

Institution: Liverpool John Moores University
Unit of Assessment: 17 Business and Management Studies
<p>1. Unit context, structure, research, open research environment, strategic aims and approach to supporting impact.</p> <p>Context</p> <p>The Unit, which is synonymous with the Liverpool Business School (LBS), Faculty of Business and Law, Liverpool John Moores University, comprises 32 researchers (31.4 FTE Category A staff) of which 8 are early career researchers (ECRs).</p> <p>This is a first time REF submission to Business and Management by the University. It follows an institutional directive in 2015 to support LBS in prioritising research as a key activity undertaken by its staff. Hence, since 2015, a major change initiative has been undertaken, involving the appointment of a completely new senior management team, new senior researchers at Professor/Reader level and a new organisational structure specifically designed to support the building up of a research culture in the Unit. Evidence of the success of this change initiative is the growth in volume of research active staff over the past five years.</p> <p>We have achieved this by:</p> <ul style="list-style-type: none"> • Supporting the research development of existing staff, including ECRs (see section 2.i). • By judicious recruitment of new members of staff (section 2.i) • The strategic support of research clusters and cross-cutting themes as vehicles for targeted and focused research development. • Integration of the PhD and DBA programmes as key elements of the research environment (section 2.ii). • Through specific cultural change initiatives, such as writing retreats, undertaken to build a vibrant research community in the Unit (section 2.ii). <p>A key focus of the Unit is on developing a positive (broad and inclusive) research culture that supports staff at different stages of their research careers, including ECRs. The Unit submits 8 ECRs within its headcount of 32 staff. This proportion (25%) is higher than the REF2014 Business & Management benchmark of 20% and reflects the stage of evolution of the Unit. Led by Bryde, Director of Research and Knowledge Transfer in LBS, the research culture is built through a strategic focus on research and knowledge exchange (KE) that involves a planned cultural change management programme; policies and procedures for staff development, including support for attendance at external training events and conferences; workload allocation; formal and informal mentoring; internal funding allocation for research and KE projects; and support for applying for external funding. In addition, there is a focus on empowering staff to take responsibility and ownership of research/KE agendas and to feel emboldened to be innovative and take risks; and in doing so, contribute to the Unit through bottom-up initiatives.</p> <p>Structure</p> <p>LBS is formed of three schools: the School of Doctoral Management Studies (DMS), the School of Business and Management (B&M) and the School of Leadership and Organisational Development (LOD). DMS has responsibility for the doctorate programmes in LBS and, importantly, it has a wider remit in leading the change initiatives in relation to developing a research and knowledge exchange culture across the whole of LBS. B&M is responsible for all the full-time UG and PG programmes. LOD is responsible for the corporate and executive portfolio of programmes in LBS. Submitted staff within the Unit are located in all three schools.</p> <p>The structure ensures research and KE is at the forefront of activities in LBS reflecting the strategic framework of the university and that the necessary authority and responsibility is</p>

present to enable research activities to be undertaken and for research active staff to be supported. **Bryde**, in a full-time and dedicated professorial role at director level, leads DMS. He is a member of the LBS senior management team and has overall line management responsibility for all the senior researchers in LBS i.e. professors/readers and for staff that have programme management responsibilities for the PhD and DBA. In addition, he has control of all LBS budgets relating to research-related activities, such as for staff development i.e. conference attendance and undertaking external research methods training, and for the development of the research/academic clusters, which funds most of this activity. He has strategic oversight of staff members' career and personal development and research-related performance. In terms of providing research leadership, **Bryde** works closely with **Hannibal**, who has strategic oversight at Faculty-level, as Associate Dean for Research, Scholarship and Knowledge Transfer.

The structure ensures there is leadership for research and KE of the Faculty at the most senior levels and that there is constancy and clarity in driving forward the research agenda in LBS. The stated purpose of DMS is to provide research leadership in all its guises and by example; to provide enabling structures to foster a sustainable and innovative research culture in LBS; and to provide excellent doctoral provision that contributes to research that is highly impactful and where theory is translated into practice. By sharing and communicating this with all staff, there is constancy and clarity. The LBS structure provides the organisational tramlines to enable the Unit to move at pace in creating a vibrant and supportive research environment. On route, it has ensured that research has been legitimatised, then prioritised, emphasised and recognised.

Research

Research in the Unit is primarily clustered around five areas of activity, which are:

- **Projects, Operations and Workplace Management Research Group (POW) (Bryde, Douglas, Dubey, Durowoju, Grubic, Hannibal, Qu, Schiffing, Shaffakat, Stavropoulou, Tucker and Wilson)**. Led by **Bryde** and **Hannibal**, POW seeks solutions for the ever-growing challenges in projects, operations and the management of the workplace, and its research leads to alternative ways to improve organisational performance.
- **Digital Marketing and Retail Research Group (DMR) (Bai, Bialkova, Kostopoulos, Tassiello and Valaei)**. DMR, led by **Kostopoulos**, focuses on digital marketing communications, consumer psychology and behaviour in digital environments, digital retailing strategies, omni-channel and multi-channel marketing, digital ecosystems and online communities and digital innovation.
- **Small Business and Entrepreneurship Research Group (SBER) (Fillis, O'Brien, Shore and Del Real)**. Led by **Fillis**, SBER researches into the following core areas: entrepreneurship and business failure, entrepreneurship and Identity, small business management, growth and survival.
- **Leadership, Education and Development Research Group (LEAD) (Stewart, Lawless and Harrison)**. Led by **Stewart** and **Lawless**, LEAD focuses on the areas of: human resource development and leadership, leadership development, fair work and professional practice and education.
- **International Business Management and Strategy Research Group (IBMS) (Akwei, Eltweri, Foster, Papagiannis, Sawan and Zhang)**. IBMS, led by **Akwei**, focuses on aspects of international business management and strategy, such as business in emerging economies, management of multinational enterprises and the effects of firm internationalisation on host countries.

In addition there is a cross-Faculty research group, Tourism, Travel, Culture and Heritage (TTCH) of which LBS staff are full members (**Fletcher** and **Maguire**).

The Unit supports both multidisciplinary and interdisciplinary research through a Faculty-based research strategy which links to LJMU research themes of health & well-being, new technology innovation and societal challenges. Hence, they are active collaborators in projects with

colleagues from other Faculties as they apply interdisciplinary approaches to provide solutions to problems. For example, an EU Horizon 2020 Research & Innovation Staff Exchange (RISE) project, “Being Lean and Seen”, which **Bryde** leads, takes a multi-disciplinary approach to seeking solutions to the challenges of delivering projects successfully in the 21st century and colleagues from the School of Psychology lead a work package on the project researching psycho-social aspects of project management. They also contribute to work packages which bring together the partners from different disciplines of business and management to develop integrate delivery models. **Qu** works with colleagues from the School of Maritime Studies on the Horizon 2020 RISE “GOLF” project. **Fillis** brings his expertise in cultural entrepreneurship and digital marketing, including data analytics and big data to work in partnership with colleagues in the Faculty of Engineering and Technology to work on the “LCR Activate” project, which is a £5m ERDF-funded project led by LJMU in partnership with the Foundation for Art and Creative Technology (FACT) and the Liverpool City Region Local Enterprise Partnership (LEP). The project supports digital and creative small and medium-sized businesses in the Liverpool City Region by providing access to new technologies and expertise for the development of new products or tools. **Grubic** also works with colleagues from the Schools of Computing Science and Applied Mathematics through LJMU’s Data Sciences Research Centre, in which they contribute their business data analytics skills to research projects which seek real world solutions to topics such as: digital marketing, profiling and inference in public health, clinical decision support, Human resources (HR) analytics and sport analytics. **Bryde** and **Wilson** undertook an interdisciplinary study for an externally funded research project investigating the coping strategies used by project managers to deal with difficult stakeholders, combining their knowledge from their academic fields, operations management and psychology respectively.

Open research environment

Progress is being made towards an open research environment and the principles of open research are communicated to staff in the Unit and encouragement given to their implementation. The Horizon 2020 RISE “Being Lean and Seen” project is participating in the Open Research Data Pilot and is committed to a research data management plan and to uploading its data into a research data repository. The staff working on the project have use of the OpenAIRE portal as a route to disseminate findings.

In terms of publications being made open access, there was a substantial rise in the items deposited in the open access institutional repository over the assessment period: 2 items in 2014 and 26 in 2015, rising to 103 in 2019 and 126 in 2020 (up to 31 July 2020). Items made open access that aren’t peer-reviewed journal articles demonstrates staff going above and beyond the REF guidelines. For example, the 126 deposited items in 2020 included 13 conference papers, 4 book chapters, 7 theses, 1 exhibition and 5 blog posts. The 7 theses reflect the fact that doctoral students are required to deposit their thesis to the repository.

Strategic aims for research and impact during assessment period

Five broad strategic aims have provided a focus for areas of development during the assessment period. These aims and the Unit’s achievements against each are detailed below:

- **Building a strong and vibrant research culture:** The overarching activity undertaken by the Unit has been to focus on building a strong and vibrant research culture whereby all staff at different stages of their research careers feel supported, valued and empowered. We have worked steadily since 2015 through a series of internal activities and innovative interventions to create this culture. More details of these activities are in section 2i. As well as internally focused activities, there is also a strong emphasis on creating a research culture through external partnerships and collaborations, both across the Institution with other Faculties and externally to the Institution.
- **Growing research capacity within the UoA:** A focus on increasing the number of research active staff, as defined by REF-related criteria, has led to 32 Category A staff in LBS being submitted to this REF, compared with four submitted to different UoAs in

REF2014. We have also focused on supporting the wider staff base. As well as the 32 submitted staff in the Unit a further 31 members of LBS, are being supported in their research-related activities, with a view to them being research active in the next assessment period. As described in more detail in section 2i, specific support for all 63 staff members, including Associate members of the research groups, to develop their research profiles and deliver outputs includes remission of teaching, mentoring, training and support for conference attendance. We have achieved notable success in having ECRs from all areas of research activity meet the requirements for independent researcher status: **Bai** and **Tassiello** [Marketing, Consumer Behaviour and Retailing cluster, **Eltweri** [International Business Management and Strategy], **Maguire** [Tourism, Travel, Culture and Heritage], **Shore** [Small Business and Entrepreneurship], **Schiffing**, **Shaffakat** and **Wilson** [Projects, Operations and Workplace Management]. We have also successfully supported mid-career staff members to re-engage in research-related activities and achieve SRIR status (significant responsibility for independent research; see section 2.i below for details).

- **Enhancing the quality of outputs produced by the UoA:** At the same time as growing the research capacity, we have focused on ensuring that staff target publications in highly respected journals within their specific subject areas, as evidenced by REF2. We have run internal seminars, hosted by our senior researchers who have experience in publishing in such journals. We have brought in external speakers, such as editors of peer-reviewed journals with high impact factors. We have funded staff to attend external training events on academic publishing run by such organisations as Economic and Social Research Council (ESRC), British Academy of Management (BAM) and Northern Advanced Research Training Initiative (NARTI). As at July 2020 27.8% of the Unit's outputs are in the top 10% citation profile, which mirrors the institution's position in relation to citations.
- **Establishing groupings of research excellence:** The Unit received formal Faculty approval to set up the five research groups: POW, DMR, SBER, LEAD and IBMS. These reflect the main areas of research strength in the Unit and provide focus for the recruitment of new academics. We recruited senior researchers during the assessment period to contribute leadership in the academic areas of different groups: **Hannibal** (2019) as Professor of Operations Management, **Kostopoulos** (2018), Reader in Digital Marketing and **Fillis** (2016) as Professor in Entrepreneurship. We have a Faculty-administered process to make internal funds available to each group, based on the approval of a twelve-month action plan, to support various activities, such as seminars, guest speakers and other group developmental activities.
- **Increase research income:** There has been a significant step change in research income generated, achieved by increasing both bidding activity and success rates. Notable success has been in securing funding from the EU. We undertook focussed initiatives to enable staff to target appropriate funding calls, develop high quality proposals and participate in collaborative applications with colleagues outside the Faculty and the Institution. In 2020 LBS created a dedicated Research Funding Coordinator position to provide specialist support to the Unit for these initiatives
- **Delivering an excellent Doctoral Programme:** We have significantly improved on-time completion rates for our PhD programme, from 40% in 2014 to the current level of 61% and average time to complete a DBA is currently standing at 4.2 years, which is well within the maximum registration period for the programme of 7 years. There is evidence of success in achieving this aim in the 2019 PRES Survey results. Doctoral students' confidence that they would complete within the expected timescale is 95%, which is significantly above the external benchmark of 82% for all institutions. Overall, 84% of students are satisfied with their research degree programme, again above the external benchmark of 81%.

Future strategic aims

Building on our successes detailed above, these are the next key strategic aims:

1. Continue developing a strong and vibrant research culture, focused on research excellence and impact:

We will continue to develop the research culture through internal activities and targeted support for the development of staff at different stages of their research careers. We will put emphasis on developing external collaborations, both internal and external to the institution.

2. Continue to increase the volume, proportion and quality of publications of research-active staff:

We will increase the proportion of SRIR Cat. A staff in the Unit, with a target of 50-60 FTE. We will continue to grow our publication numbers at levels that reflect improved research standing and increase our citation impact, with a target of 30% of outputs in the top 10% citation profile (SciVal).

3. Consolidate the established research groups: We will bring together the research groups into one formal research centre, which will facilitate a focus on cross-cutting themes, such as productivity, organisational scale-up and resilience, leadership, digital, innovation, enterprise and sustainability.

4. Increase the breadth and volume of research and KE income: We will diversify the sources of research/KE income, with a focus on income generation through grant proposals from collaborative links with industrial partners. In particular we will seek to engage in the Innovate UK Management Knowledge Transfer Partnerships (MKTPs) scheme, with a target of at least 5 MKTPs, bringing in approximately £180k of income for each MKTP (£900k total) – based on a typical duration of 24 months.

5. Continue to provide excellence in our doctoral programme provision: We will establish international partnerships for dual/split site delivery of our doctoral programmes, to enhance the quality of provision and provide doctoral candidates with an international experience. Our target is to achieve a growth value of approximately 20% in student numbers, equating to about £200k in additional annual fee income from these partnerships.

Approach to supporting impact

The Unit is submitting 3 Impact Case Studies from a final shortlist of 5.

Impact Case Study 1 (ICS1) - Improving patient outcomes through better project management of clinical trials (**Bryde**, Unterhitzberger). Impact Case Study 2 (ICS2) - Creating operational benefits and service improvements in an NHS Trust through leadership development (**Lawless**, Coetse, **Stewart** and **Wilson**). Impact Case Study 3 (ICS3) – Building resilience and sustainability into transport logistic systems (**Qu**).

The two cases not selected for submission are in areas of expertise that have emerging and growing levels of impact. Firstly, research led by **Tucker**, on customer performance measurement in the management of workplace and facilities; and secondly, by **Harrison**, on improving educational opportunities for communities considered “hard to reach” i.e. Roma.

Targeted support has been provided to staff developing these impact cases and also to others in the Unit that demonstrated strong evidence of being able to put in place well-established pathways to impact. Since 2019 **Hannibal** acted as Impact Champion within the Unit, providing support through acting as a critical friend, undertaking internal review of cases etc. to the 5 impact leads of potential cases. Internal funding totalling £2,785 was also allocated to 3 impact case leads to support the development of impact cases: **Bryde** (ICS 1), **Lawless** (ICS 2), and **Tucker**. Additionally, remission from teaching was given to the following staff to provide

additional headroom to develop impacts cases: Collins, **Harrison, Lawless, Tucker and Qu** (ICS 3).

Six events to disseminate information about the impact agenda and to support individuals in developing their own pathways to impact were held in the Unit: May and October 2015, February 2016, October and December 2018 and two events in May 2019. Staff also attended centrally run sessions on the topic of “the Building Blocks of Impact”. In addition, staff within the unit had approximately 50 one-to-one meetings with the institution’s Impact Officer to discuss issues around the impact of their research over the course of this REF cycle.

2. People

At the REF census date, the Unit comprised a research community of approximately 75 academic members of staff, of which 32 have SRIR status. The demographic profile of the Unit shows a large proportion of early career staff i.e. of the 32 Cat. A SRIR staff, 25% are ECRs – and this proportion of early versus mid/late career is similar across the wider pool of 75 staff members. The Unit has a small number of Professors, 3 males and 1 female and of Readers: 4 males and 4 females. Of these 12 members of staff, who undertake the role of providing research leadership, the age profile is that 50% are aged 50+. This demographic profile in terms of career stage and age affects current and future research activity. Firstly, a priority is being given to succession planning, for example the Director of Research is working closely with the female professor, who is aged under 50, with a view to a planned succession during the next REF cycle. In addition, the Unit is carrying a vacancy for a professor forward into the next REF cycle and is seeking to provide a promotion opportunity for an external candidate, ideally a female, which will help balance the age profile. Secondly, mid-career staff members have been appointed as deputies to the research/academic group leads, again with a view to a planned succession to take over the role of lead at an appropriate time. In undertaking this planning we have ensured there is no discrimination against a staff member because of a protected characteristic i.e. the appointed deputy of POW is a female from the BAME community.

i. Staffing strategy and staff development

The staffing strategy and staff development activities are an integral element of the cultural change journey that the Unit has undertaken to build a vibrant environment in which research is flourishing. Whilst we don’t have any contract researchers we support the principles of the Concordat to Support the Career Development of Researchers, in line with the institutional action plan.

Staff development activities include regular research seminars, training and workshops on research methods and topical issues, such as publishing in highly ranked journals and forums to create supportive communities of practice and build social capital to the benefit of individual researchers. For example, the Unit holds monthly half-day writing retreats at a venue either off-site or virtually and each year there is a two-day residential writing retreat or a one-day virtual retreat. The total attendance at the 19 retreats held in the assessment period is 296, with an average attendance of 16 members of staff. Innovative interventions include a “Keywords Conversations” series, introduced in 2019, where researchers come together to examine, from different subject discipline perspectives, a specific keyword i.e. one seminar looked at the word “immateriality”. Another innovation introduced in 2019, is the “Reviewer and Reviewed in Conversation” seminar series, where two LBS researchers, reviewer and reviewed, meet for a chaired discussion of a journal publication. Reviewer and reviewed engage in a conversation to give the audience a better understanding of arguments put forward in published works. All these internal activities are open to staff, students and any visiting research professors/fellows present at the time.

The Unit has been able to maintain staff development activities during the COVID-19 period by switching to online virtual modes of engagement and interactions. Between late March and July 2020 6 online events were held by the research/academic clusters.

Research Leadership

A key focus has been the development of the research leadership skills of senior research staff in the Unit. **Bryde** and **Hannibal** attended the CABS/BAM Directors of Research Development Programme (DoRDP) in 2018/19 and 2019/20 respectively and this was a key development activity for them in effectively undertaking their research leadership roles. In 2019 **Amoako** (left in 2020), who had a leadership role in the area of entrepreneurship and small business management, was supported to attend the Research Team Leadership training in London organised by the Leadership Foundation for Higher Education (LFHE). **Tucker**, who is the Programme Leader for the DBA and Research Lead for projects undertaken under the banner of workplace management and **Bryde**, in 2019 and 2017 respectively, were sponsored by the Faculty to undertake the Insights: Leading Research Teams programme delivered by the LJMU Leadership and Development Team and accredited by the LFHE. In 2018 **Foster**, the Programme Leader for the PhD, was one of 36 researchers to win a place on the international TRANSPEER programme. This was a European funded (Erasmus Plus Strategic Partnerships) project being delivered by LJMU in partnership with Karlstad University, Sweden, the Inland Norway University of Applied Science, Norway, and from Portugal ITQB NOVA and the Instituto Politécnico de Santarém (2017-2020) The programme developed a community of international researchers through building cohort identity and networking and by undertaking a range of training and development activities, covering such topics as leadership, coaching, mentoring and seeking research funding.

Support for new staff

All staff new to LBS are given time remission from teaching duties for a period of three years to enable them to transition to independent researcher status. This time remission equates to a 20% of overall time, coupled with timetables that provide an individual with at least one and typically two days free of teaching. As staff develop their research careers and meet specific criteria, such as volume and quality of outputs and external grant funding secured, the time remission increases, up to a maximum of approximately 40% time.

Support for mid-career staff to transition to independent researcher status

The Unit provides a research-focused mentorship scheme, internal funding and remission from teaching for mid-career staff on the cusp of being research-active. These staff members, for whatever reason, have not previously had the time or space to achieve the status of independent researcher, but have demonstrated the capability and commitments to reach it within an agreed period of time. These members of staff are allocated a Role Development allowance. This allowance, which typically lasts three years, equates to the ECR/New to LBS allowance. A number of individuals are currently on the cusp of transitioning and staff that previously benefitted from this allowance and are now of Cat. A SRIR status are **Foster**, **Harrison** and **Stavropoulou**, gaining this status in 2019/2020.

Mentoring Schemes

Internal funding was available through the "REF Upskilling Project", which ran in 2018/19 and 2019/20. This was an institutional mentoring scheme for academic staff development designed to offer new, lapsed or lesser-published researchers not only the opportunity to learn and develop from more experienced and widely published researchers within the University but also financial support for their research projects and institutional support, such as support to attend residential writing retreats dedicated to REF Upskilling Mentees and Mentors. Since its conception, 8 staff members from LBS [Kok – left institution in 2020, Brown, Collins, **Foster**, Gao, **Harrison**, Scotto and **Schiffing**], have been successful recipients of funding through the

scheme. Total amount of funding is £28,640, with an average of £3,455 per person. The funds enabled staff to complete ongoing research i.e. by paying for data transcription or other costs of fieldwork and then submit papers to highly regarded journals. The below testimony from one of the mentees, **Schiffing**, is evidence of the success of the mentoring scheme.

“The most obvious outcome of the REF UpSkilling initiative for me is that my mentor and I have managed to publish the paper we were working on together in an ABS 4-star journal. However, the true benefit is much more wide-ranging than that. In a year when teaching and its pandemic-related challenges could have easily taken over all of my working hours, my mentor helped me maintain a focus on research. When I was so overwhelmed I wanted to withdraw the paper during the final round of reviews, she patiently worked with me to not just revise this paper, but teach me about the ups and downs of the process, making me realise that I was not actually a failure, but that these feelings were quite normal and that there were ways to work through them”.

Staff Development Opportunities

LBS staff have been successfully encouraged to engage with the ACTivator (**A**ttitude and **C**apability **T**oolkit), LJMU's award winning programme of researcher development workshops. Since 2017 48 LBS researchers, at different stages of their careers, attended multiple sessions. Total attendance on the workshops was 104, with a steady year-on-year increase: 19 (2017), 22 (2018), 29 (2019) and 34 (2020). The highest attendance being on the workshops: “Surveying your funding landscape” [11 attendees] and “Funding applications – getting a yes” [10], which has contributed to the uplift in successful bids for external research funding by enhancing staffs' capability in this area. Other well attended topics covered in the programme include: “The give and take of peer review”, “The building blocks of impact”, “Collaboration that counts”, “Getting media savvy”, “Maximize your REF-readiness” and “Attending to you”.

ii. Research Students

LBS offers a PhD and a DBA. The DBA is the longest standing Prof Doc in the Institution, with the first cohort starting in 2008. LJMU is a member of Executive Doctorate in Business Administration Council (EDBAC). As shown in Table 1 there were 133 new enrolments on the programme between 1/8/2013 and 31/7/2020, 71 on the PhD and 62 on the DBA. Growth has been achieved through a move in 2015-2016 to an annual intake to the DBA rather than a bi-annual one, which was the case prior to 2015, as shown in Table 1 with no intake in 2014/2015.

The overall trend in terms of PhD completions within 4 years shows an overall improvement, with the rate being 40% in the first two years of the assessment period and 80% and 61% in the last two. All DBA candidates completed within the maximum registration period of 7 years, with on average 74% completing before the end of year 4.

Three of the PhD students are on fully-funded LJMU scholarships and two are funded by Zurich University of Applied Sciences/ZHAW, Switzerland. Targeted initiatives have significantly impacted on the quality of the students. All students complete the ‘3i’s’ training course, run by The Teaching and Learning Academy, which is mandatory for any PGRs engaged in undergraduate teaching or demonstrating. Having completed the 3i’s students gain valuable experience in the classroom, under careful supervision and, during the assessment period, this experience helped 5 PhD students to secure permanent lectureships in LBS on completion of their studies.

Table 1: Doctoral enrolments and completions

	1/8/13-2014	2014 – 2015	2015-2016	2016 – 2017	2017 – 2018	2018 – 2019	2019 – 31/7/20	Total
Enrolments								
PhD – newly enrolled	10	10	10	7	12	15	7*	71
DBA - newly enrolled	12	No intake	9	9	10	8	14	62
Overall - total newly enrolled	22	10	19	16	22	23	21	133
Completions								
**All PhD completions	4	7	6	9	6	6	6	44
***PhD completions within 4 years (%)	40%	40%	10%	50%	51%	80%	61%	47%
DBA completions	10	1	6	8	1	5	8	39
Overall total completions	14	8	12	17	7	11	13	79

*2019/20 has a lower intake because of deferred new starters for June 2020 due to the Pandemic

** Actual number of completions within the year. It includes any completion whether on time or not

*** Actual PhD on time completions only, which is why as a % it is different to number of completions. It does not include the 2 PT students, both are still active and overtime.

The majority of the PhD students are international (59), with particular representation from: the Middle East, especially UAE; China; Bangladesh; Africa; and Thailand. The DBA is designed as a boutique programme, with cohort size limited to 16 students. A new cohort joins the programme each year. The DBA cohorts have a mix of UK-based and international students, with those from Ireland, Germany, UAE and Thailand strongly represented amongst the international student body. All DBA candidates work at senior levels in their organisations and their research directly relates to an organisational issue, which provides a strong focus of undertaking highly impactful research and a direct route to translation to management practices.

Support, development and training

The diverse backgrounds of both PhD and DBA students provides for an enriched learning experience and sharing of cultures amongst the cohorts. By the nature of its structure, cohort identity on the DBA is very strong. To help build a similar identity and community of doctoral researchers on the PhD, in 2016 the Unit appointed **Akwei** to a newly created role as PhD Training and Development Tutor. She designs and delivers initiatives to build cohort identity and help the international students and their families settle into the Institution and the local area. For example, pre-COVID-19, social events outside the Institution and events within the Institution i.e. family picnics in a local park and an international event held each semester whereby staff, students and their families wear traditional national dress and bring food dishes local to their home countries for all to try. **Akwei** is from an overseas BAME community and can relate to the experiences of the international students that make up the majority of the PhD cohort. She also supports the students

in terms of their career development, such as helping them in developing their research profiles and their networks, thesis writing, writing for journals and conferences and in gaining experience in the classroom; with a view to them securing meaningful employment, if a target, either within the Academy or beyond, on completion of their studies. Regular seminars are held for PhD students, such as a monthly Research Café, where students share their research and discuss ideas with fellow students and their supervisors. The success of this support is evidenced in better PRES outcomes, where the percentage level of agreement against 24 of the 26 comparable statements in the PRES survey increased from when measured in 2015 and then 2019. Noteworthy was an increase in confidence of completing on time from 82% in 2015 to 95% in 2019, which is 13 percentage points above the global benchmark.

The DBA programme also has a series of social events which are held during the four week-long residential workshops that students attend during the first three years of the programme, such as visits to local restaurants and evening events involving guest speakers. These events are also opened up to the PhD students to attend.

All PhD students have access to individual desk space within a recently refurbished Doctoral Suite. Each student is invited and encouraged to join one of the Research Groups, if appropriate, and participate in the group's activities. An annual Faculty doctoral conference provides a further opportunity for both PhD and DBA students to meet and share experiences. There are funds totalling £500 per student to attend conferences and requests to attend training events, seminars and writing retreats run by the NARTI, of which LBS is a member. Both PhD and DBA students are on the organising committee for the 2021 Annual Doctoral Conference, which is being hosted jointly by LJMU and University of Liverpool and part-sponsored by the ESRC – which was postponed from June 2020 due to COVID-19.

All doctoral students are members of the Institution's Doctoral Academy and have access to a wide range of support and development services, such as pastoral care. The Doctoral Academy's Researcher Development Programme (RDP) supports PGRs throughout the doctoral journey, from getting started with research, enhancing personal effectiveness, through to engaging others and successfully communicating research. It is fully mapped to the Vitae Researcher Development Framework, and as well as helping PGRs to develop research and transferable skills, the RDP also enhances the PGR community by encouraging peer networking across faculties.

LBS PGRs who have received PG Conference Travel funds from the Doctoral Academy (£350 for international; £175 for UK) between 2015 and May 2017: Favour Evwehamre, Abdulhameed Aldurayheem, Abdulhameed Aldurayheem, Jaseer Noor Al Rhaman.

As well as supporting students to attend NARTI training events, **Akwei**, the LBS PhD Training and Development Tutor runs training sessions for students that are bespoke to business and management. In 2018 an external appointment of a Lecturer in Research Methods for Business, **Wilson**, was made to the DBA team and this person provides a similar a role to the PhD Training and Development Tutor for the DBA programme.

For the DBA cohorts, who mainly study remotely, innovative teaching and learning strategies have been put in place in order to enhance the level of engagement on the programme and to close any gaps in relation to cultural and learning disparities of the cohort's profiles. Key strategies include: 1) Participation in 'research café' sessions during the residential workshops – here students are encouraged to talk openly about their research and are split in to small groups partake in a series of interactive workshops where each member conducts a short presentation based on the café theme, followed by open discussion with the group (since 2019); 2) 'Virtual action learning sets' - reflection and questioning on what has been learnt together, and apart, is facilitated and captured via an online platform with a multi-user collaboration tool. This 'blending' of methods, over a sustained period of time, enables students to move to a deeper level of knowledge and understanding of research methodologies (since 2014); 3) 'Virtual writing retreats' – this is an innovative take on traditional writing retreats, where candidates come together virtually at the beginning of the retreat to set goals of the session. They then 'mute' their microphones but stay visible on the screen to each other. They work in silence for a fixed period of time (usually 2-3 hours) and reconvene at the end to discuss their outputs. Such retreats are being effectively

employed by DBA students located in different parts of the world. These retreats were introduced in 2019 and were facilitated by a staff member from the DBA team, but since 2020 they have been student-led.

The Unit has been able to maintain support and switch to online modes for doctoral student development and training, post COVID-19. Monthly research cafes were held at the end of March and in May, June and July 2020 using Zoom and the Canvas online learning platform. In April 2020 there was a Zoom PhD research day and in May a virtual 3-minute thesis presentation support workshop. Finally, in June 2020 there was a MS Teams meeting of the Narti Annual Doctoral Conference organising committee, with PGR students from the Unit in attendance, which reviewed 49 papers submitted by PGRs to the conference and then provided feedback to Narti on plans.

Equality and diversity

In recruiting new staff, the Unit has sought to achieve gender parity/balance, which has included having adequate female representation on interview panels. This approach has been effective. In 2017 the Unit appointed two new professors under an Institutional “Inspire” programme to bring in future research leaders who could help drive the research agenda and one of these two professors was a female. Further, the next appointment of a new professor in 2019 was also a female and this person, **Hannibal**, undertakes a senior research leadership position as Faculty Associate Dean of Research, Scholarship & Knowledge Transfer. The gender split of research-focused Professors and Readers in Liverpool Business School is 60% male and 40% female, which is getting close to our institutional target of a 50/50 ratio. Furthermore, ECRs are being submitted with an average of 1.8 outputs, compared to non-ECR Cat. A staff averaging 2, demonstrating that ECRs make a good contribution in terms of their outputs compared to mid-career and senior academics – the ECR gender split is 50% female/50% male.

The Unit has availed itself of the dedicated institutional support for female members of staff with ambitions to achieve internal promotion to Reader or Professor, specifically signposting them to the Woman’s Professors Network, Women Readers Network and Women ECR Network. Faculty support is also given in the form of mentoring by a female professor – firstly **Bettany** [left in 2018] and then **Hannibal** [since 2019]. In 2017 two female members of staff at Senior Lecturer level within the Unit were successful in their applications for promotion to Reader (**Lawless** and **Otaye** [left in 2019] and additionally one of them was from a black, Asian and minority ethnic (BAME) background. In 2020 a further two females SLs from BAME backgrounds were promoted to Reader – **Akwei** and **Qu**. Encouragement and funding are also given to females to attend the Aurora Programme and one member of staff, **Unterhitzberger** [left LJMU in 2018] completed it. Female academics, including those in the Unit i.e. **Hannibal**, **Schiffing** and ECRs have also been able to attend two-day residential women-only writing retreats.

In allocating Role Development allowances, see sub-section “Support, development and training” earlier in this section, the individual staff circumstances of female members of staff, such as periods of maternity allowance, are taken into account and if appropriate the qualification period can be extended. In terms of allocation of internal funding to support research, a gender balance has been achieved. For example, of the 9 staff members from LBS funded through the Institutional REF Upskilling scheme 5 were female researchers.

The use of writing retreats has created structured and formalised communities of practice, that are particularly valuable to female researchers and this is reflected in the fact that of the 296 attendance figure of staff attendance at all the annual and monthly retreats run by LBS, 185 (63%) were female. The success of the support for female members of staff is reflected in that females are being submitted with an average of 2 outputs, compared to male Cat. A staff averaging 1.9.

Additionally, staff members from BAME backgrounds are encouraged to attend the writing retreats, which is reflected in the fact that 54 of the total attendance was individuals from such backgrounds, with a particular success in encouraging male BAME staff members to attend – of 111 males attendances 41 (37%) were from BAME backgrounds. **Akwei**, who is from the BAME

community, sits on the Chartered Association of Business Schools (CABS) Diversity Committee and through her involvement in this committee good practice is fed back into the Unit, through the promotion of good practice. Her standing in this area has been recognised by being invited to speak at a CABS event in 2020 at Kings College London “Workshop on tools for diversity in Business Schools”.

3. Income, infrastructure and facilities

Since embarking in 2015 on the major change initiative to build the research base, a concerted effort was made to consistently improve our research awards, in terms of total research income and size of award. Total research income for 2014 - 2020 is £1.624M. Of this income, £1.589M was received in the last three year of the REF cycle: 2017/2018, 2019/2020 and 2019/2020, which shows a step change in the size of grants and the level of income received and reflects the success of the change initiative. Notable successes were in securing two large grants from the EU. Smaller research grants were secured from a range of sources: BEIS Research Councils, The Royal Society, British Academy, the Royal Society of Edinburgh, UK-based charities, UK Central Govt., local authorities, the NHS, Non-EU charities and private sector and professional associations. The growth of income coupled with the diversity of income sources demonstrates the Unit’s ability to secure funding, including major grants in partnership with national and international collaborators (see section 4.8 below for details of collaborating institutions), through effective engagement with key stakeholders involved in advancing management policy and practice in both public and private sectors. As well as producing publications in highly reputable journals the investment of income has contributed to the development of the Impact Case Studies i.e. ICS1 – funding from the Association of Project Management, ICS2 – British Academy of Management and University Forum for Human Resource Development and ICS3 – EU Horizon 2020, Norwegian Research Council and AECOM, UK.

The Unit provided support for research grant applications through a Faculty Research College, which offers a rigorous internal peer review process. An internal peer review process is also provided within each of the Unit’s research clusters. In addition, each research cluster is allocated £500 per annum per group to support activities such as bringing in external speakers to talk about aspects of bidding for external funding. The Unit has a dedicated team of 3 research administrative staff, with the team leader providing specific administrative support to the research cluster leads. In addition, since 2020, additional support is provided by the newly created position of Research Funding Coordinator within the Unit. There is also targeted support for the development of impact – as described in section 1.

The new £38m Redmonds Building, which houses the Liverpool Business School (LBS), formally opened in 2013. The relocation of LBS into this new facility made a significant improvement to the research environment and, through the improved layout of office spaces, open plan areas, social spaces and meeting rooms, enabled staff and PGRs to more easily meet together and collaborate on research. For PGRs there is a dedicated room, with each student being allocated their own desk space. The Unit has also supported the purchase of specialised software, simulation packages and datasets to support researchers, such as Qualtrics, Planview LeanKit, Prendo and the Carbon Disclosure Project dataset.

4. Collaboration and contribution to the research base, economy and society

The evidence of the Unit’s collaboration and contribution to the research base, economy and society is captured below.

1. Conference organisation: Staff in the Unit have been active in conference organisation. **Bryde** organised a Special Stream for the EUROMA 2017 Annual Conference in Edinburgh, UK, in 2017 titled “Project Management: Meeting the challenges of managing temporary (multi) organisations”, which was sponsored by the Association of Project Management. Since 2017 **Papagiannis** has been on the EU Erasmus funded Scientific Committee of the Annual

International Practicum of Centro Di Ricerca-International Study Centre for Smart Organisations Management and Smart Territory Valorisation (SMARTER). Philips has been a Co-chair of the Problem Structuring Methods Special Interest Group for the Operational Research (OR) Society since 2018 and Chair of Social Media for Simulation Workshop 20 (SW20) of the OR Society, originally scheduled for April 2020 but postponed to 2021 due to COVID-19. **Tassiello** co-organised a special session on experimental designs at the Academy of Marketing conference in 2019. In his role as Research Lead for the European Facilities Management Network (EuroFM), **Tucker** was responsible for leading and organising their flagship annual conference in Sofia, Bulgaria in 2018, and in Dublin, Ireland in 2019.

2. Developing capacity in the wider academic and non-academic community: A focus of activity is on capacity development of academic and non-academic communities.

Academic: Liverpool Business School hosted the 2018 British Academy of Management (BAM)/Chartered Association of Business Schools (CABS), DBA Symposium on the topic “Developing, Capturing, and Using the Impact of DBA Research” and the CABS Annual DBA Conference in 2015. In 2019, with University of Liverpool Management School, it was selected to co-host the 15th Annual Doctoral Conference of the Northern Advanced Research Methods Training Initiative (NARTI), sponsored by the ESRC, which will be held once COVID-19 related restrictions are lifted. **Bryde** was an organiser of a Doctoral Symposium on “Addressing the Sustainability Agenda in the Gulf Region” on behalf of the Gulf Research Meeting (GRM), held at the University of Cambridge in 2014. **Bryde** and **Tucker** ran a World Café Series on “Supervision: Supervision of executive doctoral candidates” at the European Foundation for Management Development (EFMD) 2019 Annual Doctoral Programmes Conference, Lancaster University, UK; and in 2020 **Tucker** delivered a seminar on “Building Sustainable DBA Programmes” at the BAM/CABS, DBA Symposium, Sheffield Hallam University. **Lawless** sits on the Research Activities Committee of the University Forum for Human Resource Development, with a specific remit of mentoring ECRs and new/junior members of the Academy. **Stewart** and **Lawless** sat on the committee that awards the UFHRD Research Honorarium, which provides seed-funding for research projects being undertaken by ECRs. **Wilson** was shortlisted for the prestigious Innovation in Teaching of Research Methodology Excellence Award 2020, as part of the 19th European Conference on Research Methodology for Business and Management Studies, which was held in Aveiro, Portugal in June 2020.

Non-academic: Bishop acted as a Community Engagement Specialist for the North West Regional Flood and Coastal Committee of the Environment Agency between 2014 and 2017. **Bryde** engaged with the wider non-academic community to raise awareness and capacity in project management, for example: Association of Project Management/ Pharmaceutical Industry Project Management Group (PIPMG) – 2019-2020; Constructing Excellent, Liverpool City Region – 2018; Pharmaceutical Contract Management Group (PCMG) – 2018; Partnerships in Clinical Trials (PCT) – 2017; Institute of Clinical Research (ICR) – 2016; Project Challenge – 2016; Bio2Business – 2015; Association of Project Management – 2015. **Bryde** acted as a mentor and advisor to staff in a UK-based SME seeking to scale up their staff’s project management capabilities (2016-17). In 2015 he presented on aspects of sustainability to the Office of the Crown Prince Sheikh Nasser, Kuwait City, Kuwait in his capacity of Subject Matter Expert for Oliver Wyman, a global management consulting firm founded in New York City in 1984. **O’Brien** acts as an academic advisor to Budget Traveller, a National Geographic readers’ award-winning company and the Regulatory Council of Wineries, La Palma on aspects of entrepreneurship, such as business development and importing/exporting.

3. Membership of peer review bodies, research committees and learned

institutes/societies: Staff are active as members of peer review bodies, research committees and learned institutes in the UK and overseas. **Akwei** was the Research Committee Lead of the African Educational Research Network (AERN) Biennial Summit, Accra, Ghana, hosted by the University of Ghana-Legon in 2016. **Bryde** is a member of the Academic Research Review Group (ARRG) for the Association of Project Management (APM), which is responsible for quality assurance of submission for research funding and academic publications. In April 2020

he was appointed a judge for the APM's 2020 Festival of Education and Research. He is a Member of the UK Research and Innovation Future Leaders Fellowships (UKRI FLF) programme Peer Review College, 2018 – date. **Bryde** also reviews project management proposals submitted for research funding to the Croatian Science Foundation (HRZZ) and was a reviewer for the Austrian Science Fund (FWF) in 2015. Since 2019 **Dubey** has been a panel member of the Academy of Finland, evaluating applications for funding. Since 2017, **Hannibal** has been an Elected Council Member of the British Academy of Management and was Founding Chair of the BAM Operations, Logistics and Supply Chain Management Special Interest Group (until 2017). She was an Elected Board Member of the European Operations Management Association (EUROMA) 2014-2017. **O'Brien** acted as a Panel Judge for the 2015 National UK Awards of the Federation of Small Businesses. **Stewart** is President of the UFHRD and was Acting Chair/Executive Secretary from 2014-2018. He was a Member of the ESRC Peer Review College from 2014-2016 and since 2014 has been an Expert International Reviewer for the Russian Science Foundation. **Tucker** was an Elected Board Member and Research Chair of the European Facilities Management Network (EuroFM). Since 2013, he has been a Research Application Assessor for the Royal Institute of Chartered Surveyors Research Trust.

4. National/international committee work [non-research]: The following are notable national and international committee work by staff in the unit. **Dubey** is a member of the Governing Body of the International Association of Innovation Professionals, US. **Qu** sat on the International Advisory Committee of Collaborative Conference on Territorial Sovereignty and Maritime Rights (2017). **Stewart** is the Co-Chair of the Examination Board of the Chartered Institute of Personal Development (CIPD) (since 2017) and Co-Chair of their Ethics Panel (since 2016). Until 2016 he was also the Chief Examiner for Learning and Development. Since 2020, **Tucker** has sat on the Executive Doctorate in Business Administration Council (EDBAC) committee as an elected member.

5. Visiting positions: Staff in the Unit hold visiting positions at various UK and overseas institutions. **Bai** is Visiting Scholar in the School of Resources and Environment, University of Jinan, Shandong, China (since 2017). In 2018 Bishop was a Visiting Research Fellow at the National University of Ireland, Galway and University College Dublin, Ireland. **Dubey** is Visiting Professor at the Indian Institute of Management, Jammu, India (since April 2020) and at Anhui University, Anhui Province, China. He was a Visiting Scholar at Charlton Business School, University of Massachusetts, Dartmouth, US and DePaul University, Chicago, US in 2015. **Fillis** was Visiting Distinguished Thought Leader, of South Australia, 2018 and Distinguished Visitor, University of Tasmania, 2018. **Grubic** was a Visiting Researcher, Complex Systems Research Centre, Cranfield School of Management, Cranfield University up until 2019. **Hannibal** is an Honorary Senior Research Fellow at University of Liverpool School of Management. In 2014 was Visiting Professor for the Liikesivistysrahasto's (LSR) Nyberg's International Visitors' Program at Aalto University, Helsinki, Finland. **Papagiannis** is a Visiting Professor at the University of Insubria, Varese, Italy. **Nadal** is Visiting Associate Professor at King Abdulaziz University, Saudi Arabia. **Tucker** was a Visiting Scholar at Georgia Institute of Technology (2014-16) and Texas A&M University (2017-18). Since 2014 **Del Real** is a Visiting Researcher at Euro-Mediterranean University Institute (EMUI)/Complutense University of Madrid and in 2014 was a Visiting Research Fellow at the Centre of Globalisation and Regionalisation, University of Warwick, UK.

6. Invited lectures/keynotes: Notable invited lectures and keynotes delivered by staff in the Unit are: **Akwei** was a keynote speaker for the African Educational Research Network (AERN) Biennial Summit, at University of Ghana-Legon, Accra, Ghana in July 2018. **Bryde** delivered a keynote at SE16 Sustainability in Dubai, UAE in 2016 on "Delivering Sustainability in the Gulf Region: a meta-analysis of the drivers of change". **Dubey** delivered a keynote speech at the 15th and the 16th Symposium of Production Engineering at Bauru, SP in Brazil in 2018 and 2019. **Fillis** was a keynote speaker at: the International Conference on Arts and Cultural Management Doctoral Symposium on 22nd June 2019 at Ca' Foscari University of Venice. University of South Australia School of Management, July 2018; Tasmanian School of Business and Economics, October 2018; the University of South Australia School of Management Doctoral Symposium and the Academy of Marketing Symposium, 2019. **Tassiello** delivered a Keynote at Largo Consumo, Milan, Italy in

2015 on Word of Mouth and Marketing. **Tucker** was an invited expert speaker at the Laing O'Rourke Centre for Construction Engineering at the University of Cambridge, UK. He was the keynote speaker at the 2017 Graduation Ceremony at the Institute for Facility Management, Zurich University of Applied Sciences, Switzerland.

7. Research based awards, honours and prizes: **Hannibal and Schiffing** received the Chris Voss Highly Commended Paper Award at EurOMA Conference 2019 for a paper entitled 'Swift trust – swifter distrust: Exploring coopetition in humanitarian supply chains'. **Qu** won the Best Paper Award for a paper titled "Measurement and Management of KPIs under Uncertainty: A Case of Shipping Management" at the International Conference on Quality, Reliability, Risk, Maintenance, and Safety Engineering (QR2MSE 2015), July 21-24, Beijing, China.

8. Academic and industry collaboration [Inc. international and interdisciplinary]: Examples of academic and industry collaborations of staff are: **Akwei** works closely with external colleagues through the African Higher Education Centres of Excellence (ACE) Program, focusing on building research collaborations in relation to enhancing sustainability in the area of logistics on the African continent. **Bryde** has strong links with the APM and has undertaken three research projects funded by their annual Research Fund (2014, 2016 and 2019). He also works closely with the ICR and the PCMG to develop research-informed policy and practice for clinical trial project management. Between 2107-2020 **Bryde** acted as the Lead Coordinator, with LJMU as the Lead Partner, for a Marie Skłodowska Curie Research and Innovation Staff Exchange (RISE) Horizon 2020 Work Programme "Being Lean and Seen: meeting the challenges of delivering projects successfully in the 21st century" (€330,000). The four-year project involved a collaboration between the following academic institutions in UK, Germany and Malaysia: Liverpool Business School, University of Liverpool, Manchester Metropolitan University, University of Stuttgart, Konstanz University of Applied Sciences and Universiti Sains Malaysia. Furthermore, **Qu** is the lead for a management-related work package looking at operations risk management, as part of a €1.25m EU H2020 RISE/EC-Asia Research Network programme on "Integration of Global and Local Agri-Food Supply Chains Towards Sustainable Food Security" (GOLF), which involves collaborating with the following partners: Universities of Liverpool and Hull in the UK; Dalian Maritime and Zhejiang Universities, China; Wageningen University, Netherlands; Molde University College, Norway; Nong Lam University, Vietnam; and Thammasat University, Thailand. **Tucker**, as a previous winner of a Fulbright Scholar Award, is a member of the Fulbright Alumni and acts as a mentor for Fulbright Scholars undertaking international Fulbright projects between the UK and the US. He works closely with the International Facility Management Association (IFMA) and has acted as a guest speaker at luncheon events in Chicago and Atlanta, US. Through the Erasmus Programme, **Del Real** has ongoing collaborations with colleagues at: EM Strasbourg Business School, Switzerland; Universidade Europeia, Lisbon, Portugal; and Technology Arts Sciences TH Köln, Cologne, Germany.

9. Examples of doctoral external examining: Staff are regularly invited to undertake external examining duties of doctoral candidates at institutions in the UK and overseas. Examples include **Akwei** Cardiff Met. **Bryde** Abu Dhabi University UAE, Bradford, British University of Dubai UAE, Loughborough, Man Met., University of Austin in Texas US, Birmingham, Liverpool, University of Malaya, Kuala Lumpur, Salford. **Douglas** Salford, Herriot Watt, University of West of Scotland. **Dubey** Abu Dhabi University, UAE, Indian Institute of Technology, Delhi, India, Indian Institute of Management, Lucknow, India, Liverpool, the University of Newcastle, Australia and the Ecole des Mines d'Albi-Carmaux, France. **Fillis** Liverpool, Birmingham, Technical University Dublin, Middlesex, De Montfort, Aberystwyth, Ulster and Brunel. **Hannibal** Loughborough, Huddersfield, Lancaster, Surrey, Liverpool. **Kostopoulos** Manchester Alliance. **Lawless** Manchester Alliance, Liverpool, Middlesex, Anglia Ruskin, Leeds Beckett, Gloucestershire, Leeds Beckett, Coventry, Northumbria. **Shahgholian** Salford. **Stewart** Edinburgh, Bath, Gloucester, Hull, Lancaster, Liverpool, University of Mauritius, Nottingham Trent, Portsmouth, Teesside, Waterford Institute of Technology, Ireland.

10. Supporting collaboration and measures of success [visiting professorships, visiting research fellows]: The Unit has a number of visiting professors and visiting researchers, from overseas institutions that support the collaborative activities of the staff and provide specific knowledge and expertise to help the development of the research groups. These include Visiting Professors from the University of Tasmania, University of Applied Management Studies, Mannheim, Germany, VSB-Technical University of Ostrava, The Czech Republic and Muscat University, Oman; and Visiting Research Fellows from the University of Navarre, Spain, Universiti Sains Malaysia, Jimei University in China, University of Cagliari, Italy and Ankara Yildrum Beyazit University, Turkey.

11. International networks [co-authorships]: Staff in the Unit have very strong international networks, as reflected in the number of journal papers co-authored with individuals from overseas. The countries include Australia, Canada, China, Finland, France, Germany, Greece, Italy, India, Malaysia, New Zealand, Oman, Saudi Arabia, Tasmania, Thailand, Ukraine and USA. Data from SciVal shows a modest but steady increase in the number of publications including international collaborators in the last three years of the REF cycle: 47.9% (2017/18), 49.3% (2018/19) and 50% (as at 31st July 2020).