

Institution:	University of Exeter
Unit of Assessment: 17 (Business and Management)	
1. Unit context and structure, research and impact strategy	
<p>a. Overview</p> <p>Our Unit is committed to interdisciplinary research excellence and to being among the UK's leaders in business and management research. Since REF2014, we actively pursued the objectives outlined in our REF2014 Environment Template, with an accelerated focus on building up the research environment after a strategic review in 2017. The emphasis of the five-year research strategy was in setting challenging objectives for research quality, funding, impact, and staffing. To achieve our ambitions, research is primarily organised and directed through three departments (Science, Innovation, Technology and Entrepreneurship (SITE), Management (DoM) and Finance & Accounting (F&A) based across three locations: Exeter, Penryn and London, and eight funded research centres.</p> <p>Our structure is set up to ensure staff-led engagement in research strategy, and implementation is driven through the Research Strategy Group (RSG), departments and research centres (with staff holding appointments across both departments and centres), creating a vibrant, innovative, outward-looking research culture. Our restructuring was coupled with a five-year growth strategy that started in 2018 and so far has seen an investment of £9.2M in research staff, including hiring 13 Distinguished Research Professors (DRP), recruited from international universities to ensure the Unit is enriched, sustainable and committed to our research programme and environment (see Section 1c(iii) below). As such, we have focused on delivering distinctive, relevant, impactful, and rigorous research (see Section 1c). We have also fostered a collegial, diverse and international faculty (see Section 2), that has achieved significant interdisciplinary research funding (see Section 3). We have sustained collaboration with academic and professional stakeholders within and outside the University, generating impact with economic and social significance (see Section 4). As our research environment has progressed, our Unit has delivered innovative and distinctive research in Leadership and Well-Being, Behavioural Finance, Circular Economy, Corporate Governance, Digital Economy, and Social Networks.</p> <p>Our achievements since REF2014 include, FTE (category A staff) increase to 81.2 (from 49.05 in 2014), 1,179 articles (an average of 14/staff) published in peer-reviewed journals; 128 PhD completions (from 95 in 2014), £8.75M captured in research income (from £5M in 2014), and research income per FTE now at £25k (from £13.8k in 2014). The Unit's research has also had significant regional, national and international impact on policy and practice (e.g. the UKRI Circular Economy Hub). Finally, our re-organisation and growth is in line with the University's commitment to the Concordat to Support Research Integrity (see 2.10 Institutional-Level Environment Statement (ILES)), and the Researchers Development Concordat (3.8 ILES) which has underpinned our commitment to research ethics, EDI, gender representation, international orientation, Early Career Researchers (ECR), and the dignity of staff in all our practices and structures (see Section 2d).</p> <p>b. Context</p> <p>The University of Exeter Business School (UEBS) is submitting to two units of assessments (UoAs 16 (our Department of Economics) and 17 (the Departments submitted here)). UEBS is managed by the College Executive Group (CEG). Research and Impact activities across UEBS are managed by the Research Strategy Group (RSG) (reporting to CEG), ensuring sustained</p>	

commitment to the research strategy. RSG, chaired by the Associate Dean for Research (ADR), comprises senior members of the Unit's departments and centres. RSG staff sit on University strategic research committees; the ADR is a member of the University's Research and Impact Executive Group (RIEG) (1.5 ILES).

c. Research Strategy

The Unit has a longstanding reputation for research quality, maintained by focusing on excellence across our research environment activities – staff recruitment and development, publication, research council, charity and corporate research funding in the UK and internationally, engagement and impact, PGR recruitment and development. Building on the 'Future Strategy' set out in our REF2014 submission, and on panel member supportive feedback, we have both consolidated research disciplines within departments whilst developing and creating innovative inter-disciplinary research centres. Following the appointment of Pro-Vice-Chancellor and Executive Dean **Allen** in 2016, we developed a global strategy focused both on international best practice and creating our own distinctive research environment and culture. Our strategic objectives are as follows:

- (i) Achieving disciplinary strength and quality in the departments
- (ii) Enhancing interdisciplinary excellence in the research centres
- (iii) Developing global reach of the research in the Unit and galvanising the research environment, and
- (iv) Creating a culture of engagement and impact across all our research.

Below, we present in more detail how we have pursued these objectives, actions taken, and achievements.

Achieving disciplinary Strength through the Departments

Key to addressing this objective was the recognition that the Unit's research identity and culture have always been “lived” at the departmental level, to support a cohesive, creative and collegial disciplinary culture. Alongside this practice, we pursued achieving disciplinary research strength in existing areas, but also developing new knowledge around exciting contemporary topics (e.g., Behavioural Finance in F&A). Therefore, in delivering this objective our departments are committed to:

- (i) managing growth to retain and attract senior staff committed to providing leadership for junior staff and a shared vision of excellence and collegiality;
- (ii) maintaining peer groups where individual researchers are mentored and supported (each member of staff has an academic lead (see Section 2);
- (iii) sustaining vitality, for example, continuing our tradition of weekly department research seminars in every term, attracting top scholars in our disciplines;
- (iv) focusing on equality, diversity and inclusivity, ensuring that all researchers at all career stages have opportunities to flourish and succeed;
- (v) organising Unit-wide research training and development activities. The Research Methods Centre (see below) has taken a lead role – e.g., paper development workshops with editors of top field journals (e.g., The Leadership Quarterly) and research methods workshops (e.g., Longitudinal Network Analysis with RSiena);
- (vi) supporting opportunities for staff to participate in cross-discipline activities. For example, Analytics and Leadership, and on Business and Sustainability.

Focusing on these commitments aimed at strengthening our research disciplines have enabled our Unit to thrive, maintaining scholarly research of the highest quality. Here, staff have continued to operate at the forefront of global research. For example, an independent assessment by the *Times Higher* consistently puts UEBS in the UK Top Ten of the Russell Group Universities for Business & Management for citations per paper over the period 2014-20. Publishing at the highest levels also demonstrates our ability to shape key debates in management (e.g., **Inceoglu's** work on Machine Learning and Leadership). Research strength in departments is shown by staff sustaining a track record of highly influential publications in leading global journals and having a strong reputation in their field. For example, **Disney** is in the list of Top 2% Ranking of Scientist in the World for Operations Research (No 14 in UK and 103 in the world; [Baas et al. "Updated science-wide author databases of standardised citation indicators"](#)). Vitality in the departments can also be demonstrated by the significant role staff (particularly female faculty) are playing in influencing policy and practice. For example, **Sealy's** work on Board Diversity in the NHS and **Hawkins'** work on Public Service Mutuals have been recognised by the UK government and beyond, and by the fact that there were over 300 seminars hosted during the current REF cycle. Over 50 talks were given by leading international academics (50% by women) from institutions such as UC Berkeley, Cornell, Boston University, University of Washington, Maryland, UT Dallas, WU Vienna, Frankfurt, Bocconi, and Stockholm School of Economics.

Our approach to invigorate the research environment in each of the departments builds on the commitments outlined above in the following ways.

The **Department of Science, Innovation, Technology and Entrepreneurship (SITE)** is a new Department that operates across three locations: Streatham campus at Exeter, Penryn campus in Cornwall and a research and collaboration space in London's South Bank. Continued investment has ensured its growth (e.g., headcount of SITE increased from 17 FTE in 2018 to 31 FTE at the census date). This growth has delivered a diverse and inclusive group, which includes seven female professors/associate professors and three ECRs (**Ivanova, Gunther, Phillips**). To achieve disciplinary strength, the Department was formed to link to the STEMM agenda of the University (1.4 & 2.1 ILES), therefore, several multidisciplinary research themes were developed:

- Sustainability and the Circular Economy (**Hopkinson, Boehm, Charnley, Howard, Pascucci, Monciardini**);
- Operations and Supply Chain Management, (**Disney, Ignatius, Mustafee, Howard, Pascucci, Maull, Smart, Phillips**);
- Entrepreneurship and Innovation (**Molecke, Ivanova, Tornikoski, Vanacker, Kannan-Narasimhan, Birtch, Alexander, Islam, Fitza, Ahmed-Kristensen, Hartley**);
- Digital Economy (**Maull, Gunther, Thompson, Polykarpou, Brown, Lopez, Plans, Ortiz De Guinea, Ahmed-Kristensen**);
- Organisational Social Networks (**Lomi, Parker, Perry-Smith**);
- International Management (**Duanmu, Monciardini, Hartley, Krammer**); and,
- Operational Research (**Disney, Mustafee, Ignatius, Yearworth**).

The STEMM orientation meant staff were recruited from disciplines including Engineering (**Ahmed-Kristensen, Charnley, Disney, Yearworth, Ignatius**), Computer Science (**Plans**) and Applied Computing (**Mustafee, Gunther**). The orientation has led to cross-cutting research including Digital Innovation and Design Engineering (**Ahmed-Kristensen**), Design Innovation and Manufacturing in the context of the Circular Economy (**Charnley**), Digital Technologies and Service Operations

Management for enhanced visitor experience (**Smart, Phillips**), Digital Platforms for shaping of demand for urgent and emergency services (**Mustafee**), Digital Innovation and 3-D printing (**Polykarpou**), Control Theory and the Bullwhip Effect (**Disney**). Further links to the STEMM orientation of the University is evidenced by staff being associated with several of the University Institutes (ILES 2.1) e.g., Global Systems Institute (**Hartley**, serves as its Assistant Director for Engagement), Environmental and Sustainability Institute (**Pascucci**), Institute for Data Sciences and Artificial Intelligence (**Plans, Lopez and Brown**).

The **Department of Management's** research builds on well-established areas such as:

- Human Resource Management (**Methot, Wihler, Inceoglu, Harvey, Lang, Erdogan**);
- Organisational Behaviour (**Harvey, Lee, Legood, Emery, Inceoglu, van Quaquebeke, Lang, Kark, Leroy, Erdogan**);
- Marketing (**Dose, Stern, Tourky, Stringfellow**).

And, new themes such as:

- Leadership and Well-being (**Inceoglu, Adarves-Yorno, Lee, Gerbasi, Allen, Peters, Leroy, Lang, Erdogan**);
- Gender and Leadership (**Ladge, Jeanes, Sealy, Peters, Kark, Gloor**);
- Organisational Social Networks (**Methot, Labianca, Gerbasi, Fagan, Emery, Tasselli, White**); and,
- Sustainability, (**Coles, Shaw, Connell, Whiteman**).

To maintain relevant and topical research and to ensure a virtuous cycle between research and impact, the Department works with a range of external stakeholders, building on links with many professional associations, including the Institute for Small Business and Entrepreneurship, Chartered Institute of Marketing (CIM) and the Chartered Institute of Personnel and Development (CIPD). Considered recruitment and development of staff has ensured the Department is diverse, with gender balance and growing ECRs. Recent hires were made to strengthen the distinctive areas of research, these include **Emery, Tasselli, Fagan** (Organisational Social Networks), **Gerbasi, Inceoglu, Ladge** (Leadership), **Gloor, Peters, Kark** (Gender and Leadership), **White** (Management Practices) and **Whiteman** (Sustainability in Business). The Department includes ten female professors/associate professors (**Gerbasi, Inceoglu, Sealy, Peters, Methot, Hawkins, Whiteman, Erdogan, Ladge, Kark**). Six junior faculty were recruited (**Gloor, Emery, Fagan, Lee, Legood, Wihler**). The Department also contributes to world-leading research that links to other colleges in the University. For example, work on leadership and health links into the medical school (**Inceoglu, Jeanes**); work on the Future of Work is cultivated by links to the Institute for Data Science & Artificial Intelligence, Law and Psychology (**Inceoglu, Methot, Fagan, Hawkins, Gloor**). Developing the research environment has also ensured the Department is at the forefront of cutting-edge research in social networks research (**Emery, Gerbasi, Fagan, Labianca, Tasselli**), HR analytics (**Methot, Inceoglu, Fagan**), Mindfulness and Leadership (**Adarves-Yorno, Lee**), Selection Performance (**Inceoglu, Lang, Methot**) and Leadership and Data science (**Lee, Fagan, Inceoglu**).

The **Department of Finance and Accounting's** research focuses on:

- Corporate Finance and Governance (**Dargenidou, Dimitrova, Onali, Park, Tarsalewska, Tharyan, Trojanowski, Tse, Wang, Zhang**);
- Investments (**Cen, Chen, Tse, Zhang**);

- Banking (**Isin, Onali**);
- Capital Markets Accounting (**Dargenidou, Kiosse, Livne, McMeeking, Wang**), Tax (**D'Attoma, Isin, Oats**); and,
- Critical Accounting (**Billings, Burns, Jollands**).

The Department is also at the forefront of cutting-edge research in Behavioural Finance (**Chen, Zhang**), Empirical Banking (Onali), Corporate Social Responsibility and Finance (**Trojanowski, Zhang**), Exchange Rates (**Cen**), Private Equity (**Dimitrova**), and Tax (**Oats**). The Department is committed to sustaining its research environment by hosting weekly research seminars with global speakers, as well as regularly organising conferences in Finance and Accounting jointly with other universities such as Bristol, Lancaster, and Manchester. Recent hires to strengthen the distinctive areas of research include **Cen** (International Finance), **Chen** (Behavioural Finance), **Onali** (Banking and Governance), **Tse** (Mathematical Finance), **Zhang** (Corporate Finance and Sustainability). Finance and Accounting research links to other colleagues within UEBS. For example, work on tax links into the Tax Administration Research Centre (TARC) jointly run with Economics (**D'Attoma, Oats**). Work on Environmental, Social and Governance (ESG) issues in finance is coordinated by the recently established Exeter Sustainable Finance Centre (ESFC) with links to other departments/institutes around the University.

Enhancing Interdisciplinary vitality through Centre Structure

While individual staff identify with their disciplines within the departments, the focus of this objective was on nurturing interdisciplinary research and impact through the research centres. This was achieved through providing support, funding and structures for emergent areas of research activity to flourish. For example, organisational social networks, circular economy and sustainable finance began either as research clusters or informal groups, and all now are established centres. Following a review of research centres in 2016, and a drive to consolidate the Unit's interdisciplinary research and impact focus on the university's STEMM agenda (1.2 ILES), the current configuration of centres is a blend of established research groups (e.g. a long history and reputation for Leadership, Operations Management and Entrepreneurship and Innovation research), and the creation of new ones focusing on distinctive and innovative areas (e.g., Digital Economy and Circular Economy), which have an interdisciplinary focus on environment and sustainability, data and healthcare. Therefore, our centres undertake innovative research at the intersection of business, human and social capital, the digital economy and sustainability.

Currently, our Unit's eight research centres operate within and across the three departments. These are Exeter Centre for Leadership (ExCL), Exeter Centre for Circular Economy (ECCE), Centre for Simulation, Modelling and Analytics (CSAM), Initiative in the Digital Economy (INDEX), Exeter Centre for Social Networks (ECSN), Exeter Sustainable Finance Centre (ESFC) and the Exeter Centre for Entrepreneurship (ECE). In addition, the Research Methods Centre (RMC) is internally facing and focuses on delivering a broad range of methods related training to academic staff and PGRs. Centres were set up to comprise world-renowned academics, research fellows and Distinguished Research Professors (see objective (iii) below). They include experts from all specialisations across UEBS. Interdisciplinarity is also ensured through joint memberships across centres (e.g. **Gerbasi, Parker, Emery, White** ExCL/ECSN; **Ignatius** CSAM/RMC; **Maull, Lopez** INDEX, CSAM). Importantly, the centres drive contributions to the economy and society through the development of collaborative relations with major national and international research partners

(see Section 4). Below the centres are presented in terms of significant interdisciplinary focus and contribution to the research environment.

The Exeter Centre for Leadership (ExCL), led by **Gerbasi** and **Allen**, is the oldest leadership centre in Europe, thriving for nearly 22 years. We believe that ExCL is now widely recognised as part of the small group of top leadership research groups. It is an interdisciplinary research-led group of leadership scholars that includes faculty from Economics (**Hauser, Fonseca, Chen**) Psychology (**Ryan**) and SITE (**Parker**). ExCL's research and impact focuses on three key themes: (a) relational leadership (**Emery, Erdogan, Fagan, Gerbasi, Lee, Legood, Methot, Parker, White**); (b) leadership, health and well-being (**Adarves-Yorno, Kark, Lang, Leroy, Inceoglu**); and (c) governance, inclusivity and diversity (**Harvey, Ladge, Peters, Sealy, Van Quaquebeke**). The scope of impact work carried out by the centre includes **Chen's** work on emotional response to poor customer service and **Sealy's** work on gender and board governance. ExCL also runs *thought leadership* events that feature heavily in the media (e.g., the FT, The Telegraph, BBC radio) and hosts the **Exeter Leadership Partners (ELP)** network supporting senior executives from a range of industries, which has been successfully running for 20 years. The ELP has supported the establishment of the Future of Work initiative (**Inceoglu**), utilising the partners for research-led discussion and collaborations with external organisations.

The Exeter Centre for Social Networks (ECSN), led by **Parker**, conducts world-leading empirical research on organisational social networks, as well as offering training on cutting edge social network research methods. Research focuses on a wide range of organisational issues such as leadership (**Gerbasi, Emery, Methot, Tasselli, White**), knowledge transfer (**Lomi, Parker, Perry-Smith, Tasselli, White**), negative workplace interactions (**Gerbasi, Labianca**), workgroup conflict (**Emery, Methot**), job attitudes (**Fagan, Labianca**), wellbeing and individual performance (**Fagan, Gerbasi, Parker**), and social movements (**Jasny** (UOA19)). Interdisciplinarity is shown through the range of methods and paper development workshops jointly held with researchers from psychology, statistics and sociology, and seminars supported by key international scholars in the field, (e.g., **Lomi, Labianca**). Members of the Centre have conducted social network research in over 100 multinational organisations and government agencies and are currently working on two ERDF grants—Future Focus and Smartline—examining networking strategies of SMEs in Cornwall.

The Exeter Centre for Circular Economy (ECCE), led by **Charnley** and **Hopkinson**, is an interdisciplinary group with staff located in London, Exeter, & Penryn. The Centre is co-ordinating 14 different projects and teams across the Unit and wider University. The Centre is leading the way in the development of the theory and practice in the Circular Economy (CE) and comprises bio-scientists (**Galloway**), engineers (**Howard, Zils, Yan**), designers (**Charnley, Moreno, Lusby**), social scientists (**Pascucci, Boehm**) and management scholars (**Alexander**). The centre currently has five UKRI awards with a total value of £6M (involving multiple business and university partners). Recently, **Hopkinson** and **Charnley** were awarded a major UKRI grant to lead a new National Centre for Circular Economy (see Section 3). **Galloway** (UOA7) and **Hopkinson** have generated significant collaborative research on plastic packaging through the ExeMPLaR project. Interdisciplinary links are built around Future Manufacturing Systems (**Charnley**). **Hopkinson** is funded to help large businesses to direct their thinking towards more CE approaches (REBUILD). The Centre's research also engages significantly in the region. For example, an important South West regional CE network was created as part of an EPSRC-funded project on Food and the Circular Economy.

The Exeter Initiative in the Digital Economy (INDEX), led by **Maull**, is an interdisciplinary group of academics and practitioners working at the intersection of data science (**Lopez, Plans**), computer science (**Brown**), operations management and service innovation (**Maull**), engineering (**Ahmed-Kristensen**) and social science (**Thompson, Polykarpou**). To maximise its influence on policy and practice the group is based in London. The current focus of the Centre is on Digital Innovation, Digital Growth, Digital Impact, and Digital Transformation. **Brown** and **Maull** have received over £5.5M of Digital Economy funding to address the social and commercial implications and applications of a range of technologies including cryptocurrencies and next-generation AI, and blockchain across several sectors. Funded projects include: The Internet of Food (£1M) (**Maull**); Digitally enhanced advanced service networks (£1M) (**Maull, Wood**). The centre also includes three Alan Turing Institute (ATI) Fellows (**Brown, Lopez, Plans**). Examples of exciting new areas of research and impact include the formation of DIIESL (Digital Infrastructure, Innovation and Economy Seminars London) jointly by INDEX and London School of Economics, to bring together an interdisciplinary group of ECRs to discuss topics related to the digital economy, www.diiesl.org/. **Plans** focuses on machine learning models of mental health and disorder and secured venture capital funding to create a startup, *BioBeats* (and is the CEO), www.biobeats.com/. **Lopez** is developing AI-powered systems to mitigate online harms and protect citizens online with the National Centre for CyberSecurity in Spain and with Google.

Centre for Simulation, Modelling and Analytics (CSAM), led by **Smart**, examines three targeted themes: Smart Cities (led by **Yearworth**), Healthcare (**Mustafee**) and Service Innovation (**Smart**). **Ignatius** and **Disney** provide expertise in mathematical modelling and supply chain analytics. Awards received by the Centre during the REF period total £2.9M. Examples of funded projects include VISTA-AR and Mer-INNOVATE (Interreg), RESIST (NERC), REPLICATE (EU), ULTIMATE (EU). The Centre is conducting novel work on immersive technologies and creative industries, in particular, **Smart**'s work on promoting natural and cultural heritage in France and the UK using high technology solutions like Virtual Reality and Augmented Reality to enhance the visitor experience (VISTA-AR). There is also the work on the "Audience of the Future" funded by the Industrial Strategy Challenge Fund. Finally, the Centre has an international reach. For example, CSAM has hosted several distinguished researchers including the Leverhulme Trust Visiting Professorship (Prof. Fishwick, UT Dallas; 2018), ESRC IAA Economic Development & Welfare Scheme (EDWAS, Prof. Kumar, IIM, Bangalore) and Prof. Andreas Tolk (MITRE).

Research Methods Centre (RMC), led by **Parker** and **Ignatius**, was set up in September 2018 and is an internally facing Centre with the aim of developing core research methods within UEBs for academic staff and PGR students. The Centre focuses on introductory as well as cutting edge methods. In its first year, 25 one-day workshops were offered on platforms such as R (e.g., multilevel, longitudinal, and Bayesian models) and Python (e.g., machine learning), as well as on various types of research design. The RMC has expanded its workshop delivery and now offers weekly 1-2 hour workshops on topics such as responding to reviewer's comments, developing theory, and insights from journal editors on the publication process. Many of these workshops are carried out by the Distinguished Research Professors (see below). In addition, workshops have been given by eminent international professors. For example, Prof Antonakis, Editor-in-Chief of *The Leadership Quarterly* gave a workshop on "The Endogeneity problem in mediation analysis".

The Unit also has **The Exeter Centre for Entrepreneurship (ECE)**, led by **Tornikoski**, which conducts interdisciplinary research drawing on psychology and sociology (**Ivanova**). It examines

drivers behind entrepreneurial processes (**Vanacker, Tornikoski**) and the practices of entrepreneurs (**Kannan-Narasimhan**), as well as the role of entrepreneurial behaviour in local economic, social, and environmental development processes (**Molecke, Colombo, Bailey**). Going forward the Unit has recently established the **Exeter Sustainable Finance Centre (ESFC)** (led by **Zhang**) as part of its strategy for growth and future development.

Developing Global Reach and Research Excellence through Distinguished Research Professors

A key strand of our objective of developing global reach was to recruit several Distinguished Research Professors (DRPs) to assist in the development of world-leading research and to cultivate an ethos of high-performance research activity around a coherent set of disciplines (leadership, organisational social networks and research methods). Our reputation and quality of research enabled us to attract our world-leading DRPs. They are permanent appointments, reviewed every three years and recruited to support the global reach of the Unit's research and impact, through activities that support collaboration, knowledge-exchange and broader dissemination with international institutions. The focus of their appointments is also to maintain the balance, vibrancy and sustainability of our research environment. They are engaged in setting our research agenda, ensuring that there is a close cultural fit between UEBS and them. For example, **Lomi, Perry Smith, Methot, Tasselli** and **Labianca** participate in the monthly research meetings of the Exeter Centre for Social Networks, and **Erdogan, Kark, Leroy, Ladge, Lang** and **van Quaquebeke** contribute to research seminars and research meetings/brown bag discussions of Exeter Centre for Leadership (ExCL). Examples of their engagement within the Unit include supporting our early career and mid-career researchers (Section 2), running workshops/webinars, giving research talks, providing faculty with feedback for the development of research projects/grant proposals/papers, methodological guidance and co-supervision of PhD students. For example, **Lomi** organised a two-day workshop on Relational Event Models for the Analysis of Social Networks (June 2019), **Methot** and **Ladge** ran a workshop on "Practical implications of research and getting media attention." **Erdogan** and **Perry-Smith** ran a workshop on "Insights from the Editor". Finally, the COVID-19 pandemic has led to even greater involvement and engagement from the DRPs, enabling them to engage more regularly and via a variety of different activities. For instance, in 2020-21, the DRPs will deliver 20 workshops for the Research Methods Centre.

Creating a Culture of Engagement and Impact

Since the last REF, we have emphasised the importance of impact and engagement with the beneficiaries of research. Our emphasis on this has had a transformative effect upon our approach, embedding a new character of engaged research across the Unit. This builds on the belief that it is not an unanticipated outcome of research, but is something that determines both the research questions asked and the answers given for them. This attitude aligns with the University's engaged research approach that focuses on impactful research at an international, national and regional level (2.6 ILES). Furthermore, reflecting on our longstanding work with a range of private, public and not for profit sectors, we have continued to ensure that non-academic users are involved from the outset in shaping research agendas and objectives. These research partners include the NHS, the Ministry of Defence, the Bank of England, Her Majesty's Revenue and Customs, EDF Energy, the Ellen MacArthur Foundation, International Finance Corporation, the World Bank, Libraries Unlimited, the World Association of Girl Guides and Girl Scouts. Our commitment to engagement is also demonstrated by staff participating in much of the University's

impact and engagement work. For example, **Coles** chairs the University's Public Engagement Strategic Advisory Group.

Structurally, UEBS implemented a range of resources to support impact work/activities across the Unit. For instance, there is a dedicated Director of Impact (DoI, **Sealy**). Where the impact from research is burgeoning, staff are given additional workload hours to develop their pathways to impact strategies; e.g. **Adarves-Yorno** was allocated 600 hours in total to establish impact activities and UEBS has run several facilitated impact development workshops throughout the REF period. Impact case study leads are supported through a range of funding options to help with the development of cases (e.g., UEBS impact funds) and the University's ESRC Impact Accelerator Account (IAA) fund awarded £119k funding to support impact initiatives. Funds were used, for instance, on RA support; App development (**Mustafee**); continued data collection; travel for impact work (e.g. to Kenya for prisons (**Adarves-Yorno**); to Rwanda to assist the government tax department (Oats); and for setting up development and evaluation workshops (**Jeanes**). ECRs were also supported to help gain a full understanding of impact through dedicated sessions organised by the DoI. The University provides support for impact by a dedicated Impact Partnership Development Officer.

As a result, the REF Impact Case Studies submitted by the Unit are wide-ranging. At the regional level, **Hawkins'** research informed the response to threatened library closures across the whole of Devon by co-producing of a new public service mutual (PSM) business model, benefitting thousands of local library users; and **Mustafee** co-developed a digital platform *NHSquicker*, used to reduce pressures on A&E departments at peak times. At the national level, **Harris's** work, co-produced with Bank of England, led to the mitigation of future losses by improved methods of risk management; **Sealy's** work catalysed behavioural change in board appointment processes across NHS hospital trusts; and **Thompson's** work on developing new government policy intended to introduce radical, digitally-enabled reform to the NHS. Finally, at the international level, **Adarves-Yorno's** work on extensive Mindfulness training programmes across 18 high-security prisons in Kenya led to increased well-being of prisoners and staff, and **Jeanes's** work improved gender equality by working with key charities like the World Association of Girl Guides and Girl Scouts to enhance leadership development training and approaches. As a further demonstration of the scope and range of impactful work in the Unit, examples of cases not captured in our REF submission include **Connell's** work with helping to make tourist locations more 'dementia friendly'; **Stern's** work on SMEs; **Park's** work on exploring the effect of banks' access to the securitisation market; **Boehm's** work on increasing productivity for over 500 existing SMEs by developing, building and embedding effective innovation processes; and **Tharyan's** work on influencing the cost of capital decisions in a regulatory context.

d. Ethics, Responsibility & Sustainability (ERS), Integrity, and Open Access

Strong commitments to research ethics and research integrity underpin all our systems and structures, in line with the University's commitment to the Concordat to Support Research Integrity (2.10 ILES). Taking our direction from the University, we ensure research is carried out to the highest ethical, responsible and sustainable standards. All the research by staff and students is subject to review by the University Research Ethics Committee (**Gerbas** sits on this committee). The Director of Research Ethics for UEBS (**Bailey**) oversees research ethics in the Unit, with Departmental Research Ethics Officers overseeing, reviewing and reporting to the RSG. The Unit also strives to lead by example in delivering ERS practice in education, research, community engagement, corporate partnering and day-to-day operations. As a result, the *EQUIS Peer Review*

Report (2016) highlighted the practice as one of the areas of excellence for UEBS. The School is a signatory of the *UN Principles of Responsible Management Education* since 2010, and is also a member of [ABIS](#), [CABS](#), [EFMD](#), [GRLI](#) and [QTEM](#). These networks enable faculty to make outstanding contributions to ERS scholarship. For example, **Burns** and **Jollands** delivered the prestigious PD Leake lecture (*‘Acting in the Public Interest: Accounting for the Vulnerable’*) in 2019 to over 150 academics and practitioners to raise awareness on the issue of how accounting practices and technique can make homelessness visible to institutions and organisations.

Open access is crucial to us in order to make our work widely accessible (2.9 ILES). The overall success of our Open Access policies can be evidenced by 916 (78%) of our articles deposited within the institutional repository, ORE. The number of downloads of the Unit’s deposited outputs between January 2014 and December 2019 represents 9.6% of the ~5M downloads in the University. A total of £9k was paid from Institutional OA funds between 2014 and 2020 towards publication through the ‘gold route’ on a discretionary basis where outputs are judged to be particularly impactful, for example White et al. *“Hybrid Context, Management Practices and Organizational Performance”*, published in the *Journal of Management Studies*.

e. Future Strategy

We are three years into our five-year research strategy, which evolves around extending our four key objectives. First, we will continue to increase the number of category-A research staff in alignment with the projected growth in student numbers. This will allow us to enhance our disciplinary strength within our departments while simultaneously increasing the diversity of our category-A staff. Second, our research centres are critical to the continued enrichment of our interdisciplinary excellence. We will continue to build strength in our centres, especially in light of two major funding awards. Notably, the UKRI funded Circular Economy Hub (four years, £3.3M) which has recently been awarded to the ECCE (**Charnley, Hopkinson**) will allow this centre to shape the landscape of circular economy research in the UK. In addition, the EPSRC Next Stage Digital Economy Centre that was recently awarded to INDEX (**Ahmed-Kristensen, Brown, Maull**) for their 5-year £12.4M research programme “Digital Innovation for Growth, Impact, and Transformation (DIGIT)” will allow for increased interaction with business across the UK. The further development of the Exeter Sustainable Finance Centre (ESFC) will allow us to establish a major research area in this increasingly important area. Third, we will continue to embed our Distinguished Research Professors into our research culture. This has the dual benefit of bringing a continuous stream of new ideas and skills from across the world while simultaneously enhancing our support for ECRs and PGR students and extending our global reach. Fourth, the research centres are also central to how we envision approaching impact and engagement with industry in the future. The research centres give us a core strength in key areas and will allow us to develop a problem-solving approach to important questions faced by organisations and society in areas such as digital economy, circular economy, and sustainable finance.

2. People

a. Overview

Our Unit has cultivated a staff development strategy that focuses on the core values of developing, supporting, retaining and recruiting diverse and talented academic staff. The strategy is in line with University’s commitment to the Researcher Development Concordat (RDC) (3.8 ILES) and DORA (3.3 ILES) reflecting the University of Exeter’s wider policies regarding research careers and cultures. These policies have helped the Unit to create an environment in which faculty feel valued

and rewarded for success (see 2b), including our postgraduate researchers (see 2c). We have also taken significant steps to address equality and diversity in our staff profile, building on the intense awareness and reflection with key faculty. Underpinning our best practices for diversity & inclusion in our staff development and recruitment processes, we have drawn on our research expertise in equality, the pay gap and well-being (see 2d).

Our staffing strategy and policies have led to a substantial change in the Unit's profile. As a result, the Unit has expanded from 49.05 FTEs research-active category-A staff in REF2014 to 81.2 FTEs for REF2021. We are an international and diverse faculty, with 21 nationalities represented, where non-UK nationals account for 46% of academic staff and 18% of faculty identify as BAME. In terms of gender, 40% of the Unit's category A staff are female, which is equivalent to the average for business schools recently surveyed by [CABS](#), but is an improvement on 37% in REF2014. Furthermore, we have maintained a positive trajectory for gender balance in recruitment and progression (Table 1) and improved the prospects of promotion for female research-active staff (Table 2). We have also seen growth in the proportion of female professors (either recruited or promoted) from four (8% of eligible staff) in 2014 to 13 (16% of eligible staff) in 2020; the future objective is to increase this further.

Table 1: Faculty Demographic of Category A Staff

Grade	Ratio	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Lecturer	Females/Males	0.7	0.8	0.7	1.2	1.1	1.0
Senior Lecturer	Females/Males	0.8	0.9	1.0	0.9	0.7	1.3
Ass. Prof	Females/Males	1.2	0.9	1.0	0.8	1.8	1.0
Professor	Females/Males	0.2	0.1	0.2	0.2	0.3	0.3

Table 2: Faculty Promotion

	Applications		Approved	
	Female	Male	Female	Male
2015/2016	2	0	2	0
2016/2017	1	3	1	2
2017/2018	3	1	2	1
2018/2019	1	5	1	4
2019/2020	1	1	1	1
Total	8	9	7	8

b. Staffing Strategy

The focus of the staffing strategy is to:

- Attract and retain the very best talent who share the Unit's values of collegiality, excellence and responsibility.
- Provide processes and practices through the Departments whereby all staff and doctoral students can develop and perform to the best of their abilities according to their disciplines.
- Use the Centres and Distinguished Research Professors (DRPs) to promote a diverse, collegiate and intellectually stimulating environment in which staff and doctoral researchers can feel valued and supported in interdisciplinary research and impact.

The strategy is also designed to ensure that academic staff have the time, resources and support to deliver research excellence. In doing so, UEBS has developed a range of organisational

processes for staff development and enrichment (such as the Research Methods Centre, Departmental Seminar Series, focused Research Centres and Coffee Morning Talks).

Recruitment

Our Unit's research strategy relies on recruitment and development to maintain a vibrant, diverse and sustainable research environment. Senior staff in the Unit define priority areas for recruitment, while also developing hiring practices that allow the Unit to reach into the global market. The hiring strategy focuses on attracting high calibre faculty to reinforce the core values of the Unit and to strengthen current disciplinary research themes. During this assessment period, examples of excellent staff hired in the Departments include **Chen** and **Tse** (Asset Pricing), **Onali** and **Zhang** (Banking and Corporate Finance), **Mauil** (Digital Economy), **Gerbasi** (Leadership), **Disney** (Operations), **White** (Management) and **Dose** (Marketing). Recruitment also led to opportunities for new directions to be taken in areas previously not covered by faculty research (e.g., Sustainability and Business (**Whiteman**), Gender and Leadership (**Gloor**, **Sealy**), Circular Economy (**Charnley**), and Digital Economy (**Plans**). The period also saw the appointments of DRPs from international universities to build the research capacity and capabilities of all staff, and in particular ECRs.

Examples of recent hires from non-UK universities since REF2014 include **Leroy** (Netherlands), **Gloor** (Switzerland), **Wihler** (Germany), **Van Quaquebeke** (Germany), **Birtch** (Australia), **Tornikoski** (France) and **Methot** (US). The recruitment of junior staff is fundamental to the Unit's environment. Since REF2014, our Unit has attracted talented international ECRs (for example **Fagan** (US), **Molecke** (US), **Lopez** (Spain), **Ivanova** (Belgium), **Mosleh** (US/Iran). These appointments are aligned to the Unit's evolving strategic priorities and are instrumental in re-shaping the Unit's research culture, building on UoE's strong commitment to supporting ECRs (3.8 ILES).

Staff development

Staff development is at the heart of our Unit's staffing strategy. Our approach follows the principles and framework set out in [The Exeter Academic](#). The strategy also draws on the Researcher Development Concordat framework for attracting and sustaining research careers in the UK and for performance expectations and promotion criteria for all faculty from initial appointment right up to Professorial level, thus ensuring the continued provision of well-trained, talented and motivated researchers that is essential to sustaining research excellence. Our practices also draw on the University's commitment to DORA, to ensure a responsible use of metrics. Since 2018, performance and development reviews (e-PDR) also contain a mandatory section on staff wellbeing, which facilitates conversations concerning work-life balance. Staff development is delivered through the Departments, with practices ensuring an inclusive approach for all staff members at all levels. Departments allow staff significant autonomy to follow their research interests, impact engagement and practice. All staff are matched to an Academic Lead (AL) (or mentor), who are senior research staff in leadership positions. Since the last REF, our Academic Lead system has been revised to provide career-stage specific progression and promotion support, with each AL supporting staff at a single career stage (lecturer, senior lecturer or associate professor, and now formally mentoring postdoctoral researchers). In the Unit, the ALs also provide support for research, comment on draft papers, provide feedback on grant applications, and discuss staff development on a 1-1 basis. Introduced in 2016, *Contribution* meetings for academic staff were implemented to ensure fairness and consistency in the formal PDR process. These are held annually with the Head of Department

(HoD), to review each faculty members' contributions and set their goals. The goals are mapped against departmental and UEBS objectives.

Furthermore, all research staff are encouraged to produce a research plan, which is reviewed in the Contribution meetings. This is especially the case for ECRs who are supported by their HoD and AL via their research plans and contribution meetings to identify further needs in terms of resources (e.g., additional time on their workloads) and opportunities. The recruitment of DRPs in particular aligns with our strategy to support the development and career trajectories of ECRs as the DRPs are mentors to our ECRs. There are emerging benefits with this relationship in terms of producing high quality peer-reviewed publications through co-authorship and supervision. For example, **Labianca** is acting as a mentor to **Fagan** and they have recently co-authored a paper published in the Journal of Applied Psychology, **Erdogan** and **Lee** are co-supervising a PhD, as are **Tasselli** and **Parker**.

Progression and promotion

Staff progression is closely monitored and reviewed by the PVC/DPVC and the Human Resources Business Partner as well as via the yearly e-PDR process. The University annually runs two rounds of promotion to Associate Professor and Professor level. The Unit uses Contribution meetings, e-PDR, feedback from the ALs, and the individual development plans to hold targeted conversations with which to encourage promotion applications, particularly with female academics. Evidence of a supportive staff development approach is that several (14) mid-career staff have been internally promoted. Female internal Associate Professors and Professor promotions represent 50% of faculty applications (Table 2), which shows significant efforts to address the equality and diversity of staff profile from the college executive. Female researchers account for nearly half (6/14) of all academic promotions (with six out of seven applications successful) in this REF period, evidencing the success of the new policies and support in the Unit.

Workload, Personal Research Accounts and Study Leave

The Unit has developed practices and processes to ensure staff have time, resources and support to pursue their research. The Workload Allocation Model (WAM) recognises the time required to produce excellent research. All staff are supported to balance teaching, research and administrative activities via the WAM. With regards to ECRs, all probationers and ECRs (Lecturers) have their teaching and administration workloads reduced. All research-active staff are given a Personal Development Account (PDA) of £1,000. The purpose of the fund is to allow staff to attend at least one academic conference per year and to develop research collaborations and networks. PDAs are further supplemented by an additional £2,000, applied for via the HoD. Probationers and ECRs, can additionally, apply for the International Advisory Board (IAB) funding. Recently, awards were to **Molecke** (SITE; £10,070) and **D'Attoma** (F&A; £10,760). Dedicated study time is also a priority within the Unit. A total of 1706 study leave days were awarded across faculty since 2014. Of these, eight periods of study leave were awarded to female staff from a total of 13, compared to two out of eleven during the review period for REF2014.

c. Postgraduate Research Students (PGR)

Our Unit is committed to ensuring that our PGR students are well trained, receive high-quality supervision and are integrated into the Unit. This commitment begins with the selection process, ensuring that the Unit is selecting the students who have the most significant potential to succeed in their PhD degree and beyond. Currently, the Unit is revamping its PhD programme and PGR strategy. The new model is 1+3, which involves one year of intensive research training (MRes)

followed by three years' work on the chosen PhD topic. The Unit strives to create a vibrant and supportive research culture for training the PGR students, collaborating actively with the other Colleges in the University to increase the breadth and frequency of training programmes and workshops available to the PGR students. To ensure this, a training needs analysis is carried out regularly. This is complemented by more focused support from the Unit, such as regular writing workshops. In terms of research methods training, PGRs have access to SWDTC advanced training initiatives and the Unit's Research Methods Centre, led by **Parker** and **Ignatius**. The RMC is supported by the DRPs (e.g. **Lomi**, **Lang**, and **Van Quaquebeke**) to strengthen provision in quantitative methods and qualitative methods (**Ladge**). Also, the Doctoral College Researcher Development Team provide specific skills training for PGRs focusing on all stages of the PGR lifecycle and have also funded an online PGR Careers resource for all PGR students in the University.

To ensure PGRs are integrated into the Unit, all PhD students are co-located (Hope Hall), have their own desk, are involved in the Departmental research seminar series, and supported for PhD research conferences, such as the annual PhD research conferences in Management, Finance and Accounting and the Festival of Doctoral Research. The research seminars involve academics from the best schools internationally including Harvard, Chicago and Cornell among others. These scholars provide additional bespoke sessions, from informal meetings to workshops, for our PGRs during their visits. Our PGRs are also encouraged to co-author with supervisors. Examples of high-quality peer-reviewed publications through co-authorship with PGRs, are **Dargenidou**, **Tonks** and **Tsoligkas**, Journal of Business Finance and Accounting; **Wynter** and **Oats**, Journal of Business Ethics; and **Colombo**, **Pansera** and **Owen**, Journal of Cleaner Production. Each student has research funds of £1,200 to be used throughout their programme, to support their research and present at workshops and conferences. Additionally, PGRs can apply for additional funding to present their work at prestigious annual PhD research symposiums or for further data collection, workshop attendance and training. The well-being of PGRs is of critical importance to us and we actively monitor this in parallel with their academic progress via regular supervisory meetings documented through the online MyPGR system.

Since 2014, 324 PGR students have registered with us. 70.5% of our PGR students have received studentships, scholarships or other sources of competitive funding. This includes 13 students with full/matched UKRI studentships, and 30 students with international, industry or other scholarships. During the REF period, 129 students were awarded a PhD, compared to 95 between 2008 and 2013, maintaining efforts to achieve high completion rates. We have maintained this level of completions per FTE over the current REF period, in light of our significant growth in FTEs.

Our Unit takes the employability of PGRs seriously. There is great emphasis on helping students acquire competences in teaching, research and getting published. As such, all PGRs are encouraged to enrol in the University of Exeter Researcher Development programmes. These include sessions on career support, opportunities to enhance their research and employability and to become part of a vibrant research community. Finally, there are opportunities to attend events organised by the GW4 and the ESRC SWDTP, for example, the annual SWDTP Student Conference, organised by students. Students' research is also being recognised, for example, **Dutt** (supervised by **Harvey**) won one of the 2020 Emerald/EFMD Outstanding Doctoral Research Award. Reflecting the emphasis in the Unit placed on investing in the academics of the future, PGR students have secured academic positions both in the UK (Aston, Bath, Birmingham, Bristol,

LSE, Queen Mary University of London and Exeter) and overseas (Boston University, Western Colorado University, Tsinghua University, and Macau University of Science and Technology).

d. Supporting Equality, Diversity and Inclusion in the Unit

In supporting equality, diversity and inclusion, our Unit draws on the very considerable expertise and experience of its own staff to develop processes and practices to ensure equality, diversity and inclusion (EDI). In terms of research leadership, our commitment to EDI is shown by the fact that two of the three Directors of Research in the Unit identify as BAME (**Mustavee** and **Zhang**), the third is female (**Inceoglu**). UEBS's Director of Post Graduate Research (**Peters**) is female.

EDI issues are taken seriously, as detailed below, on all matters relating to staff recruitment and development (for institutional policy see 3.15 ILES). As a result, the REF period has seen close working relations between UEBS staff and the committees to augment and/or create policies to support staff and their research. For example, **Sealy** (gender and leadership), **Jeanes** (pay gap) and **Bagnall** (diversity). EDI concerns are also key components of the University's staffing strategy with key support and policies. **Sealy** contributes to the Provost's EDI Commission. This strategy is set out in the EDI Vision 2025 "Strong Foundations and Stretching Aspirations". The University abides strictly by hiring and promotion processes recognised as best practices for diversity & inclusion, including the responsible use of metrics. The University also holds Athena SWAN Silver status for advancing the careers of women, and is a member of both the Globally Responsible Leadership Initiative and the UN's Principles of Responsible Management Education.

In line with the University's vision, UEBS has developed processes and practices that recognise that achieving diversity in departments must start at the early career level, and must involve support throughout that career. For example, UEBS has an active Inclusivity Group, co-chaired by the Deputy Pro-Vice Chancellor and the Director of College Operations, which convenes twice per term. The Group reviews data and feedback from a wide variety of sources in order to monitor progress, support and promote new policies and procedures, and escalate ideas and issues to the university-wide inclusivity body. With regard to staff progression in particular, proactive steps are taken each year to evaluate pay equity and to address any pay gaps between groups. Examples of good practice, with regards to gender balance, include

- ensuring that the website portrays the right mix of male, female and BAME staff representation
- review of any potential 'pay gap' between male and female staff held each year; emphasis being placed on female pay progression
- applying for Athena SWAN accreditation (bronze)
- review of workloads to ensure equity and balance across groups

Overall, our Unit has worked hard at attracting and developing faculty with a focus on gender representation, supporting and developing ECRs and supporting staff with disabilities. An inclusive environment is key to the successes of the Unit. In response to the Black Lives Matter movement, the Dean and Pro-Vice Chancellor supported anti-racism statements and initiated a Black History Month programme, which highlighted our alumni and partners. Our Unit has also been making ongoing efforts to focus on staff well-being, not only through ensuring balanced workloads but also in providing opportunities to identify and tackle priorities around work related stress. For instance, during the pandemic, researchers in the Unit have played a key role in the development of initiatives to support staff wellbeing through facilitating social and well-being events.

3. Income, infrastructure and facilities

a. Overview

In this REF cycle, the Unit consolidated its reputation as one of the UK's preeminent business and management research groups being ranked 10th in the UK in the [CABS 2020 report](#) on research income. Through increased support and capacity building we have seen *high levels of research income per FTE* (we are consistently ranked in the top 10 on HESA data for the sector). Our success is due to the commitment to internal investment complemented by our external collaborations (see Section 4), which were vital to our exceptional performance in terms of research awards and income. Our strategy was to increase overall research grant activity with more cost-effective and more substantial grants, notably through the various Research Centres and the recruitment and retention of key researchers. In sum, since 2018, we have enjoyed a period of unprecedented funding success where we have secured awards of more than £11.1M and research income of £8.75M over this REF cycle, with over £3.25M secured from UK research councils and 3M from the EU. Awards captured by the research centres have also been fundamental for developing effective and innovative approaches to impact. Increased involvement in multiple, successful large-scale awards and cross-disciplinary research networks has helped to shape the Unit's sustainability going forward as well as providing an outstanding environment for postgraduate and early career researchers.

b. Research Income Strategy

Over this REF period, the Unit improved its relative position in research grant income and is ranked 8th nationally, based on the current HESA data (HESA category: Business and Management). This has been primarily based on the strategy to generate sustained investment from a wide range of funders. Grant income is not sought purely to meet income targets; it is seen as essential for the realisation of the Unit's overall research strategy. Consequently the Unit fully supports the development of personal research proposals (ensuring all research-active faculty members are encouraged and supported to lead research and also nurturing the next generation of researchers) in addition to large-scale grant applications via the centres. The Directors of Research (DoR) are responsible for overseeing the development of individual research proposals, to ensure staff pursue high-quality research endeavours that are focused on increasing disciplinary strengths within the departments. Individual research proposals are also supported by College-focused Professional Services departments, including Research Support Services. Together with the DoRs, they help staff develop their proposals from the initial idea through to the final grant applications. The Unit also uses a peer-review process for individual research bids to ensure that staff receive timely and constructive feedback, which in turn helps improve the quality of applications. Over the REF period, individual awards have come from not only major funders such as the ESRC (e.g. **Shaw** £338k), but also important charities. Awards also include a number of smaller but strategically important grants in terms of developing new networks and pursuing research areas that complement the Unit's current expertise. Examples since 2014 include the British Academy (ten awards, e.g., **Boehm**, £78k, and **Hartley**, £26k, £40k), two awards from Leverhulme (e.g., **Mustafee**, £13.5k), the Arts Council (**Smart**) and the Wellcome Trust (**Hartley**). Increasing research funding in the Unit through the Research Centres attends to the principle that bids are research-led and vital for knowledge exchange and impact. The focus is on proposals that are collaborative bids with the other University of Exeter Colleges, institutes, centres and commercial or public organisations. Over the REF period, the majority of the Unit's research income has come via the Research Centres, and they are an important way in which the Unit ensures vitality and sustainability of the research environment. The centres' funding totalled over

£3M external research income from the ESRC, EPSRC and the EU. With the current strategy refocusing effort to seek funding to tackle significant areas of societal and business challenges (e.g., Sustainability, Circular Economy, and Digital Economy), there has been a notable increase in funding from the EPSRC during this REF cycle. Significant examples of funding received by the Unit's centres include:

The Exeter Centre for Circular Economy (ECCE) are currently involved in awards from UKRI councils (EPSRC and ESRC) totalling over £7M. Hopkinson and Charnley lead the new National Centre for Circular Economy, funded for four years and will co-ordinate 5 new National CE resource flow Centres (awarded in October 2020). Example of recent awards include:

- EPSRC Circular 4.0: Data-Driven Intelligence for a Circular Economy (£756k) with partners from University of Sheffield, Airbus, Rolls-Royce, Riversimple, MTC, Cisco Systems, The Ellen MacArthur Foundation
- EPSRC Connected Everything II (£1.06M) with partners from the Centre for Digital Built Britain, PETRAS Internet of Things Hub, Centre for Process Innovation, High Value Manufacturing Catapult
- EPSRC - ESRC Network in Re-Distributed Manufacturing, Consumer Goods and Big Data (£467k) with partners from the Universities of Cambridge, Exeter, Teesside, Manchester, Beijing Institute of Technology, Georgia Institute of Technology, Fraunhofer Institute, Cisco Systems, Ellen MacArthur Foundation, IBM, WRAP, Interoute, and the Greater Manchester Chamber of Commerce.

The Exeter Initiative in the Digital Economy (INDEX) has built a network of industrial partners to collaborate on translational research grants. Examples of EPSRC programme awards include, Made Smarter 'fast start' project (£7.7M); Digitally Enhanced Advanced Services Network+ (£1M); The Internet of Food Things project (£1.1M); and UK Manufacturing Symbiosis NetworkPlus (UKMSN+) which investigates material re-use across the manufacturing supply chain.

Centre for Simulation, Modelling and Analytics (CSAM) received funding of ~£2.9M for Exeter during the REF period. The centre has a number of funded projects including VISTA-AR: Interreg FCE Programme (€7.8M, UEBS €1.9M, **Smart**); REPLICATE: Smart Cities and Communities Programme (€25M, UEBS €200k, **Yearworth**); Supply Chain Optimisation: EPSRC (£391k, **Boehm**). Other projects include Mer-INNOVATE (**Smart, Mustafee**); ULTIMATE (**Mustafee**); Industrial Strategy Fund (Audience of the Future, **Smart**), EPSRC (CircularFood, **Mustafee**) and The Leverhulme Trust (**Mustafee**).

Finally, the Unit's research income strategy aligns with the University's goals around the grand challenges of society. In particular, faculty are involved in the University Research Institutes (1.5 ILES). These initiatives foster and support cross-departmental collaboration and enable researchers to work together across departmental and disciplinary boundaries and also with non-academic beneficiaries. For example, over the last eight years, a consortium of four UK academics from the (Universities of Warwick, Cambridge, Exeter and Surrey) has received funding of approximately £8M for the development of the Hub-of-All-Things (HAT, **Mauil**).

c. Infrastructure and Facilities

Central support and infrastructure are critical to the success of the Unit. Infrastructure is developed and maintained at the College level through the University's Research Services. They provide support in terms of horizon scanning, call-specific advice and assistance with costings and gaining

necessary institutional approvals, with support further enhanced with the development of an online Research Toolkit and by a £2.5M investment in a new Research Management system. Our industry-facing research is supported by dedicated Innovation, Impact and Business (IIB) partners, providing core support in grant development, design and dissemination. IIB also acts as a coordinator between academic staff, Directors of Research and Associate Dean of Research and other professional services in the university, providing bespoke UEBS-specific advice and helping foster and develop external partnerships (see Section 4).

The facilities extend to five buildings across two of the University's campuses (Streatham and Penryn). Four buildings are based at the Streatham Campus in Exeter (Building One, Streatham Court, Xfi, Hope Hall). The University's new £5.5M Science and Engineering Research Support Facility (SERSF) at the University's Penryn Campus (Cornwall) houses the fifth. Developments in Penryn focus on connecting research with practice and policy. Awards for its buildings reflect UEBS's deep commitment to ethics, responsibility and sustainability (ERS). For example, both SERSF and Building One have achieved a Building Research Establishment Environmental Assessment Methodology (BREEAM) 'excellent' rating. BREEAM is regarded as the world's foremost environmental assessment method and rating system for sustainable buildings. In addition, the unit has a small London base (South Bank), which is an important investment in INDEX, as it puts the Centre closer to headquarters of major organisations.

Further facilities to support research in the Unit include the Finance and Economics Experimental Laboratory at Exeter (FEELE), an advanced laboratory for experimental research in social science, which is run and administered by the Department of Economics, and the variety of data resources available to support Business and Management academic research. These include Bloomberg, Business Source Complete, DataStream, EconLit, Emerald, Eurostat, Fame, IBFD Tax Research Platform, Nexis, IRRIC, OECD i-Library, Orbis, Passport, ProQuest Business Direction, ScienceDirect, Scopus, Statista, Supply Chain Analysis, Thomson ONE Banker, Thomson Research, UK Data Service, Web of Science, World Competitiveness Online (IMD), WRDS and Zephyr.

The Unit has a Communication and Marketing team to support publicity around key research and impact findings. This team uses UEBS communication channels and University social media accounts; news articles (appearing on the homepage of the UEBS's website); press releases and email. The Unit also has a dedicated media and PR Officer who liaises with academic staff on their research papers, working to translate complex information into press releases which often appear in mass media publications as well as specialist press. For example, **Lopez's** emotion detection engine Lola has so far been picked up by Business Computing, Information Age, Irish Tech News, Freight Waves, Electronic Specifier, Engineering and Technology magazine. **Zhang's** work on employee satisfaction was featured in the Economist. Research news is shared with the alumni network. There is a research publications section in the Unit's termly e-newsletter which is received by over 15,000 UEBS alumni, plus the latest UEBS research is showcased through our alumni events worldwide, via the *Alumni Business* podcast and webinar series. These are promoted to over 82,000 Exeter alumni in 183 different countries.

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

a. Overview

Collaboration with key stakeholders is central to our Unit's ambition and has been a key objective since 2008. Collaboration is built on the belief that the most significant impact on policy and practice is only achieved by deep working relations and partnership with stakeholders and policymakers at an international, national and regional level. This principle is reflected not only in our research but also in the continued achievements in accreditation initiatives (AACSB, AMBA & EQUIS). In this REF cycle, the Research Centres have become the focal point for collaboration and partnership working, bringing a considerable increase in the range and depth of external relationships across a wide range of audiences. As a result, there has been a threefold increase in collaborative research awards. This success can be partially attributed to forging new areas of research during this REF cycle. For example, the Exeter Centre for the Circular Economy (ECCE) and staff focusing on sustainable innovation have developed major institutional level collaborations such as the *Environmental Intelligence Centre for Doctoral Training* (£5M UKRI) (**Hartley, Hopkinson**). ECCE is taking the national lead in establishing a UK wide Circular Economy Hub. INDEX is a key partner on the Hub-of-All-Things (HAT) with stakeholders including Dyson and GlaxoSmithKline (**Mauil**).

Crucially, the focus of the Unit's long-term impact strategy is for the Research Centres to provide policy and practice impact that is of the highest economic and social significance. As such, the centres are currently set up to sustain the Unit's impact beyond the current REF period. Examples of ongoing work with external stakeholders including policymakers, government departments and industry, are **Brown** and colleagues' (INDEX) work on harnessing blockchain technology and machine learning to enable individuals to securely share their biometric data in real-time to improve health outcomes. Also, **Smart's** (CSAM) work with the use of AR and VR to enhance visitor experiences at cultural heritage sites. **Hopkinson's** (ECE) research into the circular economy for plastics (calculating the amount of plastics in our homes that come in as products and leave as waste) is influencing government policy. **Charnley's** (ECE) work with Rolls-Royce and Airbus demonstrates how data collected from products in use, such as aeroengines, can help companies adopt strategies for re-using resources. Recently, **Mauil** (INDEX) has been involved with a project to automate Gift Aid donations to potentially unlock more than £560M for charities every year. There is also the cross-university research initiative, 'The Future of Work' (**Inceoglu, Gloor**) which brings together industrial partners, with academics and students from across the university to address the changing nature of work in the digital and data centric era. Themes include: new technologies, governance structures, business models, and flexible working hours and work locations.

b. Collaboration Strategy

The main objective for the Unit is to make interdisciplinary and translational research an essential feature of the Research Centres. This objective continues to build on the extensive and productive relationships with key practitioners and policymakers that have developed over many decades. These relationships are frequently supported by the IIB team (who work across the research and education landscape) to drive impact, connect with partner organisations and help create opportunities for collaboration. Important relationships include local strategic partnerships such as Devon County Council, the Local Economic Partnership (LEPs), Devon and Cornwall Fire Service, as well as national and international organisations such as HMRC, and the Met Office. Recently,

the Research Centres have developed many other collaborations with wider stakeholder groups. These are where co-production is central to the partnerships (e.g., Amazon, Google, the Department of Health & Social Care). The Research Centres also collaborate with each other, for example, ECCE and INDEX are working together to explore stakeholder partnerships around sustainable plastics.

Significant examples of our recent external collaborations through the Research Centres during this REF cycle include:

- **ExCL** work with a network of local and national stakeholders to shape their knowledge around leadership culture. These include the *Devon and Cornwall Fire Service (LeGood)*, *Devon & Cornwall Police (Tourky)*, BMW (**Wihler**) and *Royal Naval College and Royal Marines (Harvey)*. The Centre hosts the *Future of Work* initiative, which has brought together academic staff and professional services firms such as *Ernst and Young*. The initiative has also brought together tech start-ups and local government (**Inceoglu**). The Centre's work on gender and leadership has continued to focus on longstanding relationships with the *Financial Conduct Authority (FCA)* and *Financial Reporting Council (FRC)*, to work on Board Diversity (**Sealy**).
- **ECCE** engage the region significantly in their research. The South West Regional Circular Economy Network has been created as part of an EPSRC-funded project around Food and the Circular Economy. Researchers have worked with Cornwall Council and across the South West region to engage a wide range of circular economy stakeholders from local authorities to small & medium-sized companies, e.g. Roskilly's and Prima Bakeries (**Boehm, Alexander**). The Centre has also led the production of a Circular Economy roadmap for SW food and agriculture (**Boehm, Howard**), and has secured research opportunities with external partners such as a studentship with CoolEarth (**Pascucci**). These regional networks have worked closely together to build collaborations and to engage SME's, such as through the Tevi project, which involves a network of businesses across Cornwall and the Isles of Scilly, interested in growth alongside environmental gains. Research in this area has reached into the policy arena via the *All-Party Parliamentary Sustainable Resource Group (Monciardini)*.
- **INDEX** co-produces knowledge and engages in translational research on digital innovation with a broad range of governmental and industrial stakeholders. For example, the Centre is working with the UK government on digitally-enabled modernisation of services with Secretary of State for Health, Matt Hancock MP (**Thompson**). Members of the centre are also providing strategic policy advice and leadership development roles to a broad range of organisations including Amazon Web Services (AWS), Centrica, Zoetis, Zurich Insurance, Ruffer, Newbury Building Society, Police Information Technology Company, and Department for Transport.
- **CSAM** has a long history of engagement with stakeholders in both the heritage and healthcare sectors. For example, a consortium formed with Factory42, the Science Museum, the Natural History Museum and Exeter Cathedral (**Smart**) are shaping the future of visitor experience at many renowned cultural attractions. The Centre is a significant contributor to the VISTA-AR project, which is a considerable collaboration (£5M) with EU partners exploring the use of technology at Heritage and Cultural sites (**Smart, Phillips**). CSAM works with the South West Academic Health Science Network around emergency care provision. Colleagues are also involved locally with the Torbay and South Devon NHS Foundation Trust, the Northern Devon Healthcare Trust and the Royal Devon & Exeter

Hospital (**Mustafee**). The *Health and Care IMPACT Network* is run from CSAM (**Mustafee, Fordyce**) (Torbay NHS), to support the development of *NHSquicker*.

Collaboration through Teaching

The Unit's educational programmes have also led to collaboration with key stakeholders. In particular, since their introduction in 2017, the Degree Apprenticeship Programmes have grown significantly, with currently over 500 students participating per annum. Covering the full range of private, local and national government sectors, over 50 organisations are represented on the programme. An example of the type of collaboration developing is that of *JP Morgan* engaging with ExCL on leadership research (**Gerbas**). The Unit also runs numerous Executive Education programmes. The Unit believes that first-class scholarship should be at the heart of our thought leadership, which engages practice. That is, collaboration is not based on contract research, but through engaged scholarship in helping beneficiaries to shape practice. For example, the programme on the Circular Economy (**Hopkinson, Charnley**) has attracted over four hundred senior practitioners from many of the world's leading corporations, including Google, Apple, Philips, Renault, Danone, Solvay, BASF, H&M, Ikea and Ricoh. Many of these organisations draw on the ECCE's research to implement and evaluate the circular economy in their home organisations (e.g., **Hopkinson's** partnership with Google examining circular minerals).

International Collaborations

A vital element of the current strategy is to develop international partnerships, and to be proactive and strategic in becoming more global. Already, the Unit is seeing increased international collaboration through the centres coupled with the investment in the DRPs. For example, Erasmus University (**Tasselli, Leroy**) and University of Kentucky (**Labianca**) on organisational social networks and University of Zurich and Copenhagen Business School on Digital Leadership. The Unit has now appointed an Associate Dean Global (**Harvey**) who has oversight for developing relationships with international Universities for research collaboration.

Examples of significant university collaborations include:

- **ENF** - Europe Network Fund - a central Global Partnerships fund to facilitate increased collaboration with a small number of universities in Europe. Awards were made to **Emery, Inceoglu, Krammer, Ivanova**.
- **QUEX** – A centrally funded joint institute between the University of Queensland and Exeter funds various activities aligned to the themes of Global Environmental Futures; 'Healthy Living'; and 'Digital World and Disruptive Technologies'. The Unit holds a QUEX Initiator Grant Scheme award (**Hopkinson**), two QUEX Accelerator Grant Scheme awards (**Hartley, Inceoglu**) and one QUEX PhD (**Coles**)
- **DUKE** – Centrally funded research scheme matched with Duke University. The Unit has one award (**Binner, Fonseca**)
- **FUDAN** – Fellowship for funding for Exeter staff to travel to Fudan University (**Zheng**).

c. Contribution to Academic and Professional Learned Societies.

Faculty in the Unit are noticeable contributors to the development of their respective disciplines and related professional associations. As a reflection of their achievements in the field, staff have links with many professional associations for example: Fellows of the Academy of Social Sciences; British Academy, Royal Society for the Arts, Academy of Management, Production and Operations Management Society, International Federation of Operations Research and Management Science, EURO-The Association of European Operational Research Societies, Association for

Computing Machinery, The UK Operational Research Society (ORS), European Operations Management Association, IEEE Technology and Engineering Management Society, and the British Computer Society. Staff contribute to the running of the scholarly societies, for example, **Mustafee** serves as the Special Interest Group (SIG) representative for the 15 SIGs of the ORS, **Disney** is a member of the South Wales Operational Research Discussion Society, and **Gerbasi** is on the executive committee of the Academy of Management Organizational Behavioural Division.

Contributions to Academic Journal Editing

Contributing to the wider research base is an important aim of the Unit. Staff are encouraged to take an active role and as such serve on the editorial boards of 80 leading journals, with 13 members in senior editorial roles. Examples of senior editorial roles include the following; **Erdogan** is Editor-in-Chief of *Personnel Psychology*, **Yearworth** is an Editor of the *European Journal of Operations Research* (EJOR), **Disney** is the Associate Editor (AE) of *European Journal of Industrial Engineering* *EJIE*, **Tornikoski** is the AE of the *Journal of Small Business Management* and EAB member of the *Journal of Business Venturing* and *Entrepreneurship Theory and Practice*, **Parker** is AE for *Decision Sciences*, **Islam** is AE for *Technological Forecasting and Social Change*, and **Krammer** is EAB for the *Journal of World Business*. **Mauil** and **Smart** served as Co-Editors for the *International Journal of Operations and Production Management*, **Van Quaquebeke** is an AE of the *Leadership Quarterly*, **Mustafee** is an AE of the *Journal of Simulation*, **Howard** is an AE of the *Journal of Supply Chain Management*, **Inceoglu** is an AE of the *Journal of Personnel Psychology*, **Onali**, is an AE of the *British Accounting Review*, and **Rowlinson** was the Senior Editor (SE) of *Organization Studies*. Faculty are also on Editorial boards of leading Business and Management journals, including *Business History* (**Rowlinson**), *Academy of Management Review* (**Rowlinson**), *Accounting and Business Research* (**Dargenidou**, **Livne**, **McMeeking**), *British Journal of Management* (**Trojanowski**), *Entrepreneurship Theory and Practice* (**Vanacker**), *European Accounting Review* (**Livne**), *European Journal of Operational Research* (**Disney**), *Human Relations* (**Emery**), *International Journal of Operations and Production Management* (**Phillips**), *Journal of Business Research* (**Zhang**), *Journal of Business Venturing* (**Vanacker**), *Management Decision* (**Kannan-Narasimhan**), *Organization Science* (**Lomi**), *Organizational Behavior and Human Decision Processes* (**Van Quaquebeke**) and *The Leadership Quarterly* (**Gerbasi**, **Peters**)

Fifty members of staff from the Unit gave keynote addresses at major conferences over the REF period, notable ones include:

- **Boehm** - 'Carbon Fetishism', keynote address at University of Hamburg, Germany, December 2016
- **Disney** – 'The bullwhip effect in supply chains', The EURO Working Group on Stochastic Modeling, Louvain-la-Neuve, Belgium, July 2016
- **Lomi**, Modeling Organizational and Institutional Complexity Fourth Agent-Based Models of Organizational Behavior (ABMO4) Free University of Bozen-Bolzano, Italy, May 2019
- **Oats**, 31st International Congress on Social & Environmental Accounting Research, St Andrews, August 2019
- **Pascucci** Business models for sustainability in the transition to a circular economy, Wageningen University (NL), March 2018
- **Sealy** European Academy of Management Corporate Governance, Portugal, June 2019, and International Corporate Governance Society, Essex, October 2019.

UK Research Council Commissioning Panels

A number of staff are members of the ESRC and/or EPSRC Peer Review Assessors College. For example, **Shaw** is one of the ESRC Fellows of the Peer-review College, and **Coles** and **Trojanowski** are Senior Members of the ESRC Peer Review College. **Bessant**, **Ahmed-Kristensen** and **Mustafee** are full members of the EPSRC Peer-review College, and **Maul** and **Yearworth** are Associate Members of the EPSRC Peer Review College. There are also many international grant giving bodies where staff have been reviewers.

Recognition and Honours

Faculty have been recognised with honours and awards from a range of external bodies. **Whiteman** is on the World Economic Forum's new Global Council on Frontier Risk, **Sealy** is in the People Management's inaugural Diversity & Inclusion 2020 Power List, **Harvey** is International Research Fellow (IRF) of the Oxford University Centre for Corporate Reputation. **Rowlinson** was awarded the Best Full Paper in the Management and Business History Track at the BAM2020 Conference In The Cloud. **Gloor** was given the best paper award AOM 2020.

d. Concluding remarks

Our statement demonstrates our achievements deriving from our research strategy of strengthening our disciplines and investing in our centres to deliver impactful research. Our structures and practices show our commitment to supporting researchers at all levels and backgrounds. We continue to strive for improvement and we are confident that our growing reputation for world-leading research and impact will continue into the future.