

<p>Institution: Loughborough University</p>
<p>Unit of Assessment: D36a Communication, Cultural and Media Studies, Library and Information Management</p>
<p>a. Overview</p> <p>The research activities of the Unit have been reconfigured in the current REF period to enable it to focus on key research priorities. Research in the Unit was centred in the Department of Information Science (DIS) with contributions from staff in the Department of Computer Science (DCS). Taking account of the feedback from the 2008 RAE panel, we developed a more focused approach to our research, with the formation of two new research clusters in 2008.</p> <ul style="list-style-type: none"> • Information Management • Information Behaviour and Communication <p>Within and across these clusters there were several research themes e.g. Management of Information and Library Services; Scholarly Communications; Information and Knowledge Management; and E-society.</p> <p>This approach supported fundamental research encompassing theoretical, methodological and applied, high impact, elements. In addition, LISU and the multidisciplinary Knowledge Management Research Group, which has members from many departments across campus, both enhanced the Unit's research environment.</p>
<p>b. Research strategy</p> <p>The Unit's research strategy as stated in the 2008 RAE submission was structured around eight objectives:</p> <p>1. To exploit synergies between disciplines, with other research groups and other institutions, nationally and internationally.</p> <p>Externally, projects such as Sus-IT (EPSRC £1.25m), RESILIENCE (EPSRC £1m), and the EU funded HOST project have involved international collaborations with Grenoble and Newfoundland, as well as Bath, Cambridge, Dundee, Edinburgh, Lincoln, Middlesex, Northumbria, Nottingham, Salford, Sheffield, and Surrey universities in the UK. Research funded by the Institute of Development Studies (Brighton University) has led to collaboration with the Universities of Botswana, Mzuzu in Malawi, and Zambia; staff exchanges and projects have involved collaboration with universities in Australia, Brazil, Canada, New Zealand, Spain and Southern Africa. Research projects and new academic exchanges have resulted from synergies between disciplines within the university including the Wolfson School of Mechanical and Manufacturing Engineering (Embedded Intelligence – EPSRC £2.4m), Sports Science (Informatics); Computer Science (e-voting); Social Science (Crime Science) and Civil and Building Engineering (3D information retrieval).</p> <p>2. To increase research funding by building on recent improvements to the administration and quality control of proposals.</p> <p>All proposals are internally peer reviewed and external experts are employed to review and provide training in bid writing and grant application. This has led to an increase in successful bids, with research income averaging £520k per annum over the REF2014 period, compared to an average of £411k per annum with a greater number of staff in the period covered in RAE2008.</p> <p>3. To increase engagement with industry and other third parties to solve real-world problems</p> <p>We have been successful in obtaining internal and external funding to solve organisational issues; this has underpinned the extensive impact of our research. The research itself has included the management and sharing of highly sensitive information in local government; and developing innovative knowledge based systems for the Amateur Swimming Association e.g. projects such as EKE and iMAPS. Through industry-funded PhDs, we have worked with Leicestershire County Council, Leicestershire Police, the National Police Improvement Agency and borough councils (e.g. Melton) to develop and apply new knowledge and award winning applications relating to information and knowledge management. PhD research has included working with government departments such as The Home Office, and with Third Sector organisations including Practical</p>

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Action.

The Sus-IT project has led to new ICT support and training proposals and computer-based mechanisms to improve the accessibility of ICT to help sustain the on-going digital inclusion of older people. The KT-EQUAL project involved stakeholders, such as Age UK, concerned with supporting older people.

LISU has worked with Museums Libraries and Archives Wales (CyMAL- a division of the Welsh Government) to investigate and develop future public library standards for Wales.

Active engagement with professional associations and organisations (e.g. Chartered Institute for Library and Information Professionals; Society of College National and University Libraries; Research Information Network; Research Information and Digital Literacies Coalition; European Association for Health Information and Libraries) has helped to ensure the relevance of our research and knowledge transfer. Links forged through student placements have enhanced our engagement with industry (e.g. IBM, Microsoft, Xerox, HP, GlaxoSmithKline).

4. To continue our research student recruitment success

We have recruited top quality PhD students from home and abroad, with an average of 9.6 students per annum obtaining doctoral degrees between 2008 and 2013 and with fewer staff (see section C) compared with 7.7 in RAE 2008.

5. To maintain our rate of quality research outputs by continuing to disseminate findings in refereed academic journals & conferences of international standing

Since 2008, staff have published over 300 academic journal articles, international conference papers, chapters, reports and monographs. Senior staff have been keynote speakers at international conferences including the International Federation of Library Associations, Records Management Association of Australia, Information and Records Management Society, Standing Conference of Eastern, Central and Southern Africa Library and Information Associations, Digital Preservation, and on topics including digital inclusion and information literacy.

6. To continue our actively managed study leave programme

Paid study leave is available after three years of service, managed through Performance and Development Reviews (see section C). Three staff have taken study leave since 2008, each having a positive outcome, including publication of a monograph, joint research proposals, and collaborative visits to Australian and New Zealand universities.

7. To plan for succession in research in its core areas in anticipation of the likely retirement of a number of senior colleagues.

Following the 2008 RAE, building research resilience and depth were key areas to be further developed and strengthened to reduce the impact of anticipated staff attrition. This was addressed by the formation of two research clusters (see above (a) Overview), replacing four research groups, and focussing on career development of existing staff (see section C). During that process, information organisation and retrieval was identified as one specific emerging interdisciplinary area which we would seek to grow. We have achieved considerable success in this, demonstrated by three large-scale interdisciplinary and multi-collaborator EPSRC projects AI2M, RESILLIANCE, and ReDites.

8. To plan for the impact that technological change is having/will have on research

Advances in information technology continue to drive information management and the ways in which people expect to access information. This has implications for research, for example:

- The increased interest in Open Access has led to funded research, including the PEER (Publication and the Ecology of European Research) project;
- The on-going concern with e-government, public information services and digital inclusion has generated new research, such as the AHRC funded project (MAIPLE £200k) concerning access to the internet via public libraries;
- Social media is already providing a new and exciting environment for combining information behaviour, information retrieval and ontological research through the investigation of the

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emotional categorisation of Tweets (the EMOTIVE project), which currently has the best reported fine-grained emotion detection f-measure results;

- The Sus-IT project has highlighted the implications of ageing and peoples IT capabilities resulting in the government reviewing its future strategy.

Future Research Strategy

Future strategy at Loughborough University for the disciplines in this UoA must be understood in the context of recent institutional developments.

- The Centre for Information Management (CIM) has been created to lead cross-university research into three main areas: Organisation & information Retrieval (systems); Knowledge Creation (including people's information behaviour, and knowledge management) (people); and Management of Information Systems and Services (including monitoring and evaluating the impact of information management, benefits realisation, and system development methodologies) (organisations).
- The Knowledge Management Research Group, which spans the University, remains unchanged. These key research areas encompass the challenges posed by industry, government and society.
- The LISU team of research staff will continue to support research activity across all these areas, from its new base within CIM.
- The staff involved in research in publishing and communication are now working with colleagues in the Department of English and Drama, and continue to work with colleagues in CIM.

The Unit's objective for the next five years is to build on upon existing areas of research strength and to continue to undertake research of international excellence that has an impact on society. It will also utilise expertise within the new Institute for Consultancy and Research Application (ICRA), which builds on the strengths of LISU. It has specific skills in linking the academic research base with organisations. Research in the Unit will focus on "Transforming the digital world", in particular, to evidence the significance and value of information; challenge thinking and practice around information management; and improve performance through analysis, interpretation and judgement of information. The strategy is focused on 7 key areas; examples of activities are provided:

1. Staff Development and Early Career Researchers

- encourage career progression; all staff will undertake annual Performance and Development Reviews (PDR) and will submit annual (with half yearly review) Personal Research Plans (PRP) which are discussed with the Dean and Associate Dean Research, and Centre Director, to provide feedback to aid personal development;
- encourage personal development ; for example, paid study leave for research activity will be possible after three years of service.

2. Research environment

- develop the intellectual research culture environment shared by staff and research students;
- encourage more group working and group sabbaticals;
- develop a strong research associate and fellowship team (from awarded grants) to aid in writing papers and future grant proposals, etc., to maintain a vibrant research environment.

3. PhD students

- continue to develop the PhD research experience through involvement with the research themes through theme organised events such as 'brown bag' lunches, and an annual PhD conference;
- continue to develop PhD students skills in paper writing and start developing their grant proposal writing capabilities.

4. Research Impact

- continue to develop an impact culture to ensure research impact is measured and captured for future REF assessments, by monitoring and evaluation of research impact for REF 2020 which will encompass both qualitative and quantitative measures;

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- collect impact data via annual reviews of staff;
- utilise ICRA to monitor and measure impact from contact with organisations, surveys of Unit contacts and publically accessible data (e.g. websites).

5. Funding

- in addition to applying for Research Council funding, seek further funding sources by developing School-based industry engagement teams to manage and co-ordinate project/network based communication between academics and industrial collaborators;
- provide an effective engagement approach for industry/business partners through events such as 'Playground' or 'Sandpit-Lite' workshops, and breakfast briefings;
- identify research projects which can be funded by the Alumni (3 to 6 months in length). This will be aided by utilising the services of Loughborough University's Development and Alumni Relations Office.

6. Enterprise

- actively seek opportunities to undertake Knowledge Transfer Partnerships with businesses through the Alumni and Enterprise office.

7. Marketing

- develop a Distinguished Speaker programme and events to continue to raise the research profile of the Unit.

To ensure the Unit delivers on 'research that matters' as indicated in Loughborough University's plan, it is important for the Unit to build upon its track record of working closely with organisations to ensure that the benefits of the research undertaken can be realised. The research strategy will therefore build links between blue skies research conducted by the Unit and its exploitation in organisations and society, from the outset.

c. People, including:**i. Staffing strategy and staff development**

Since 2008, the Unit's staffing strategy has focused on developing existing staff, including internal promotion (via robust university procedures). In 2009/10 the University undertook a comprehensive analysis of its alignment with the Concordat to support the Career Development of Researchers, publishing an implementation plan in 2010, for which it received the European Commission's HR Excellence in Research Award. The Unit has a long standing record of excellence in promoting equal opportunities including an equitable gender balance, which is in accordance with the University's commitment to Athena SWAN (Bronze award holder).

Recruitment, ECRs, Personal Development (Career Progression)

To encourage career progression, Performance and Development Reviews (PDR) have been put into place for all staff. All Unit staff submit annual (with half yearly review) Personal Research Plans (PRP) which are discussed with the Head of Department and senior colleagues to provide feedback to aid personal development. Individual targets are set for research activity, advice provided and support required is identified and put in place. All PRPs are then approved by the University's Research Performance Monitoring Committee. The University-endorsed Department Work Load Model ensures that staff have time to achieve their agreed research targets. The research element in the model is derived from a combination of the PRP and the outcomes of the University-wide PDR for which there are specific requirements for academic and research staff. This Performance and Development strategy provides the structure for academic career progression, with detailed and clear procedures for promotion provided on the intranet. Since 2008, three academic staff have been promoted from Lecturer to Senior Lecturer (Cooke, Fry, Ragsdell), Hepworth was promoted from Senior Lecturer to Reader and Dawson and Jackson have been promoted to a personal Chair. Further, the Unit periodically reviews the strategic positioning of its research interests, in order to make the case for external appointments which strengthen particular areas of research – for example Ramdarshan-Bold (ECR) was appointed in 2011 to contribute to research in publishing. Loughborough University is committed to achieving equality for all, with mandatory recruitment and selection training which embeds its Equality and Diversity policy.

The Unit actively promotes the rapid integration of newly appointed staff into its research culture and the wider University, by taking advantage of centrally provided support and training. All early career academic staff attend workshops introducing the University's research culture and the

support available from the Research Office, Staff Development and other support services.

Mentoring is encouraged for research staff, and experienced researchers are encouraged to participate as mentors. The staff development strategy specifically includes Leadership and Management, and programmes accredited by the Institute of Leadership and Management are available to all, including PIs and research staff. Research staff also attend courses run by the Graduate School, Careers and Employability Centre, and Staff Development, which are promoted through the University webpages, a research staff e-bulletin and a blog. Personal development is strongly encouraged by applying for paid study leave for research activity after three years of service, as noted above.

The strategy actively promotes exchanges with academia, business, industry, public and third sector bodies, to enhance research and personal development, with financial support. Exchanges are aided by our existing national and international collaborations, and new contacts have been made by proactively seeking out researchers with complementary interests, both within the LIS domain and in other disciplines where the application of information management skills bring an added dimension. We target visiting researchers with international reputations in areas we wish to develop and the Unit staff have visited many institutions in a number of countries, for example Australia, Botswana, Brazil, China, France, Botswana, Germany, Malawi, New Zealand, Singapore, Spain, and Zambia, to cement research relationships, and our international pool of graduates is used to provide further opportunities for international collaboration.

ii. Research students

Post-Doctoral Contribution

Since 2008, the Unit has benefited from the work of 14 research associates, working across the Unit on a variety of funded projects. Eight have been post-doctoral researchers, with 6 obtaining their PhD at Loughborough University. Four others received their first and/or master's degree from Loughborough University. Three LISU researchers are currently employed on open-ended contracts, enabling the Unit to benefit from expertise supporting preparation of research proposals and academic outputs across the Unit. Research associates have aided the development and submission of a number of successful research proposals (e.g. MAIPLE, funded by AHRC; ReDites, funded by EPSRC). Research associates are encouraged to take advantage of the personal development opportunities offered to all ECRs to enable them to become independent researchers.

Integration of Research Students into the Research Culture

Over the last five years the administration of the PhD application process has been streamlined, with electronic applications and a consistent, systematic review process by at least two academics, including Skype interviews for overseas applicants. Greater involvement of staff in the process has led to a higher transfer rate from MPhil to PhD; ensured the quality of students, including their standard of English; and brought greater commitment of staff to their supervisees. Each PhD researcher is supervised by two academic staff members, which is beneficial to students in terms of capitalising on available expertise and ensuring continuity when a supervisor is unavailable. Monthly meetings are held and minuted, with records stored centrally for monitoring purposes and transparency. A review chaired by an independent academic is held at the end of each year, monitoring and ensuring the progression of the student, in terms of future plans and training.

The Unit has a strong cohort of 42 doctoral students who have their own dedicated working environment, equipped with computers, printers, a meeting room and break out space for less formal interaction, as well as a kitchen. Technical support is provided by the School technical support team. The PhD programme is managed by the Director of Research Degree Programmes, supported by administrative staff (see 4, above). An open door culture encourages informal discussion. Events are organised on a regular basis including themed 'brown bag lunches' where PhD students come together informally, fostering a collaborative culture. Each year the Unit hosts a research day where students present their work to each other and to academic staff, not only fostering collaboration and a shared culture but also providing the opportunity for input from staff other than supervisors. In addition there is also a University Graduate School event at which the

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Unit PhD students present research posters. The Unit PhD students obtained funding from the AHRC (2009, 2010, 2011) to run workshops for PhD students in Library and Information Science, which proved to be very popular and fostered communication between students involved in the discipline throughout the UK.

PGRs within the Unit are actively encouraged to take advantage of the opportunities offered centrally, and by the end of their studies they have accumulated a minimum of 30 days of training. PGR training and development is provided centrally by the Graduate School, which works closely with other internal support services such as the Careers and Employability Centre and the Library. The Graduate School offers a comprehensive training programme that is mapped to the Researcher Development Framework, comprising face-to-face workshops, an annual research conference including poster competition (also open to academic and research staff) and the 'Café Academique' - a forum where PhD students can debate the latest ideas from all areas of research. The Careers and Employability Centre has a dedicated Careers Advisor for Researchers, to support research staff and research students.

d. Income, infrastructure and facilities

The Unit has been successful in generating research income from a variety of sources over the last five years. Of particular note is the increase in income from UK industrial sources, including, for example, £120,000 over two years from the International Association of Scientific, Technical & Medical Publishers awarded following a competitive bidding process under the EU funded PEER project into open access publishing models for scholarly research. Major projects funded by the UK Research Councils include Sus-IT (£1.25m, ESRC), MAIPLE (£200,000, AHRC), AI2M (£2.4m, EPSRC) and RESILIENCE (£1m, EPSRC). UK charities which have funded research within the discipline at Loughborough University include the British Academy and Royal National Institute of Blind People. Other funding has come from diverse sources, including the JISC, Research Information Network, DfID (Department for International Development), and the Information Commissioners Office. Total income spend during the period is £2.6m which is a 26% increase since RAE2008.

The University has a significant infrastructure supporting research, of which the Unit takes advantage. The Research Office provides professional research support offering a complete service for the costing and pricing of research grants and contracts, facilitating interdisciplinary bids (e.g. the successful EPSRC £2.4m bid for the AI2M project). It also actively targets funding opportunities, supports drafting of applications, negotiates legal agreements and provides financial support on an on-going basis, thus freeing academic time to conduct research. Within the discipline, quality assurance of proposals is maintained by an internal and external peer review process, undertaken by experienced academic staff, prior to submission of all major bids.

Within the Unit, LISU is a specialist research unit which employs information management researchers, statisticians and administrative staff. It works across the discipline, providing support for a variety of research projects, as well as undertaking research and consultancy on its own account. The discipline also employs administrative staff with responsibilities to support research, most notably in research student administration, and helped to develop the School of Science Usability Lab, which has facilitated recent joint research with Computer Science investigating correlation between emotion through pupil dilation, heart rate, and electrical brain waves (Electroencephalography).

In 2012, capital investment in new building (£2.8 million) physically brought the majority of the Unit together (all DIS staff, including LISU, PDR and PGR into the same area), thus improving communication and fostering new research collaborations. As discussed in the Future Research Strategy (section B), from the 1st August 2013 staff from DIS will be relocated into three Schools with the formation of the Centre for Information Management, which has led to a further £270k investment to create a vibrant collaborative research environment for staff and research students. The creation of a dedicated research Centre for Information Management will focus attention on this aspect of the discipline, and draw in staff from information systems. The role of the Director of the new centre, Professor Tom Jackson, is focussed on research activity, with teaching the responsibility of the Head of Discipline, Professor Graham Matthews.

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The balance between scholarly, organisational and operational infrastructures is therefore underwritten at both discipline and university level by a Research Strategy which prioritises the quality and relevance of research undertaken, and ensures support for the various infrastructures needed to maintain a high quality of research activity, relevant to the needs of today's and tomorrow's society.

e. Collaboration or contribution to the discipline or research base

Collaborative and interdisciplinary research is undertaken with other departments and schools within the University, with other universities, both in the UK and overseas, and with information science practitioners and users in industry, commerce and the third sector. Since 2008, academic staff have participated in 18 UK-wide partnerships, involving 38 different partners from 25 universities, 3 commercial firms and 3 public sector bodies (e.g. in Leicestershire County Council and Leicestershire Police). Internationally, staff have been partners in 17 collaborations involving 24 academic and 4 non-academic institutions in 13 different countries across Europe, N and S America, Australasia and Africa. Examples of collaborations leading to successful research outcomes include:

- Creaser & Morris worked in collaboration with the Department of Economics at Loughborough University and Prof. J. Houghton (Victoria University, Melbourne, Australia) on the JISC-funded 'Economic implications of alternative scholarly publishing models' project.
- Cooke in collaboration with Prof H Hall (Edinburgh Napier University) published a paper on the use of social network analysis to investigate the development of research networks among the worldwide library community.
- Harrison in collaboration with Dr M de la Mano (University of Salamanca, Spain) published a journal article on quality evaluation of health libraries in England, and they have been awarded a 25th Anniversary Research Grant from the European Association for Health Information and Libraries to develop the work in a European context in collaboration with the Library association of Ireland (SHELLI project).
- Damodaran led a consortium of 8 UK and one Canadian universities in the 'Sus-IT: Sustaining IT use by older people to promote autonomy and independence" project, funded by the ESRC through the New Dynamics of Aging programme, which has led to 12 journal articles and over 25 conference presentations, to date.
- Hepworth, in collaboration with the Institute of Development Studies, Brighton University, coordinated development of a framework to design, monitor and evaluate information capability interventions with participation from people in education and the third sector from seven African countries. Further collaboration led to research involving the Universities of Botswana, Zambia and Mzuzu in Malawi and the publication of a report on factors influencing the development of independent learners and building research capability, which was downloaded 700 times in the three months following publication and led to a BBC World Service broadcast.

Academic staff in the Unit also make a major contribution to the discipline and wider profession, through membership of a variety of editorial boards and external committees. During the period, staff have contributed to the academic discipline with participation on the editorial boards of 20 different academic journals, and the organising committees of 25 national and international conferences/conference series. Over 100 international conference papers have been presented, including 40 invited and keynote presentations (e.g. Damodaran, Mountbatten Memorial Lecture).

External professional activities include participation in government and industry advisory committees, including for the British Standards Institution and International Standards Organisation (Creaser), Department for Work & Pensions (Damodaran), Department for Culture Media & Sport (Feather, Matthews), the Arts Council (Feather), Operational Research Society (Ragsdell), Voluntary Sector Studies Network (Ragsdell) and the Budget and Performance Review Committee of the London Assembly (Jackson, Cooke). Staff are also involved in various committees for professional associations, e.g. Chartered Institute of Library & Information Professionals (CILIP) (Cooke), the International Federation of Library Associations (Matthews), IFLA Freedom of Access to information and Freedom of Expression (FAIFE) (Cooke), the CILIP & British Library joint Committee on Resource Description and Access (O'Brien), and the European Association of Health Information & Libraries (Harrison).