

LAMBERT REVIEW ON BUSINESS: HIGHER EDUCATION INTERACTIONS LANCASTER UNIVERSITY SUBMISSION

A) The University context

Founded in 1964, the university is the sole parkland style campus located in the NW England.

Lancaster University is, using the current measures of quality, a "premier league" institution: in the top 10 for research and the top 20 for teaching. One in four research active staff work in one of the new 6* departments and 73% are in departments rated 5 or above in the 2001 Research Assessment Exercise. Over 85% of staff were submitted for assessment.

These statistics on quality place the university as the leading institution in the NW, with internationally recognised peaks of excellence in, for example, business and management, sociology, physics, applied statistics, linguistics departments and very large initiatives in social sciences, environmental sciences and information technology and communications.

The University plays a critical role as an important driver for the economy and cultural life of NW England and, in Lancaster City and the sub-region, is a leading employer. With £100M turn over per annum the University generates considerable economic spillovers into the local economy.

The University has about 8370 undergraduates and 1550 postgraduates. Students come from 125 countries to study in Lancaster and, of the total student population, 1780 are overseas in origin, evenly split between undergraduates and post graduates.

The peak body of the University is Council, which at Lancaster has 32 members with lay members occupying about half the seats. Council has responsibility for the strategy and governance of the university, while Senate (the peak academic body) has responsibility for academic affairs. Council meets up to 6 times a year and lay members also sit on key sub-committees such as Audit, Finance and General Purposes, and Estates. The University Senior Management Team has the responsibility of driving interactions with the Business Community.

B) International/National Business Relationships

Like similar research-led universities, there are a very large number of research and training interactions with research councils, and major international and national companies. Lancaster University earns in excess of £13M pa from these research contracts. An incomplete list of major companies investing in activities at Lancaster include, for example, AstraZeneca, Avecia, Aventis, AMI Semiconductors, austriamicrosystems, BNFL, BAE, E2V Technologies, Lucent Technologies, Microsoft, Norsk Hydro, Orange, Panasonic, Philips, Thomson-CSF.

Our business development strategy aims to expand upon these relationships and to build on a long history of cooperative research projects by transforming a small number of relationships into strategic alliances. We will also expand our suite of courses assisting with Continued Professional Development, with a specific emphasis on building leadership skills in business managers.

C) Regional Relationships

The University has an important role in assisting with regional development and, since its foundation, has had a mandate to work for business and the community in Lancashire north of the Ribble and in Westmoreland and Cumberland (now Cumbria). This region has lower than expected levels of skills and learning in its population and has, by national benchmarks, relatively poor levels of productivity. Lancaster University has played an active role in supporting companies throughout the region to gain access to new skills and technology. Some examples are summarised below:

1. BUSINESS AND INDUSTRY LINKS WITH CUMBRIA

1.1 Work with Cumbrian SMEs through ERDF-funded projects

A series of ERDF-funded projects has begun at the University recently, supported by the Business Enterprise Centre. The following are relevant to Cumbria:

- Business Enterprise Development (LUMS Entrepreneurship Unit) - designed to assist small firms entering periods of maturity and decline to diversify and regain momentum for growth.
- Cumbria and Lancashire Knowledge Economy Initiative (LUMS Entrepreneurship Unit, Computing Department) - helps SMEs by providing greater awareness and uptake of high quality ICT and e-learning in management; builds on the New Technology Institute.
- Entrepreneurial Performance (LUMS Entrepreneurship Unit) - designed to assist the development of an enterprise culture among small business employees in the North West.
- Learning Tourism (Geography Department) - makes the expertise of Lancaster University available to tourism and leisure SMEs on priority topics where they need to enhance their competitive advantage, delivered to them in ways they can access.
- Virtual Prototyping (Engineering Department) - helps SMEs by providing them with access to cutting-edge design technologies, thus reducing risks with product development and evaluation at an early stage in the design process. Links have already been established with GPS Mapping Systems in Workington, Yarl Hydraulics in Barrow, and Precision Piping Services in Ulverston.

Many links have been established with SMEs in Cumbria, particularly through the Cumbria Business Link/Small Business Service. The major activity is in the tourism and leisure sector.

1.2 Teaching Company Schemes

- Completed schemes with K Shoes Ltd, Kendal; BNFL and Westlakes; Oxley Developments Ltd, Ulverston; Drew Scientific Ltd, Barrow; Ducker Engineering Ltd, Kendal. The Drew and Ducker schemes were given the highest possible ratings on the basis of their final reports. The Ducker scheme won the 'Best TCS Programme' award for 2001 (out of 246 schemes across Britain).
- Ongoing scheme with Orcina Ltd, Ulverston

- Active discussion for a new scheme with YARL Hydracentre, Barrow
- Initial contact for a new scheme with M-Sport, Whitehaven

1.3 Technology transfer

- Barrow Technology Management Centre: Lancaster is represented on the Steering Group of the Furness Technology Transfer Network.
- MAREL (a division of Furness Enterprise Ltd, 'Maritime Technology Exploitation Ltd but considers projects of all types). We have a memorandum of agreement for working in partnership with Marel on Technology Transfer to SMEs in South and West Cumbria.

1.4 Student placements

- 'Graduates into Lancashire and Cumbria', an NWDA-funded project via LAWTEC.
- The Engineering Department has carried out fourth year student industry-based projects and/or supervised third year projects and summer placements since 1999/2000 in the following companies: K Shoes Ltd, Kendal; James Cropper Ltd, Kendal; Gilbert Gilkes and Gordon Ltd, Kendal; Furmanite Ltd, Kendal; Ashley and Rock Ltd, Ulverston; Oxley Developments Ltd, Ulverston; Ducker Engineering Ltd, Kendal.
- Undergraduates from the Engineering Department are currently spending their third year at BNFL, Sellafield.

1.5 Knowledge transfer between SMEs and HE: the Knowledgelink project

Funded by the NWDA, this is a business-led scheme for SMEs across the North West. It is now in its third year and is designed to develop the interface between HE and SMEs so that there can be more effective two-way knowledge transfer. Partners include the CBI, East Lancashire Chamber of Commerce, the NW Business Leadership Team and the Engineering Employers Federation. Example of the types of activity generated under this project include innovation audits for small companies, and a popular 'Fit for Business' series, at which entrepreneurs and business leaders discuss some of the strategies behind their success, and action learning sets.

2. BUSINESS AND INDUSTRY LINKS WITH EAST LANCASHIRE

The sub-region is defined by the six boroughs of Blackburn with Darwen, Burnley, Hyndburn (main town Accrington), Pendle (main towns Nelson and Colne), Ribble Valley (main town Clitheroe) and Rossendale (main town Rawtenstall).

The population is just over 0.5m, only slightly less than that of Cumbria.

2.1 Work with East Lancashire SMEs through ERDF-funded projects

A series of ERDF-funded projects has begun at the University recently, supported by the Business Enterprise Centre. The following are being delivered into the East Lancs ERDF Objective 2 areas:

- Business Enterprise Development (LUMS Entrepreneurship Unit) - designed to assist small firms entering periods of maturity and decline to diversify and regain momentum for growth.
- Cumbria and Lancashire Knowledge Economy Initiative (Computing Department) - aims to provide a higher level of support than generally available under grant regimes to SMEs. It is an opportunity to access the University's broad range of expertise and could include, for example, SMEs experiencing security problems such as virus or hacker attack. The project could support SMEs wishing to develop a specific software application, or perhaps assist their business into e-commerce. The project can also provide companies with strategic guidance on their ICT investment programmes.
- Entrepreneurial Performance (LUMS Entrepreneurship Unit) - designed to assist the development of an enterprise culture among small business employees in the North West.
- ICT Assisted Management Support Initiative (LUMS Entrepreneurship Unit) - this project seeks to build on the recently announced New Technology Institute in order to provide knowledge transfer support in management via new e-learning technologies. The project will apply a high level of specialist support to encourage the greater awareness and uptake of management e-learning amongst North-West SMEs. The project will form a conduit between the collaborative New Technology Institute, including InfoLab and Lancaster University Management School. It will directly assist regional SMEs by providing support, advice and assistance in developing e-learning solutions in management, thereby transferring knowledge about the design and development of solutions as well as assisting in the longer term to link SMEs into the NTT's distributed broadband network.
- Learning Tourism (Geography Department) - makes the expertise of Lancaster University available to tourism and leisure SMEs on priority topics where they need to enhance their competitive advantage, delivered to them in ways they can access.

The Learning Tourism team are currently working with seven SMEs in East Lancs.

- Virtual Prototyping (Engineering Department) - helps SMEs by providing them with access to cutting-edge design technologies, thus reducing risks with product development and evaluation at an early stage in the design process. Links with the following companies: Ultrafinishing (Burnley), Partwell Cutting (Blackburn), Envair (Rossendale), Protool (Nelson), JKB Shopfitting (Nelson), Turnbull and Scott (Blackburn), Paul Harrison (Burnley).
- North West Business Access (Careers Service) - a regionally based activity including the Manchester universities, UCLAN, St Martin's College and Lancaster University. It provides a vehicle for undergraduate/graduate placements and access to higher education resources.

2.2 Lancaster University Management School Entrepreneurship Unit

- The Unit is actively seeking and developing new, deeper and more fruitful relationships with business and industry in East Lancs; the area is a major target for ongoing outreach. The Unit is currently working with the following companies:

Prometheon	Blackburn
Elucid	Nelson
AC/DC Lighting Ltd	Nelson
Bright Spark Precision Engineering	Nelson
Cherry Tree Machines Ltd	Blackburn
Dale Polymers Ltd	Accrington
DRM Industrial Fabrics Ltd	Bury
EA Foulds	Colne
Fort Vale	Nelson
Lima Engineering	Nelson
Marsden Engineering Ltd	Nelson
Premier Seating Ltd	Blackburn
Printoff Graphic Arts Ltd	Nelson
Regal Precision Engineers	Colne
REM (UK) Ltd	Nelson
Weltonhurst	Blackburn
C. Caswell Engineering Services Ltd.	Haslingden
Jet Rollers	Accrington
East Lancs Motor Auctions	Blackburn
Medeon	Burnley
Envair	Haslingden

- The Unit works closely with Business Link East Lancs.
- Is a member of the East Lancs Learning Partnership Workforce Development Group.
- The Unit works with the East Lancs e-learning Centre which provides training for teachers across the area who are using ICT e.g. interactive whiteboards.
- We are working with the aerospace sector, including the NW Aerospace Alliance, Advanced Aerospace Technology Guild, Engineering Partnership in Lancashire and several engineering companies that primarily serve the aerospace prime companies (especially BAE Systems). This work focuses on the creation of a virtual enterprise vehicle which will enable SMEs to cooperate in order to bid for large contracts from the aerospace prime. Many of the participating companies are based in East Lancs. The virtual enterprise concept can be applied to several other sectors, and the aerospace example will ensure that Lancaster is well placed to become a centre for virtual enterprise development and research.

2.3 Teaching company scheme

A Teaching Company Scheme with elucid, a software company based in Nelson, has recently come to an end. A second scheme with the same company has just been approved, to be jointly operated by the Entrepreneurship Unit and the Management Science Department; it will focus on e-commerce.

2.4 Technology transfer

The following two projects have developed from the University's involvement with the East Lancashire Partnership, which was established in 1997 to aid regeneration of the local communities. Partners include the six local authorities, Lancashire County Council, the FE colleges, ELTEC [now Lancashire LSC], the Chamber of Commerce, the health authorities, the private sector, and community and voluntary groups. In 1998 the ELP was selected as a pilot in the Government's 'New Commitment to Regeneration' (Pathfinder) initiative.

(i) Centre for Environmental Research and Technology Transfer (CERTT)

CERTT Ltd has recently been established as a not-for-profit company, the aim of which is to deliver environmental technologies from the University, UCLAN and the wider NW knowledge base into East Lancs SMEs for exploitation. The University has committed cash and 'in kind' resources (such as IT support) totalling £127.5K over three years, with other funding coming from NWDA, ERDF and UCLAN (totalling approximately £1m for 2-year pilot phase). The project has a high profile in East Lancs and a programme of client contact is developing.

The environmental technologies sector is characterised by business opportunities, from the control of air pollution to the management and disposal of waste, where scientific knowledge will play an ever-increasing role in enabling products and processes to be more efficient and cost-effective. CERTT's core service is to link business with science and technology. This means working with entrepreneurs and existing companies to enable them to draw on the scientific, engineering and design expertise of the NW region (and beyond) to make their businesses grow and become more profitable. It also means working with scientists in the region's Higher Education and Research Institutions to turn their knowledge into successful businesses. CERTT's funding is used to subsidise the costs of bringing together business needs and the knowledge base for the development of more competitive high technology products, processes, and services.

(ii) Elancs.net

Elancs.net is a project designed to aggregate demand and supply for broadband connectivity and develop a substantial broadband network within East Lancs. Work is in progress to establish elancs.net as a company limited by guarantee with members Business Link East Lancs, East Lancs Chamber of Commerce, ELP, East Lancs UFI Hub and Lancaster University. The project is funded by ERDF, NWDA Broadband Initiative, Learn Direct, NOF and Pendle Partnership, and £375,000 has been spent on the main network backbone connection and local connections to Learndirect and UKOnline centres. The University provides technical expertise.

2.5 Knowledge transfer between SMEs and HE: the Knowledgeline project

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D) Drivers for the Future

There are a number of actions which, if approached as part of a national strategy, could assist Business: Higher Education interactions and improve the competitiveness of the UK:

- 1) The drive in the recent White Paper on Higher Education to differentiate between universities as "business linked" or "knowledge transfer centres" should be urgently reviewed and revised. It is built on a long discredited model of innovation which sees technology diffusion as a linear process. It makes no sense to dislocate research-led universities from diffusing technology and finding the most appropriate route to market for their ideas and services.
- 2) Each University should be asked to develop and use a "Business Development and Commercial Practices Manual" based around common principles relating to management of intellectual property, contract management, project management, trade practises etc. The strategic framework for such a manual could be developed by a consultative process involving both business and higher education representatives. The Higher Education Industry Funds programme, with a substantial increased level of investment by Government, should then be made available to Universities meeting an agreed standard.
- 3) As part of an expanded HEIF programme Universities should be asked to develop modern customer relationship management and key account management processes.
- 4) Universities should be encouraged to move away from the current "cost plus" model of pricing to implement value based pricing strategies.
- 5) There should be a review of the various business: higher education committees/roundtables, including an examination of international best practice, in order to rationalise national and regional fora and to build specific sectoral based approaches to transferring knowledge and skills.
- 6) Universities should be encouraged to retain the ownership of background and project IP, and to licence out specific IP to companies, against milestone performance by companies, for research and/or commercialisation purposes. This is a key principle is the US business: higher education relationship and one which is actively reinforced by grant programmes from US public bodies. It underpins the success of US universities in driving new ideas into the marketplace.
- 7) There should be a renewed effort to free up Government funding to enable high risk pre-seed and early stage venture capital activities to be incubated within Universities before the value of ideas/spin offs are diluted or sold down cheaply in the market. Universities should be actively encouraged to hold equity positions in spin off companies. There may be a role for RDAs in assisting with the management and allocation of pre-seed funds.