how my business uses IT to manage stress in the workplace.”

“My business idea was in direct correlation with my degree.”

“It was the business idea which led to me wanting to do a Masters degree.”

Feedback makes it clear that enterprise opportunities can motivate learners, provided that the environment is appropriate for the qualification to support their enterprise.

Best of all . . .

Closing comments from the case study interviews were telling in the students' assessment of their enterprise experiences.

“Coming to university has shown me that I can change direction in my life and do it properly.”

“I got a 2:1 in my Bachelor's and a Distinction for my Masters. Considering I got two E grades at A level I'm delighted with these achievements.”

“Seeing that people believed in me gave me confidence.”

“I consider myself successful because I completed my degree, turned a profit in my first year and I'm still married!”

Support structures

For entrepreneurial initiatives to succeed and become embedded its cultural fabric, awareness and support need to be developed across the institution. In part, this can be achieved by engaging students using a wide range of means to develop and demonstrate their entrepreneurial practice. The National Centre for Entrepreneurship in Education (www.ncee.org.uk) and Enterprise Educators UK (www.enterprise.ac.uk) both offer a wealth of experience and materials to support student enterprise, which broadly sits under the following headings.

Vocational enterprise

The belief that enterprise sits solely within the domain of your Business/Management School is naïve and self-limiting. Enterprise exists in all disciplines. We are familiar with the traditional models of science and technology entrepreneurship where organisations are established to manufacture and distribute products to a willing and receptive market. We are also aware that traditional careers are rare in the arts disciplines as practitioners move between projects, employers and periods of following other interests. Enterprise is crucial in the health professions to manage complex teams who are responding to challenging situations at short notice. In education, head teachers need to be highly creative entrepreneurs to balance budgets, implement new methods of working and pursue continuous improvement objectives, all whilst satisfying a wide range of stakeholders. These are just a few examples. Take time to think of your own professional field and the entrepreneurial skillset that you use:

- Do you work in an environment where there are elements of uncertainty?
- Do you frequently have a smaller budget than you feel you need in order to achieve your goals?
- Does the changing social and economic environment force you to develop creative solutions?

traditional careers

are rare

- Do you manage a team of people whose attitudes vary from yours and whose behaviour changes?
- Are your 'clients' (commercial customers or students) exactly the same as they were five years ago, or do you expect them to be exactly the same in five years time?
- Are there other people like you, all potentially doing a similar sort of thing without much differentiation?

If you answered 'yes' to most of these questions then you understand the challenges you face and more importantly, the entrepreneurial skillset you will deploy to deal with these challenges. Hence, though enterprise skills are quite generic in nature, for the appropriate learning to take place it must be made context-specific in order to achieve authenticity.

Student enterprise society

An organisation led by university administrators can only achieve so much with the student body. If this was not the case, we would not need a Students Union. Student enterprise societies provide a home for enterprise activity. The National Consortium of University Entrepreneurs (www.nacue.com) is a national organisation that supports and represents university enterprise societies and student entrepreneurs to drive the growth of entrepreneurship across the UK. Societies build a membership base, hold events and assist in the development of institutional policy and practice to support the development of an enterprising culture.

Events

To give a campaign wide-ranging appeal and momentum to achieve its goals, events are key to mobilise supporters. For raising awareness, you may consider festivals or exhibitions with influential speakers. A summer school, or a short series of coaching and mentoring sessions could prove effective in order to develop a higher skills base outside the vocational enterprise route, so that students can learn about enterprise without going through a complex assessment, building their skills and confidence as they go. This will enable students to work on their own interests within a supportive environment which allows them free pursuit of their enterprising ideas.

Competitions

A range of competitions to win recognition for the best business idea or business plan can be effective as a milestone in the academic year. If this is co-ordinated with training or mentoring events, learning can be highly effective and the quality of the proposals much improved from their original raw state. Competitions will set appropriate criteria that reflect the funding process which start-up businesses are likely to experience when approaching agencies – ranging from banks and grant-awarding bodies to business angels and venture capital investors.

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Business incubation facilities

Student enterprise ideas that have matured into fully-fledged business proposals benefit in the early days from operating in an environment which provides access to skills, funding and advice. These facilities may represent open-plan office space with meeting facilities, on campus or for 'heavier' (eg engineering) or 'dirtier' (eg arts and crafts) activities that may require specialist space. Subsidised support in the early days reduces the financial and operational burden on the new company so that it can concentrate on developing products and growing its customer base. As the business matures charges will be increased to encourage the businesses to grow and move on to provide space for new early-stage ventures. Business incubation has been proved to increase the success rate and longevity of new businesses (Hayhow, S. ed., 1996). More information can be obtained from United Kingdom Business Incubation (www.ukbi.co.uk).

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