

## Environment template (REF5)

<b>Institution:</b> University of Liverpool
<b>Unit of Assessment:</b> 19 - Business and Management Studies
<b>a. Overview</b> <p>Formed in 2002 with a £12M investment, the University of Liverpool Management School (ULMS) is one of four Schools in the Faculty of Humanities and Social Sciences. The UoA is a single School, organised into three subject groups: Economics, Finance and Accounting; Marketing and Operations; and Management and Organisation. Subject groups reflect key functions of business and management as well as cognate disciplines such as economics, political science and business history. These subject groups are complemented by nine research clusters or 'knowledge platforms' (KPs) each with a specific foci or methodological interest. Reflecting the main cross-disciplinary research themes within the School, the KPs are:</p> <p>Consumption and experiential marketing; Development research; Entrepreneurship and small business management; Governance and accountability; History, society and institutions, Operations and supply chain excellence, International business and management, as well as methodology focused platforms in Econometrics and Ethnography.</p> <p>KPs are augmented by the following research centres: the Agility Centre; the Centre for Enterprise and Entrepreneurial Leadership and Liverpool Health Economics, as well as the University's Heseltine Institute for Public Policy and Institute for Risk and Uncertainty.</p>
<b>b. Research strategy</b> <p>Research is at the heart of the School's mission, 'Learning to make a difference' and we are committed to driving-up the quality, visibility and impact of the School's research. 10 years of strategic development has seen the School develop a research expertise, organisation and portfolio with potential for substantial further growth over the next decade. The next phase of School research strategy rests on the twin tenets of disciplinary excellence and cross-cutting thematic research around manufacturing and service organisations, regional and global enterprise, cultural industries, and economic, political and societal development.</p> <p>The School Research Committee leads the development and implementation of research strategy. Chaired by <b>McNulty</b> and including Directors of Post Graduate Research (<b>Holt</b>), Ethics (Drummond), Knowledge Exchange (<b>Baron</b>), Heads of Subject Group (<b>Cook, Jones and Drake</b>), the Research Committee has provided research leadership and direction for the School since 2006. Accordingly, the School is following a coherent research strategy laced with a mix of continuity and change in order to generate and disseminate knowledge applicable to the significant issues of societal, economic, organisational and management development facing business leaders, policy makers, public servants, and practitioners. Building on the momentum, achievements, and learning from the formative period leading to RAE2008, we are following a strategy whereby:</p> <ul style="list-style-type: none"><li>• We are focusing our research strategy on harnessing disciplinary excellence with important thematic cross-disciplinary research clusters (labelled <i>knowledge platforms</i> below).</li><li>• We are investing in the recruitment and development of both established and high potential researchers to position the School at the apex of disciplinary work and to foster the intellectual agility to support a multi-disciplinary approach to topics we consider to be core to the research agenda of an aspirational 21<sup>st</sup> century School of Business and Management (see the range of thematic research sub-headings in section b below)</li><li>• We are further developing enabling conditions, policies and processes to provide the time, space and other resources to attract and develop researchers at all stages of career (see section c).</li></ul> <p>The Research Committee oversees School research process and maintains oversight of the prospects and progress of KPs and Centres with reference to a number of strategic indicators of research excellence such as: intellectual leadership; critical mass of researchers; on-going</p>

## Environment template (REF5)

research projects; progress in publishing; and impact. This strategic framework, which attends to research themes, people and processes, is enabling the School to publish research about important matters of enterprise, governance, supply chains, consumer behaviour, economic behaviour and growth and societal development. Our research strategy is implemented by strong research leaders at all levels of the School, as evidenced by a doubling of the number of professors returned to the REF compared with RAE2008. We are investing heavily in Early Career Researchers, with many being returned to the REF and the number of doctoral degrees awarded has doubled in this REF period. The School is involved in nearly £5.2 of grants awarded during the REF period including some significant on-going projects that involve leading university, industrial and other external collaborators including major UK and research councils, Government departments, professional Institutes and private, commercial enterprises (see section e). The School's research is 'making a difference' to academic, practitioner and policy communities through its impact on, for example, small businesses, manufacturing operations, international development, health economics, political reform, and regulation.

The twin pillars of the School's research strategy and culture are disciplinary subject groups and knowledge platforms, augmented by research centres and institutes. The School Research Committee has utilised disciplinary strengths that comprise the Schools' three Subject Groups to promote cross-discipline research through the 'knowledge platforms', the other major pillar of School research strategy. Knowledge platforms (KPs) promote an open, collaborative and explorative research environment that values research as a knowledge production process to benefit multiple constituents. Initiated in 2008/9, KPs provide the School with fluid, dynamic, self-organising, cross-disciplinary research clusters made up of individuals who share interests in a topic of scholarly relevance and practical importance. KPs are formulated through an initial proposal to the School Research Committee, and overseen through an annual review of each platform's research momentum and performance. Otherwise they operate without rules related to size, leadership style, structure, or hierarchy of relations. Through subject groups and KPs the School is building disciplinary excellence, whilst at the same time stimulating cross-disciplinary collaboration. Strategically, the School favours the combination of strong disciplinary subject groups and KPs as the primordial conditions for research to flourish. This strategic combination of subject group and KPs is augmented by research centres such as the Agility centre, the Centre for Enterprise and Entrepreneurial Leadership and School involvement in the Heseltine Institute for Public Policy and the Institute for Risk and Uncertainty.

The following research themes exemplify the strategic direction of the School's research portfolio, pointing to research achievements thus far, as well as the direction of the School in the future.

### *Entrepreneurship and Small Business Management*

Research about entrepreneurship and small business management exemplifies the benefits of cross-disciplinary collaboration arising from sustained and focused investment around a core theme. The recruitment of **Jones** and **Jayawarna** were strategic appointments to build leadership and critical mass in this area of research. This KP and the related Centre for Enterprise and Entrepreneurial Leadership (CEEL) is developing a distinctive stream of research about enterprise and entrepreneurship that draws on behavioral (**Jones**, **Antonacopulou**), sociological (**Jayawarna**), philosophical (**Holt**, **Zundel**) and historical perspectives (**Popp**) to enhance understanding and practice of small and medium sized firm development and growth. Future research direction will involve researching an entrepreneurial ecosystem, which is a configuration of individuals, organisations and institutions that combine to promote a dynamic entrepreneurial culture based on new business start-ups and fast-growing small firms. Members of the KP will have a unique research opportunity over the next three years to examine and develop an entrepreneurial ecosystem in the Liverpool City Region through a £700K ERDF funded award. Additional expertise, such as **Ellwood**, who has research interests related to university technology transfer and innovation in SMEs, will also help to continue to make a major contribution to the study and practice of Entrepreneurship and Small Business Management.

### *Leadership, Management and Corporate Governance*

Our strategic intention is to develop research at the highest echelons of firms and major corporations through attention to leadership, management and corporate governance. The first

phase of this strategy has been to gather talented researchers in each topic area. **McNulty** undertakes field-leading empirical research about board process and behaviour. **Lindebaum** is at the forefront of research that relates emotional intelligence and transformational leadership. **Richter** brings research capability with regard to international top management and firm performance through research about executive dismissal, succession, and ownership. **Johns** and **Cook** traverse disciplines of Economics and Geography, to address concerns of international management and business, the former offering a unique perspective on labour market restructuring and the internationalisation of service sector MNEs, the latter developing an interdisciplinary approach to industrial clusters. With this foundation of talent, the future research foci are: global professional service firm strategy and implications for governance and management; relations between financial stakeholders, regulators and boards emanating from **McNulty's** ACCA funded work on Boards' approaches to financial risk; Boards and Executive Teams in cross-cultural settings. These developments will be supported by collaborations across the KPs of Governance and Accountability and International Business and Management, as well as the Institute of Risk and Uncertainty.

#### *Supply Chain Management, Lean Production and Agility*

This research pre-dates the formation of the School, having emerged out of Engineering. Over the last five years, agility and supply chain management has been developed as a core research area. This research is benefitting from the renewal of intellectual leadership through the recent appointment of Professors **Lyons** and **Song** to Chairs, following the retirement of Kehoe. Building on some of the most highly-cited agility papers in the world by Sharifi, Zhang and **Ismail**, the School has developed a significant research programme in supply chain management. Future strategy for the KP will take advantage of the intellectual capital and the expertise that has been nurtured across the full supply chain continuum of product innovation, purchasing, operations and logistics domains, for example: **Song's** mathematical modelling; **Hernandez** simulations of decision-support systems; **Drake's** quantitative methods for supply network optimisation; **Michaelides** work on online networks and Web 2.0 tools in developing collaborative and innovative capacity in networks of SMEs; and **Tickle's** identification of factors affecting the successful development of B2B virtual communities. These organisational, quantitative and technological contributions to supply chain management and design will support and drive new developments in value, responsiveness and sustainability while retaining a perspective that is holistic and cognisant of the life-cycle of product-service configurations. The strategy is to be supported by key academic partners at the Universities of Aachen, Grenoble, Nantes and Valencia in order to build on the completed *Remplanet* FP7 project and make productive contributions to projects supporting a *Resource-Efficient Europe* and *An Industrial Policy for the Globalisation Era*, two of the seven of the EU's Horizon 2020 flagship initiatives. The group is also well-positioned to support the EPSRC's *Manufacturing the Future* investigator-led initiative and build on previous EPSRC-funded research in maritime logistics, and to continue the work that has started via the *Collaborate to Innovate* and *Agile Growth Strategies* projects to support the North West ERDF programme for 2014-2020.

#### *Consumption and Experiential Marketing:*

The School's research on consumption and experiential marketing represents an innovative seam of research in the field of services marketing and consumer research, developed from scratch. **Baron**, a leading figure in the field of services marketing, has played a key role in this process. His intellectual leadership has underpinned the strategy in this area to develop a research paradigm and agenda at Liverpool focused on service-dominant logic, service science and innovative marketing methodologies. Colleagues are all working to that agenda in different ways, for example, **Patterson**, who has progressed from Lecturer to Professor at Liverpool, specializes in literary approaches to marketing and consumer research, championing the use of novel methodologies, such as introspective and qualitative diary research. **Quinn** is increasingly focusing on creative approaches to marketing research, in the main through storytelling and discourse analysis. **Oakes** has developed an expertise in the field of music and marketing and is now addressing other aspects of Arts Marketing. Two recent additions have not only strengthened the group but have broadened the perspective. **Yan Li's** research has focused on customer-brand relationships and brings an economic perspective to the research, while **Parsons** theorizes alternative forms of

market exchange by drawing on sociology and cultural studies. **Parson's** appointment, along with promising early career researchers such as Ashman, adds capability to a future direction whereby the KP will continue to make a significant contribution to new forms of consumer-provider interactions in studies of consumption and experiential marketing. Research efforts will be boosted thanks to research funding that has been secured. Sudbury Riley is part of an interdisciplinary group of researchers who have received £35K from the N8 Research Partnership, while **Parsons** as principal investigator, with colleagues from several other institutions, has won ESRC funding for a seminar series that will consider the topic of marginalised consumption.

#### *Growing Economics and Finance Research*

Since RAE2008, growing strength in research rooted in disciplines of Economics and Finance has been a strategic objective. The events of the financial crisis further fuelled our ambition to build expertise around behavior and processes of financial markets and the economy. To develop strength in time series analysis (**McCabe**) we have added **Tremayne** and promoted **Bu** and **Rao** to create the largest group of co-workers in the UK predominantly concerned with the statistical analysis of non-Gaussian and count time series. The School is also investing heavily in recruiting established leading international researchers coupled with Early Career Researchers of the highest promise and potential to make a contribution in four key areas: (i) *Incentives and Behavior*: **Gu, Routledge, Moon, Pelosse, Demougin** and **Deffains**, who all have expertise in game theory and mechanism design, applied to key business, management and policy issues (ii) *Economic Growth, Business Cycles and Economic Policy*. **Henry, Milas, Chu, Mitra** and **Piccillo**, all recent appointments, who examine the macroeconomy, albeit taking distinct and complementary perspectives on the issues; (iii) *Trading and Financial Markets*: **McKenzie, Kallinterakis** and **Wenzelburger** take a behavioral approach to the working and efficiency of financial markets (iv) *risk and volatility*: **Laws, Florackis** and **Wenzelburger** address the central issues of risk and volatility, which are interesting empirical phenomena in financial markets and have clear implications for risk and governance of markets by regulators. The initial phase of the strategic expansion of Economics and Finance is now complete due to strong recruitment and outputs and the strategic priorities for the next five years are to deepen disciplinary expertise and leverage this expertise in cross-disciplinary research within the School and more widely the University.

Researchers in economics and finance will be critical in the development of new KPs and centres. **Deffains** brings world class research in both Economics and Law, and is initiating a joint research centre into the analysis of legal institutions that will span the Management School and the University Law School. **Demougin, Deffains, McKenzie, Gu, Routledge, Pelosse, Moon** and **Kallinterakis** are actively planning to form a knowledge platform in Motivation and Behaviour, drawing in other interested colleagues from other disciplines within the School, and beyond, for example Psychology. We are also at an early stage of forming a knowledge platform in 'Innovation and Innovation Management' which would combine high quality new hires in Economics and Finance such as **Chu, Shevtsova** and **Li (Yan)** with other colleagues who study innovation from a supply chain perspective (**Song, Lyons**) or enterprise perspective (**Ellwood, Jones**).

Other developments include the Heseltine Institute for Public Policy, established in 2013 with leadership input from Harding and McAllister, two senior members of the Management School, in cognate fields of urban development and politics respectively. The principal focus areas of the Institute's early work, especially Governance and Democracy (which McAllister leads), will augment the activities of the governance knowledge platform by offering another dimension to the study of governance and government using cross sectoral comparisons. McAllister will lead the School's contribution as the only English partner in a six University consortium that has won the contract for a unique Welsh Government Public Policy Institute. Headlam has been appointed Postdoctoral Research Associate working on a transnational project funded by the Netherlands Research Council exploring sustainable development in peripheral urban areas.

The University's Institute of Risk and Uncertainty is an important vehicle for researchers within the School who work on matters of financial markets, trading, and corporate governance. **Wenzelburger** sits on the Steering Committee of the Institute, Moon and **Piccillo** are both joint appointments with the Institute. Over the next five years we plan to explore whether use of models

and methodologies from other disciplines can advance our knowledge about financial risk. **McNulty #2**, with **Florackis** and Ormrod, signals the potential for empirical study that models the relationship between governance processes at board level with firm financial risk. Also our expertise in econometrics, especially in the area of count time series, is especially relevant to risk studies concentrating as it does on the occurrence of rare events. Assessing the probability of rare and unusual events, such as floods, financial bubbles, epidemics and other natural catastrophes is an essential part of risk management.

### c. People:

With a clear sense of strategic direction and research foci, we are building research excellence through growing research capacity and capability. We are investing in all of our researchers to serve the fullest evolution and growth of the School in the future. This means:

- Recruiting talented staff to develop a significant critical mass of researchers who produce, or have the potential to produce, world leading and internationally excellent research and foster a research culture to support disciplinary excellence and cross-cutting thematic research;
- Creating a managed research environment through school-wide policies and processes which enable all researchers to have the time, space and other resources to maximise the opportunity to develop themselves and their excellent research.
- Ensuring that the imperative to identify peaks of research excellence in our School is not at the expense of long-term investment in people, especially with regard to promising ECRs who will need time for their research to mature.

The School now employs more than 80 researchers. Along with significant recruitment, there has been low turnover of staff in this period. Excepting three retirements, only six staff returned at RAE2008 have left the School, mostly to senior academic positions elsewhere in the UK and abroad. Turnover has not adversely impacted the research environment or performance of the School. The School supports the principles of the Research Concordat for employers of researchers in the UK. Growth covers researchers at all stages of career development, giving the school a balanced demographic. Our strategy for recruitment and development has the following points of emphasis. First, investment in a broad base of intellectual leadership through the appointment of influential researchers to chair level. Particular emphasis has been placed on developing strength and expertise in the disciplines of economics and finance, areas we felt needed special attention in this most recent phase of development. Second, our success in taking people from early career positions to chairs and other senior positions in the last five years has encouraged further major investment in early career researchers and fellows to serve the medium and longer-term development of the School. Increased international diversity of staff serves aspirations to be a globally recognized School, and lends vibrancy and reach to the School's research portfolio and agenda. For instance, **Garikipati's** research addresses micro-finance as a major poverty intervention in India. **Li (Dong)'s** research about food supply chains is international in its scope. In finance and economics, **McKenzie's** work provides a worldwide perspective on stock short selling regulations and the US Treasury Market, and **Poletti-Hughes** addresses protection for investors in Western Europe. The School also has its own University approved Ethics Committee through which all research proposals have to pass prior to submission of bids or conduct of fieldwork.

#### i. Staffing strategy and staff development

Since RAE2008, great progress has been made in creating and filling appointments at Chair level. The opportunity to shape the development of a School with a growing reputation, the support of the University, and the regeneration of the Liverpool city region have been key factors in attracting leading researchers to the School. The School has 20 professors returned in this REF period compared with nine returned at RAE2008. **Demougin**, **Deffains**, **McKenzie**, **Henry**, **Wenzelburger**, and **Richter** are all senior appointments from chairs in other countries. International recruitment is enriching the research capacity and environment at Liverpool. **Song**, **Parsons** and **Chu** are emerging research leaders from elsewhere in the UK. Complementing

## Environment template (REF5)

external recruitment, we have recognised and promoted talent already in the School. **Holt, Lyons, Patterson, Cook** and **Popp** have all been promoted to Chairs in this REF period and are now playing key roles of institutional and research leadership within the School. Other significant internal promotions include **Lindebaum, Florackis** and **Bu**: the latter two were ECR's at RAE2008 and now occupy Reader positions because their research is flourishing. **Oakes** and **Garikipati**, also returned at RAE2008, have been promoted to senior lectureships, while **Johns**, an economic geographer, shows the School is open to recruiting to senior positions from other disciplines, where the research quality fits with the overall research strategy and portfolio. Investment in early career researchers covers **Gu, Kallinterakis, Mitra, Pelosse, Piccillo, Routledge** (all Economics), **Kallinterakis** (Finance) and **Tickle** (Operations Management). Other ECRs such as Goyal, Liu-Evans and Moon (Economics), Mohamed (Accounting), Raddats and Ashman (Marketing) have the potential to produce research of world-class and international excellence in the next five years and become senior research leaders in their areas. Giordano (Entrepreneurship) and Pyper (Governance) are two early career appointments to prestigious fellowships awarded by ESRC and Society for Advanced Studies in Management (SAMS). These business and management development fellowships represent a £250k investment in research capacity building and further study of enterprise and corporate governance.

Complementing our recruitment and promotion practices, the School supports the progress of all researchers with conditions, policies and processes designed to maximise research time and opportunity. Subject groups are the main units for managing individual research performance while the School Research Committee oversees development of the research strategy and culture for the School at the level of KPs, Centres and School. The array of research support processes include an annual Personal Development and Review (PDR) which identifies individual research plans and strategies for publishing, generating research income, and achieving impact outside academe. In keeping with an employment strategy which treats ECRs as a medium to long-term investment in people who will need time for their research to mature, we provide: additional workload allowance to enable those newly appointed after PhD to publish and develop their research agendas; mentoring support; and development workshops to support writing academic papers and preparing research bids.

Research Mentoring is available for any member of staff but specifically encouraged in the cases of (i) staff newly appointed experiencing their first full-time academic position with research responsibilities, including all ECRs and (ii) where PDR processes may identify mentoring as an important individual developmental need. The mentoring relationship itself is always distinct from line or performance management processes and is developmental. The results of these measures can be seen in the contribution of ECRs in every section of this submission and the development of people who were ECR's at RAE2008. Mentoring relationships over the last decade involving Professor **Baron** with **Patterson**, Professor **McCabe** with **Bu, and Rao, Cook** with **Garikipati**, Professor **McNulty** with **Florackis**, Professor **Holt** with **Zundel**, Professor **Lyons** with **Tickle** have yielded significant research outcomes and career progression.

Mentoring continues to be a vital process contributing to the next phase of development of the School, e.g. to support the rapid growth in Finance and Economics, leading chairs have been assigned as mentors to ECRs and other junior faculty. **Chu** and **Demougin** provide academic leadership in macro and microeconomic theory respectively. **Chu** is mentor to ECRs **Mitra** and **Piccillo**, **Demougin** is mentor to **Gu, Moon, Pelosse** and **Routledge**. **Tremayne** is mentor to Liu-Evans. **Henry, McKenzie** and **Milas** have been hired to provide senior leadership in Finance with **Henry** having responsibility for mentoring Goyal and Shevtsova, **McKenzie** for **Kallinterakis** and Mohamed and **Milas** for **Poletti-Hughes**. Giordano and Pyper are being mentored by **Jones** and **McNulty**, in the expectation of progression to permanent positions at the end of their fellowship in 2014/5.

A workload model ensures the fair allocation of duties, including reduced teaching loads for ECRs and those carrying major administrative roles. All research staff are guaranteed research time within the school workload model (minimum 30% time allowance for all research staff, 40% for ECRs). The School's research sabbatical scheme has supported 24 staff in this period which is a 70% success rate in terms of applications made. **Garikipati, Oakes, McNulty, Popp, Patterson,**

## Environment template (REF5)

**Dong Li**, and **Poletti-Hughes** are among the researchers who have utilised the leave scheme to make significant progress in their research and publications in this period (see section B). ECRs and part-time employees are given the same access to sabbatical leave in the first or second year after completion of probation (as evidenced by **Bu**, and **Poletti-Hughes**). There is also generous provision for maternity, parental, compassionate, domestic and personal leave, and a policy on flexible working. In the REF period several members have taken advantage of these family-friendly arrangements without detriment to their career development. With funding and support through the School Research Committee, all ECRs are able to attend development workshops at Faculty and School levels related to writing academic papers and preparing research bids.

**(ii) Research students**

The PhD programme strategy has three elements: investing in training infrastructure and studentships; concentrating on the quality of applicants; and enabling students' involvement in and contribution to a culture of research organised through our knowledge platforms and subject groups. Thus far, the strategy has doubled the PhD awards achieved in the REF period, compared to the previous period. In addition, entrance requirements have been refined, and new registrants undergo careful matching of researchers to areas of research excellence. Our training involves our leading researchers working with early careers researchers to help their development as PhD supervisors, for example, **Hernandez** (with **Lyons**), **Tickle** (with **Ismail**); **Goyal** (with **Henry**), **Routledge** (with **Demougin**). Annual training sessions are held for staff with supervisory roles. Leading researchers contribute to PhD training provision, for example, **Holt**, **Jayawarna**, **Zundel**, **Lindenbaum**, **Florackis**, **McCabe**, **Henry**, **Bu**, **MacKenzie**, **Demougin**. In 2012 the School invested £0.5m over three years in 20 PhD/Mres studentships, consisting of eight competitive full awards (fees and maintenance for three years), three PhD fees only awards, one PhD maintenance only award and eight MRes fee waivers.

Underlying the commitment to training and quality is the School's involvement with two pan-institutional research-training communities: the North West Doctoral Training Centre (NWDTC) and the Northern Advanced Research Training Initiative (NARTI), a collaboration discussed in section E. The School has moved from relying on a +3 programme which weakened the ability to recruit our own students, to now offering a more flexible 1+3 pathway. In order to strengthen recruitment of high quality PhD students, the MSc in Economics and Finance has been redesigned and upgraded as a high calibre and demanding MSc in Economics, with a specialist concentration in Financial Economics for those who wish to aim for a Finance PhD. In their first year, all students follow one of two research training programmes: Management and Business, or Economics and Finance. The modules for each are run by Liverpool staff (including **Florackis**, **Holt**, **Jayawarna**, **Lindebaum**, **McCabe**, **Wenzelburger**, **Zundel**) and provide grounding in social science research skills with specific focus on variants of commercial and policy activity. In addition, doctoral students have access to a wide range of postgraduate taught modules related to skills development run by the University's PGR Development Team. The Development Programme is compulsory for all research students and provides approximately six weeks of developmental activity over a three-year PhD lifecycle. It offers a choice of 15 intensive three-day themed skills workshops to first year PGRs. In addition, the University also co-ordinates annually an interdisciplinary Poster Day for second year PhD students and a range of career and employability skills covering enterprise and business awareness, career management, writing and presentation skills, teaching skills and work and volunteer experience. By way of ensuring quality of provision throughout their study, all PhD students and supervisors record supervisory meetings using an on-line system providing a real time record of progress, mutual expectations, training targets and achievements. Each year an annual review summarises and projects research activity and this is reviewed at School and Faculty level. Supervisory meetings are regular (at least eight formal meetings a year), after which students electronically record the agreed actions. This is particularly useful for part-time (and off-campus) postgraduates and promotes increased communication and involvement. All supervisors are required to undergo training provided by the University. Training quality is monitored internally through module review involving students, teaching staff and the School's PGR Director, and externally via the DTC Management Committee responsible for ensuring cognate provision across three HEI's.

**Environment template (REF5)**

PhD students are afforded an important role in our academic community with subject groups and knowledge platforms open to their involvement and support. As part of their induction, new post-graduates are introduced to the subject group of their primary supervisor, and also asked to align themselves with a KP. This provides important support and identity for students, and arrivals from abroad benefit particularly from such early contact. Research students can contribute to group-led research seminar series, as evidence of progress in their thesis studies. All research students have access to the School Conference Fund via their supervisors. Preliminary presentations, of conference papers, and as preparation for vivas, allow timely feed-back and often a confidence boost. Postgraduates can attend School Masters modules on research methods and specialist courses, such as CPD courses. We provide our postgraduates opportunities for tutoring and assessment of undergraduates, both in lecture and assignment delivery, as part of their career development. Several staff have progressed from the Liverpool PhD programme to full-time positions at Liverpool and produced excellent outputs, for example, **Tickle, Rao, Bu,** and Pythian-Adams. Others such as Tilba (Newcastle), Nordberg (Westminster), Hartley (Queen Mary) and Dudau (Glasgow) have joined other schools in the UK while Sun is at the Chinese Academy of Science. PhD students are supported to contribute to international conferences, including: EGOS; BAM, AoM; BAM, EFMA. Publications have appeared in many international journals, including: *Business History, Corporate Governance: An International Review, Public Management Review.*

**d. Income, infrastructure and facilities**

Reflecting the School's growth, the original investment by the University will be added to by a further £12M for an extension to the Management School Building, due for completion by 2015/16. The extension will provide an innovative space to facilitate further research with these features:

- A trading room centred on Bloomberg software. Combining these datasets with other datasets (for example, Compustat) will enhance empirical work in finance and in econometrics and forecasting;
- An experimental marketing laboratory with a two way mirror to extend research in experiential consumption and marketing;
- A computer laboratory and logistics centre to extend work on Operations and Resilient Supply Chains. This will provide a facility to extend simulation work but also to build application models for distributed enterprise systems;
- An entrepreneurship incubation space to extend application of entrepreneurship research with both student and non-student entrepreneurs.

Along with library facilities, staff and students of the School enjoy state of the art facilities. PhD students have access to a dedicated PhD hot-desk suite intended to create a vibrant environment for research students to meet and work, as well as individual office space. There is free and unlimited access to printers and photocopiers and the School ensures IT equipment is the best available for its PhD students.

Our strategy for achieving research income is directed at: attaining funding across the breadth of our research portfolio; deepening disciplinary expertise and leverage this expertise in cross-disciplinary research within the School; and using a collaborative approach to research bids with partners inside and outside UK academe to diversify funding sources. Processes to support this include a dedicated professional research support office, a seed-corn funding scheme, and peer review and guidance. The School directs significant financial resources to support individual and collective research activities, totalling in excess of £0.6m per annum. This includes financial support for individuals to peer reviewed conferences up to an allowance of £2,500 per person per annum, financial support for each KP and seed-corn funding for projects. The 'Development Studies' KP is an exemplar beneficiary of KP and seed-corn funding in the last two years attracting £10,000 to develop research into Microfinance. **Lindebaum and Popp** are others whose research interests are benefitting from seed corn funding. Through the provision of financial support, facilities and staff time, the School is also supportive of research seminar programmes across the School disciplines. In keeping with a leading research environment there are a number of strands of seminar activity for different research groups and areas of the School. Cohesion around the core disciplines of Economics and Finance has been fostered by the internal seminar series, where staff from both disciplines present and attend jointly run sessions.

## Environment template (REF5)

The School's dedicated four strong team of Professional Services staff support research and knowledge exchange activities within the School. A member of staff oversees the advice, costing and management of grant applications in conjunction with the relevant central Professional Services colleagues. Two further administrators provide support for the PGR Program, its supervisors and students and additional support is available for the monitoring of the Doctoral Training Centre. Increased bid activity is promoted through mentoring, internal peer review and grant writing workshops which are provided by the Faculty and open to all staff.

The School is also involved with research contracts with award values of £5.2M of which approximately £3.7M is directly related to School based investigators. The School has received significant awards from many funding sources, including research councils and many of the submitted outputs flow from this funding. Examples include: ESRC (**Jones** £13K, **Bu & McCabe** £96K, **McNulty** £126K, **Holt**, £46K); the Technology Strategy Board (**Lyons** £132K, **Dong Li** £85K; **Ismail**, £325K; **Michaelides and Drake**, £145K); EPSRC (**Michaelides** £545K, **Song** £209K); British Academy (**Bu**, £72K; **Johns and Cook**, £21K; **Garikipati**, £19K); the Advanced Institute of Management (**Antonacopoulou**, £10K). Other funders of research include: the Department of Health (**Haycox**, £136K, **Holt**, £742K); Medical Research Council (**Haycox**, £610K); Association of Chartered Certified Accountants (**McNulty and Florackis**, £69K); Institute for Small Business and Entrepreneurship's Research and Knowledge Exchange Fund (**Jayawarna**, £42K); Bank of England (**Milas and Florackis**, £18K). Overseas funders include: the European Commission (Lyons and **Li (Dong)** £306K); the Netherlands Organisation for Scientific Research (**Harding**, £206K); and private enterprise such as Bibby Distribution Ltd (**Drake**, £59K), TJ Morris Ltd (**Drake and Michaelides, Z**, £59K), Guidance On Ltd (**Ismail**, £60K), Laker Vent Engineering Ltd (**Drake**, £40K), Suttons and Sons Ltd (**Li (Dong)**, £59K), NSG (UK) Ltd (**Li (Dong) and Ismail**, £67K). These awards are also evidence of scholars at relatively early stages of their career securing their first grants and using them to generate significant outcomes. **Garikipati's** outputs have been helped by British Academy funding for research into empowering women's work and enterprise in India. **Bu's** career is flourishing with grants from the British Academy and ESRC which are enabling him to study interest rate dynamics. **Florackis** has been involved in two successful grant applications which generated a research report published by the Association of Chartered Certified Accountants for all its members worldwide and **McNulty** (#2); and another from the Bank of England, with **Milas**, for work about illiquidity and economic growth in the UK.

12 Knowledge Transfer Partnerships have been awarded to the School in the REF period with total grant value in excess of £1M in the areas of business improvement and operations and supply chain strategy and design. The Resilient Multi-Plant Networks (REMPLANET) study with EC FP7 funding (see above) has grant value of €2.75M (0.22M to Liverpool). The Liverpool Health Economics Group based in the School has received more than £400K for a series of projects that span research into outcomes related to healthcare pathways, surgical procedures, and treatment regimes including drug provision. This work is an important part of the University portfolio of research and impact in Healthcare.

The strategy is also fuelling momentum for further research. The Centre for Enterprise and Entrepreneurial Leadership (CEEL) has recently obtained an ERDF project (£700K) to develop an entrepreneurial ecosystem in the Liverpool City Region. The Agility Centre secured ERDF funding of £300K to assist Merseyside SMEs develop growth and operational strategies related to supply chain management. This funding extends by 12 months an existing three year grant of £1.4M that the Centre was awarded in 2011 to support 75 companies in the Northwest.

The 'Collaborate to Innovate (C2I)' initiative led by Professor **Lyons** has ERDF funding of £0.9M between 2012-2015 and provides SMEs with the organisational support to engage in collaborative alliances and the technical support to develop collaborative ICT platforms that serve product and process-related innovations. A grant of £0.75M, supports research into 'Contracting with General Dental Services' with **Holt**, funded to the value of nearly £94K. Significant early research outcomes of this project include **Holt #3**. Funding for **Harding** from the Netherlands Organisation for Scientific Research is an important part of the early work of the University's Heseltine Institute for Public Policy. **McNulty's** £125K funding from ESRC/SAMS, matched by the School, is enabling the School to make a £0.25M investment in Business Development Fellows (Giordano and Pyper) until 2015.

### e. Collaboration and contribution to the discipline or research base

The strategy to become an internationally renowned Management School means we are active in terms of research collaborations and community enhancing contributions. Collaborations are distinguished by whether they stretch beyond the University of Liverpool and the HE sector to external organisations. School researchers are involved in important projects and networks across the University. **Holt** is involved in a significant study of how dental practices are configured as (typically small) businesses within such a fluid trading environment, and how patients approach the 'choices' for procuring dental care. **Garikipati's** approach is interdisciplinary research and foundational to our Development Studies knowledge platform and research initiative (DRIVE), which is a cross-institution KP including law, sociology, medicine and tropical medicine. The Liverpool Centre for Health Economics led by Haycox draws on expertise in Economics, Psychology, Law and all fields of Medicine and is a major part of the School's contribution to the health related research in the wider University. **Demougin** and **Deffains** are involved in embryonic but promising initiatives that will span Law and Economics, developing the School's portfolio of research into regulation and governance.

The Innovation and Productivity 'Grand Challenge', (EPSRC £546K, 2006-2009, Sharifi, **Michaelides**) was undertaken with partners at Imperial College, the Universities of Cambridge, Cranfield and Loughborough, and the Advanced Institute of Management (AIM). The Resilient Multi-Plant Networks (REMPANET) study led by Professor **Lyons** with EC FP7 funding (see above) with a total grant value €2.74M (0.22M to Liverpool) was a collaborative European project with partners from five countries and is the foundation for the future strategy of the *Supply Chain Management, Lean Production and Agility* KP to support the EU's Horizon 2020 flagship initiatives. **Li (Dong)** continues to work in collaboration with Chinese universities (SJTU, SMU) for research in logistics; Outcomes are that he has been appointed as project advisor for an EU project in maritime logistics and won EPSRC funding to support a research network and hosting conference.

In Economics, Professor **McCabe** has a long collaboration with researchers in Melbourne, Australia which has produced a significant number of outputs over the last 10 years. Various projects have been funded by around \$1.5M from the Australian Research Council. This has facilitated an ongoing series of bilateral visits investigating non-parametric and Bayesian approaches to state space models, a workhorse in many fields of science including Engineering, Economics and Finance. As a consequence, Liverpool has access to Australian expertise in Bayesian and computational methods which is fundamental to modern macroeconomics, an area of strategic importance to the School.

**Cook** is a member of the Centre of Excellence for Science and Innovation Studies (CESIS), the leading centre for innovation studies in Sweden, with whom there is on-going collaborative research which continues to generate excellent outputs. ECR Shevtsova is co-opted into CESIS and will work with **Cook** to deepen links and bring state of the art econometric methods to bear on the outstanding data sets CESIS possesses, which will lead to world class and internationally excellent publications. Leading researchers from CESIS will present seminars in the School and researchers in the School will have the opportunity to visit CESIS to undertake short periods of study leave. Shevtsova already has research visits planned for early 2014. **Deffains**, President of the European Association of Law and Economics, exemplifies the deepening of expertise and promotion of inter-disciplinary research.

Effective and successful research collaborations that extend beyond academe to collaborations with industry, commerce, third sector and other research users are as follows: The Development Studies Research Network KP liaises with national policy stakeholders such as the NHS, Refugee Council, and international agencies including the World Bank and United Nations (UNEP and UNHCR).

The Operations and Supply Chain Excellence KP has, through the Agility Centre and other means (e.g. KTP) developed an extensive network of regional small businesses, by providing SMEs with the tools and techniques to utilise supply chains to support new product development process. The 'Collaborate to Innovate (C2I)' initiative provides SMEs with the organisational support to engage in

collaborative alliances and the technical support to develop collaborative ICT platforms that will facilitate product and process-related innovations. CEEL funding from ERDF (£0.7M) to develop an entrepreneurial ecosystem in Liverpool City Region will coordinate the activities of seven HE/FE institutions, Liverpool Vision, the LEP, as well as representatives of the private sector including venture capitalists and large local firms such as *Unilever*. The project will also deliver leadership training to growing small firms and support graduate entrepreneurs from Science and Engineering. Underlying the commitment to training and quality is the School's involvement with two pan-institutional research-training communities: the North West Doctoral Training Centre (NWDTC) and the Northern Advanced Research Training Initiative (NARTI). Administered from Liverpool, the NWDTC is a partnership of Lancaster, Liverpool and Manchester Universities. The largest in England, it manages ESRC studentships across 19 social science pathways. The School currently has six studentships, three in Economics and three in Business and Management, two of which are CASE, all of which were competitively awarded and fit with the research portfolio outlined in section B.

The NWDTC structure has facilitated a move from a traditional model of solitary PhD study towards a more collaborative experience enhanced by interdisciplinary work. For example, the School has an ESRC student researching emotional intelligence co-supervised by **Lindebaum** and a Psychology colleague from Lancaster, another researching enterprise and demographics with a partner organisation (Liverpool Vision), and another in Behavioural Economics and Micro finance co-supervised by **Garikipati** with colleagues in Manchester.

The NWDTC has also facilitated cross institutional provision of training and supervision at core and advanced levels (for example, access to research methods training events and courses run by all three HEI's via [methodsnorthwest.ac.uk](http://methodsnorthwest.ac.uk)) and the School currently offers students from Manchester and Lancaster access to its sessions on Mixed Methods, Phenomenology and Organisational Ethnography. The School's PhD students visit the other two HEI's to take specialist training such as structural equation modelling. The School is also part of the ESRC RDI project: The Northern Advanced Research Training Initiative (NARTI). This involves Business and Management Schools from 14 universities across northern England providing advanced research training. It is run by a core group of three universities: (Durham, Leeds and Liverpool), and the School is principal grant holder. Training takes the form of workshops on emerging and advanced methods, as well as annual colloquia allowing PhD students to create a peer community across the region. All students enrolled for a PhD at Liverpool can benefit from this provision irrespective of the source of funding. This availability of training covers all PhD students in the School, not just those with ESRC studentships, in order to avoid a two-tier system of PhD training.

School staff occupy significant positions for: the journals - Organisation Studies (**Holt**, Co- Editor), International Journal of Management Reviews (**Jones**, Co-Editor), Marketing Theory (**Parsons**, Co-Editor) International Journal of Entrepreneurial Behaviour and Research (**Jayawarna**, Co-Editor); professional associations and learned societies such as the UK Logistics Research Network (**Lyons**), Academy of Marketing (**Patterson**), Society for the Advancement of Management Studies (council members, **Antonacopoulou and McNulty**), and Academy of International Business (Executive Committee, **Cook**).

A feature of the School in the last five years has been the hosting of major international and national conferences in Liverpool such as: EURAM 2009 (**McNulty**); ISBE 2009 (**Jones**); British Academy of Management Conference 2013 (**Jones**); Academy of Marketing Conference 2011 (**Patterson/Oakes**); Academy of International Business 2012 (UK and Ireland - **Cook**), Logistics Research Network, 2008 (**Lyons**). These events have provided important developmental activities for the School by involving staff in organising and participating in major conferences and also introducing academics to Liverpool as a city which has incentivised and influenced staff to join the School. Crucially, they are also an important symbol of the progress being made by the School and its staff in raising the visibility of the School as a flourishing contributor to the worldwide academic research community in business and management studies and cognate disciplines.