

<b>Institution:</b> University of Warwick
<b>Unit of Assessment:</b> C17 Business and Management Studies
<p><b>1. Unit context and structure, research and impact strategy</b></p> <p><b>1.1 Context</b></p> <p>The unit comprises Warwick Business School (WBS) and closely linked Institute for Employment Research (IER). Our strategy is informed by University of Warwick's pursuit of <i>Excellence with Purpose</i>, and its institutional research mission to be internationally leading, impactful and provocative (see REF5a-1.0;1.2;2.1). The University engages in transformative and interdisciplinary research to address present and future global challenges, thus supporting positive change in the world. Our research strategy is inclusive and drives diversity as a cross-cutting strand across all our research endeavours. Within the wider University, our research: (1) aligns with our disciplinary excellence, to generate cutting-edge knowledge, applied by other disciplines; (2) supports the development of economic and social infrastructure for other disciplines' research; (3) enacts a translational role for implementation and amplification of other disciplines' research evidence.</p> <p>We have drawn on the strategy and research aims (outlined in our REF-2014 return) to:</p> <ul style="list-style-type: none"> <li>• Pursue transformative solutions to global challenges faced by communities through disciplinary and interdisciplinary research, locally, nationally and internationally.</li> <li>• Enhance methodological rigour and integrity of our research to generate world-class research outputs.</li> <li>• Develop impactful partnerships with user organisations and policy agencies to translate our research into policy and practice.</li> <li>• Nurture talent and communities of world-class scholars, within an inclusive research culture, producing both the highest-quality academic research and disseminating findings for the greatest economic and social benefit.</li> <li>• Infuse the School with an international outlook and reputation.</li> <li>• Enact our research aims in a way that is sustainable in the longer-term.</li> </ul> <p><b>1.2. Strategy</b></p> <p>Our research strategy has been refreshed since 2014. Within each Subject Group, all faculty have participated in generation of local strategic plans. Heads of (Subject) Groups are included in the School's main decision-making body, Senior Management Group, enabling them to develop and enact our research strategy, ensuring standards for research output, impact and talent-nurturing are owned by all faculty at all career stages. The starting point for our strategy are the School's lived values of <b>C</b>uriosity, <b>O</b>penness, <b>R</b>estlessness and <b>E</b>xcellence (CORE), developed with faculty and professional-services staff, and discussed in School-wide 'Town Hall' meetings. The Executive Leadership Team steered the process and provided critical scrutiny of strategy as its development gathered pace.</p> <p>Our strategy pursues research of the very highest quality globally, with critical mass in all subject areas aligned with our character as a 'full service' business school. We have embedded an extensive professional-services infrastructure to deliver research quality. We exhibit a practical, hands-on approach to our research, determined to move outside any 'ivory tower' perceptions of</p>

our School. We pride ourselves on willingness to engage openly outside our School: we describe this as exhibiting 'lower walls' in relation to academic, practice, policy and societal boundaries (see Currie et al., 2017; DOI:10.5465/amle.2015.0279). We exhibit curiosity about societal challenges, which drives us to collaborate interdisciplinarily with other University departments, across STEM, Arts and Humanities, and other social sciences. Our research drove the successful bid for Coventry City of Culture and its programming, as well as early-intervention services for first-episode psychosis in India. We also lead a collaboration with the University's world-class Maths and Computer Science Departments with the Alan Turing Institute, focused upon Data Science for the Social Good; the University's interdisciplinary Global Research Priorities (GRPs) in 'Behaviour, Brain and Society'; 'Energy'; and 'Productivity and the Futures of Work'.

Drawing on the University's motto, 'Mind moves matter', we have transformed our research impact on practice, policy and society through our refreshed research strategy, focused on our areas of impact strength: healthcare; enterprise, productivity and work; behavioural science. Through our strategy, we aim to enhance competitiveness of the UK economy and private-sector organisations, whilst adopting a wider social mission to support government policy and public agencies to improve service delivery, so addressing inequalities within society.

Our dynamism leads us to sustain excellence in all our research. Our research standards are global, and our publications benchmark well against the leading business and management institutions in North America, Europe and Asia. Reflecting our global reputation, our research is increasingly internationalised in its intellectual impact, exemplified by improved performance in the Dallas global research ranking (which considers publication in 24 'leading' periodicals in major business disciplines) from 85<sup>th</sup> during REF-2014 to 62<sup>nd</sup> now. We have a consistently high position in the QS World University Rankings by subject: our business and management four-year average ranking is 23, and finance and accounting 37. The current Times Higher Education World University Rankings position us number 22 in business and economics.

Central to our research strategy is transforming talent in an inclusive way sensitive to gender, ethnicity, age and disability. We recruit early-career researchers (ECRs), and nurture their development. Supported by a structured mentoring programme, with our Distinguished Research Environment Professors (DREPs) playing a key role, our ECRs recruited since 2014 have progressed rapidly through probation, with some ready for a personal Chair. Our ECRs publish in the world's leading journals, such as *Academy of Management Journal* (**Dittrich, Sasaki, Li Pira**), *Administrative Science Quarterly* (**Wiedner**), *Management Science* (**Alempaki, Mullett**), *Journal of Financial Economics* and *Review of Financial Studies* (both **Venter**). They draw down large-scale research income, for example from UKRI's Future Leaders Fellowship programme (**Aristidou, Dittrich**). They simultaneously impact policy and practice, in international and societally important ways, e.g. microfinance and business-skills training for women in India (**Barboni**).

Yet we remain restless, currently investing further in our PhD programme, to position it as a globally leading programme. We have recently obtained a multi-million-pound endowment for the Gillmore Centre in Financial Technology, which will enhance our finance and data-science expertise, spread across our Subject Groups, including Finance, Information Systems and Management, and Operations. Our research-based education strategy informs executive-education offerings, e.g. immersive three-day Behavioural Science in Practice, with the government's Behavioural Insights Team. Being part of faculty and professional-services teams at the School means never standing still: our research strategy requires willingness to take

ownership of societal challenges, to challenge orthodoxy and convention, and to embrace change, creating space for innovative and entrepreneurial interventions deriving from our research.

Pursuing our research strategy, we enact a virtuous relationship between inputs (investment in faculty, and physical and data infrastructure, large-scale external grant funding) and outputs of high-quality scholarly publications, development of faculty, impact on policy and practice, and public engagement with our research. The Chartered Association of Business Schools (CABS) annual survey of grant income, drawing on HESA data, shows our pre-eminent position as the leading school in business and management. From 2012/13 to 2017/18, we received over £27.3m, with £4.4m in 2017/18.<sup>1</sup> Our strategy encourages faculty to pursue grant income not merely to satisfy a metric, but to support large-scale interdisciplinary research interventions necessary to impact grand challenges of society. Our funded research programmes almost always include academic researchers from outside the School, and commonly policy and practice partners who coproduce the research from initiation. The input–output virtuous relationship is supported by School structures and practices, which encourage disciplinary excellence within our Subject Groups, and interdisciplinarity and impact through School Research Centres, Networks and Communities of Impact (CoI) – and University-level GRPs, Research Centres and Research Institutes. Further, professional-services staff, within our dedicated Research Office (RO) and University Research and Impact Services (R&IS), work closely with faculty to ensure this virtuous relationship. Alongside this, we contribute more widely to supporting growth and excellence in the wider business and management academy, within the UK and internationally, with reciprocal benefit for our faculty. We have engaged in numerous cross-University partnerships in large-scale funded research programmes; e.g. **Loomes** (with **Chater, Isoni, Read, Stewart**) leads our participation in the ESRC-funded Network for Integrated Behavioural Science, encompassing Warwick’s Psychology Department, and Universities of Nottingham and East Anglia.

Contributing to our high global standing, our research is of international significance and reach. Firstly, deriving from our aim to further enhance our diverse faculty profile, ECRs increasingly come from some of the best North American, European and Asian business schools. We bring in authoritative and diverse academics from the leading business schools as DREPs to develop our ECRs. Secondly, our publications profile has changed following encouragement for faculty to privilege quality over quantity in journal submissions, as we aspire to shape intellectual debate globally. Our faculty publish in high-quality peer-reviewed journals, including those outside business and management, in other social sciences (e.g. *American Economic Review* and *Psychological Science*), science (e.g. the *Nature* series and *Science*) and medical journals (e.g. *British Medical Journal*). Thirdly, we collaborate with appropriate international partners and with established University partnerships, such as the Monash–Warwick Alliance and EUTOPIA (European Alliance) (see REF5a-2.12.2). Finally, we support individual or collective efforts towards internationalisation of our research, encouraging faculty to develop partnerships in Europe, other high-income countries (e.g. Australia, USA), and low-middle-income countries (e.g. India, Kenya, Sri Lanka). For this, we have drawn down large-scale research funding to address global challenges, particularly in healthcare. Female faculty are particularly prominent in leading our international efforts to address grand challenges in low-medium-income countries (**Barboni, Fernando**).

<sup>1</sup> See ‘Research Income for Business and Management: Analysis of HESA Data 2012/13–2017/18’ at <https://chartereddabs.org/wp-content/uploads/2019/04/75287-CABS-Research-Income-Report-2019-1.pdf>

### 1.3. School Structure and Practices

The School operates a decentralised structure enabling Subject Groups to develop their own research strategies within our strategy framework, supported by an exchange with the Executive Team, e.g. on faculty recruitment (see 2.1.2). To ensure synergy across WBS and IER, senior IER faculty participate in our Research, Engagement and Impact Committee (REIC) and its Impact Sub-Committee. Locating a critical mass of faculty within nine Subject Groups – Accounting; Behavioural Science; Entrepreneurship and Innovation; Finance; Information Systems Management; Marketing; Operations; Organisation and Human Resource Management; and Strategy and International Business – promotes research of the highest scholarly quality. IER's interdisciplinary research strength, especially in work and employment, coalesces with WBS, e.g. through joint provision with WBS's Industrial Relations Research Unit (IRRU) of the EU's UK Observatory for labour markets.

Organising around Subject Groups supports disciplinary excellence. Our Behavioural Science Subject Group generates world-leading pure research in the very best peer-reviewed science journals that is drawn on by other disciplines outside business and management (facilitated by the School's leadership of the University's GRP 'Behaviour, Brain and Society'; see 1.4, **Read**). Faculty's intellectual curiosity, openness and restlessness, propelling them towards excellence, is evident in our production of the highest-quality scholarly research. In the REF-2021 period, faculty have published over 1,853 articles in peer-reviewed journals, 44 books and special issues of journals, and 196 chapters in edited books or collections. Current faculty have an average Scopus h-index of 12.7 and Google scholar h-index (denoted g-index, following) of 19.8. Notably, **Chater** has an h-index of 56 and g-index of 86, **Newell** 47 and 72. As noted above, our ECRs publish in the highest-quality journals. For more detail on how we support ECRs and PhD students, see 2.1.6;2.2.

Heads of (Subject) Groups (HoGs) meet regularly through the HoG Forum, chaired by the Pro-Dean (Faculty). The HoG Forum provides a platform for sharing experiences and learning about design and implementation of group-level practices for research, which aim for an inclusive research culture at the local-level and sustaining best practice systematically across the School (see 2.1). Each Subject Group has a Research Environment Lead (REL) who sits on our REIC. A Doctoral Programme Representative from each Subject Group sits on the Doctoral Programme Committee (DPC). Two ECRs sit on both REIC and DPC to ensure all levels are represented in School governance structures. Within each Subject Group, a senior faculty member is given workload allocation to act as REL, working with Doctoral Programme Representatives and the HoG, ensuring an inclusive, sustainable and vibrant research culture is enacted locally. All faculty have an annual personal development review, usually carried out by their HoG. Faculty below Professorial-level have a dedicated mentor within their Subject Group (see 2.1.4;2.1.5). We further harness scholarly excellence and policy/practice impact through our Research Centres and Networks (see 1.5); and further enhance transformative research and impact with reach and economic/social significance through ten University GRPs, three of which we lead (see 1.4).

The School also shapes the University's research and impact strategy. Senior faculty are members of University-wide governing bodies (see REF5a-2.4). Our Pro-Dean (Faculty) (**Llewellyn**) participates in the Professorial Promotions Group and Staffing Committee; our Pro-Dean (Research, Engagement and Impact) is represented on the University Research Committee (**Gopal**); our Impact Lead (**Currie**) is a member of the Knowledge Exchange Framework (KEF) Committee, and the Faculty's Impact Committee; **Neelands** is Academic

Director of Cultural Partnerships; and **Driffield** is Deputy Pro-Vice-Chancellor (PVC) (Regional Engagement). The School's Dean (**Lockett**) reports directly to the University Provost and is an elected member of University Senate and University Council.

#### 1.4. Supporting Interdisciplinary Research

First, aligned with our research strategy, we stimulate interdisciplinary collaboration across Subject Groups that focus on similar empirical or theoretical topics. Second, we encourage faculty to extend their interdisciplinary research collaborations beyond the School.

We support joint appointments across Subject Groups (e.g. **Kiefer, Allen** in Entrepreneurship and Innovation, and Organisation and Human Resource Management; **Eubanks** in Entrepreneurship and Innovation, and Behavioural Science) and fund well-attended joint seminars and School-wide journal-publication workshops by editors of leading journals (e.g. Michael Pratt of Boston College – *Administrative Science Quarterly*; Tima Bansal of Ivey Business School – *Academy of Management Journal*). This provides the springboard from which faculty from different Subject Groups exhibit and share research interests. These events – e.g. the Decision-making Research at Warwick seminars, convened by our Behavioural Sciences Subject Group – also attract faculty from across the University, including Economics, Psychology and STEM disciplines. Our well-established Summer Schools – such as the Behavioural Science Summer School, running for eight years and focusing on societal challenges, e.g. climate change and behaviour (2019) – also bring together faculty from different Subject Groups and departments. The results of our encouraging interdisciplinary research collaboration are evident in numerous joint PhD supervisions (supported by generous funding from the School). Faculty within Behavioural Science co-supervise with Marketing, focused on consumer behaviour (**Habel, Jia, Wei**), and with Finance, on behavioural economics (**Antoniou, Kumar, Read**). Successful joint research-funding bids across Subject Groups focus on behavioural science in the School, for example **Read** (Behavioural Science) was co-investigator on a grant led by **Elmes** for the School (Strategy and International Business) and the Engineering Department, exploring end-use energy demand (EPSRC, £590k, 2013–18). Consistent with our aim for a virtuous relationship between research inputs and outputs, numerous joint publications across Subject Groups now focus on behavioural science. Exemplifying this, the end-use energy-demand grant resulted in several co-authored papers between **Read** and **Elmes** in *Journal of Experimental Psychology* (2020), *Journal of Environmental Psychology* (2019) and *Renewable and Sustainable Energy Reviews* (2019).

We support interdisciplinarity through Research Centres/Institutes and Research Networks. Aligned with our research strategy, the former generate large-scale research funding through interdisciplinary research that emphasises policy and practice impact (see 1.5). Our five Research Centres are: Innovation, Knowledge and Organisational Networks (IKON); ESRC Enterprise Research Centre (ERC); National Institute for Health Research Applied Research Collaboration West Midlands (NIHR ARC WM); Gillmore Centre for Financial Technology; and Institute for Employment Research (IER). Our four Research Networks are: Applied and Organisational Psychology Network; Macroeconomic and Forecasting Research Network; Artificial Intelligence and Innovation Network; and Global Energy Network. For example, NIHR ARC WM (co-funded by NIHR for c.£9m over five-years, of which we were allocated around 20%) crosses Operations (**Burgess, Radaelli**), Entrepreneurship and Innovation (**Currie, Oborn, Spyridonidis**), Organisation and Human Resource Management (**Croft, McGivern, Swan**), and Behavioural Science (**Vlaev**) Subject Groups, and collaborates with medical schools at Universities of Keele and Birmingham, together with Warwick Medical School (WMS).



Meanwhile, the ERC encompasses faculty from Entrepreneurship and Innovation (**Fraser, Mole, Roper**), and Strategy and International Business (**Driffield**). IER is avowedly interdisciplinary in its orientation, linking faculty from Entrepreneurship and Innovation (**Currie, Roper**), Strategy and International Business (**Battisti, Driffield**), and Organisation and Human Resource Management (**Dean, Galetto, Fernando, Hoque**), with its own dedicated research staff to engender deep relationships with other University departments, e.g. Sociology and Warwick Manufacturing Group (WMG).

Our Research Networks also impact policy and practice through interdisciplinary research. For example, the Macroeconomic and Forecasting Research Network coproduces research with National Institute of Economic and Social Research (NIESR) in the Office for National Statistics (ONS), in collaboration with other University departments, particularly Economics (**Battisti, Mitchell**). Linked into the University GRP 'Energy' that the School leads, the Global Energy Research Network brings together faculty from Strategy and International Business (**Battisti, Bradshaw, Dahlmann, Elmes**), Finance (**Mitchell**) and Behavioural Science (**Read**), working closely with other University departments. For example, **Bradshaw** led a successful bid to the Natural Environment Research Council with Politics and International Studies (£301k, 2018–22) to examine geopolitical implications of energy-system transformation, and co-authored a publication with mining-engineering and public-policy academics in *Nature* (2019).

Research Networks are supported by internal funding on a rolling three-year basis, with an aim to develop them further. For example, the Artificial Intelligence Innovation Research Network has represented the foundation for the larger-scale, externally funded Gillmore Centre for Financial Technology, encompassing faculty from our Operations and Information Systems and Management Subject Groups. The flexibility of our Research Networks enables our research infrastructure to respond interdisciplinarily to research opportunities.

We work with the wider University through its GRPs (see REF5a-2.9.1). Three of the ten University GRPs are led (or co-led) by the School (**Read** – 'Behaviour, Brain and Society'; **Bradshaw** – 'Energy'; **Battisti** – 'Productivity and the Futures of Work'). Our faculty also participate in other cross-University research centres – e.g. Centre for Mental Health and Wellbeing Research (**Croft, Currie, Oborn**), Centre for Operational Police Research (**Johnson, Ritchie, Stewart**), Institute for Science of the Cities (**Moat, Preis**), and Connecting Research on Employment and Work (**Dean, Galetto, Hoque, Kispeter, Krausert**) – and we lead the cross-University research initiative focused on Coventry City of Culture 2021 (**Beer, Currie, Micheli, Neelands, Roper**), exhibiting our interdisciplinary engagement with Arts and Humanities to support the economic and social impact of cultural production.

### 1.5. Enabling Impact

We align with the University's mission, targeting investment towards economic, health and social impact at regional, national and international levels that matches our academic strengths. Currently, over 60% of our faculty are generating 124 impact cases captured on the Warwick Impact Capture Systems (WICS – originally developed by the School), with 41 led by female academics and/or ECRs (see REF5a-2.6).

Regionally, our research has led to impact through working with local healthcare providers on health and social care improvement (**Burgess, Croft, Currie, Kiefer, Oborn, Radaelli, Swan, Vlaev**); Coventry City Council and stakeholders on Coventry City of Culture 2021 and on enhancing social impact (**Beer, Neelands**); and West Midlands Combined Authority on regional

productivity, supported by an ESRC 'Productivity' grant (£312k, 2018–21) (**Fraser, Mole, Roper**).

Nationally, our research has informed debate on the effects of the EU Exit on policy, society and economy (**Bradshaw, Driffield, Meardi, Roper, Warhurst**), and influenced policy and debate around fracking (**Bradshaw**). Our behavioural science strength is evident in involvement at highest policy level, e.g. through the Behavioural Insight Team and Cabinet Office (**Chater, Powdthavee, Vlaev**). Our research has also led to impact by informing decision-making about mergers and acquisitions through membership of the Competition and Markets Authority (**Thanassoulis**); and working with ONS to understand and respond to the graduate labour market (**Elias**).

Internationally, our research created impact through working with NASA on maintaining excellence in the space-exploration sector (**Heracleous**); the Kenyan Medical Research Institute, funded by the Wellcome Trust, on clinical leadership in East Africa (**McGivern**); and EU Horizon 2020 on boosting innovation and job quality to improve employment in Europe (**Warhurst**). We also engaged and influenced the public in our areas of thought leadership, e.g. enhancing public understanding of behavioural science and decision-making through the BBC Radio 4 series, 'The Human Zoo', curated by **Chater**.

Encouraging collaboration across Subject Groups, we instituted a model for knowledge-brokering between faculty and policy/practice. We identified seven Impact Champions (allocated 0.5 day per week for the role) to develop and support Cols in financial services; social, environment and economic impact; information systems, operations and analytics; enterprise, innovation and growth; work, employment and governance; healthcare management and innovation; and behavioural science and marketing.

Our Impact Sub-Committee, reporting to REIC, decides financial and workload support for faculty to accelerate, deepen and broaden their research through Cols. A School-level Impact and Dissemination Fund (£201k from 2016/17 to 2019/20) accelerated our routes to impact with practice- and policy-based beneficiaries. Faculty also benefited from the University's ESRC Impact Acceleration Account (IAA) funding (£378,787) and from other Warwick impact-related schemes, including Warwick Impact Fund, Higher Education Impact Fund, Strategic Priorities Fund, and Public Engagement Fund (£722,789). Additionally, the School allocated over 5,500 hours to support faculty with developing research impact cases.

To further promote research impact, we developed educational interventions, including open executive-education programmes, e.g. Senior Leaders Business Growth Programme (research informed by **Driffield**), run in collaboration with ESRC ERC. With our Behavioural Science Subject Group, we developed a series of 'Nudgeathons', collaborative workshops to drive behavioural change on specific challenges, e.g. encouraging young people to save (with *Which?* magazine) and enhancing handwashing among clinicians (with University Hospitals Birmingham). We have become the Bank of England's partner – only the third since its 1694 inception – through launching the Executive MSc in Central Banking and Financial Regulation. Jointly designed and delivered, it promotes good financial regulation across the globe. Developing relationships with the broader University through the GRPs further facilitates the attainment of large-scale grants to engender economic and social impact. For example, the School-led 'Productivity and the Futures of Work' GRP provided the bedrock for our cross-University partnership in the ESRC £26m-funded Productivity Institute, which works with eight Regional Productivity Forums that bring together businesses and policymakers to address the

UK's poor productivity. Led by **Driffield**, the Warwick component involves collaboration with the Economics Department and WMG, in an interdisciplinary collaboration with NIESR, and Universities of Glasgow, Sheffield, Manchester, KCL, Cardiff and Queen's Belfast.

At the highest level of governance, the University holds Submission Steering Group (SSG) meetings with the School (two/three per year) focused upon its research, chaired by the PVC (Research), to discuss the School's impact on policy, practice and public engagement. Derived from the School's research, the 124 impact cases captured on the my.wbs system have been regularly reviewed internally (in the School and by experts in the wider University through SSG), with feedback to aid faculty in accelerating, deepening and broadening research impact. Our final choice of nine REF impact cases is discussed with SSG, attended by the School's Dean, Pro-Dean (Research, Engagement and Impact), Impact Lead, Research Managers and IER Director.

### 1.6. Research Ethics

We have instituted robust ethics infrastructure. The School's RO provides an advice service and reviews all research-ethics applications before submission to the relevant committee – usually Humanities and Social Sciences Research Ethics Committee (HSSREC) or (for healthcare-related research) Biomedical and Scientific Research Ethics Committee and NHS Health Research Authority systems (particularly relevant for research projects funded through NIHR ARC WM). Associate Professor **Korica** provides academic representation on the University's Sponsorship and Oversight Committee, which ensures appropriate sponsorship and governance of research in NHS organisations/settings, and on the HSSREC. The University-developed research-integrity Concordat and research code of practice have been widely promoted across the School; faculty and postdoctoral researchers attend mandatory University ethics/integrity training and 'Good (Clinical) Research Practice' training when researching in healthcare settings (see REF5a-2.11). We endorse and embrace the San Francisco Declaration of Research Assessment by supporting the use of responsible bibliometrics to assess scholarly impact. Moreover, an internal ethics committee has been convened to consider PhD students' protocols, with onward referral to REC when necessary. PhD students must produce and/or update research-ethics protocols annually at the upgrade/review panel monitoring points, and receive training on research integrity during the introduction week, 'Developing Management Research' module in year 1, and at the start of years 2 and 3.

### 1.7. Opening Up Our Research

The University instituted a repository (WRAP) to comply with open-access policy and increase open-access research/data, within which all our outputs appear (see REF5a-2.10;4.4). Several outputs are accessible via the 'gold route' supported by dedicated University-level funding for outputs from UKRI-funded studies.

### 1.8. Future Strategy

Our future research, engagement and impact strategy continues our present strategy, identified in REF-2014, and is central to the School's 2030 strategy, supported by University Council. Focusing on rigorous, interdisciplinary and impactful research, we will:



- Invest further in structures, processes and culture to generate world-class research outputs in emerging important domains, and where we can generate critical mass in a similar way to our development of behavioural science over the past ten years.
- Continue to attract large-scale research funding to deepen interdisciplinary research through our Research Centres/Networks, in collaboration with other University departments and University-level GRPs, to produce transformative solutions to global challenges faced by communities, businesses and economies locally, nationally and internationally.
- Continue to nurture talent and build research capacity through further developing our practices to enable all staff to maximise their research potential, building on past success in developing a more diverse workforce and focusing on ECRs.
- Advance the quality of our doctoral research programmes in partnership with other University departments, to match the very best global examples, and ensure a diverse academic workforce fit for the future
- Further internationalise our research and its impact through large-scale funded collaborations with non-UK academic institutions and partners.

## 2. People

### 2.1. Staffing Strategy

#### 2.1.1. Development

Consistent with our research strategy, we fully engage faculty in developing our staffing strategy, to ensure inclusivity and that faculty commit to our strategic aims and manage staff accordingly. Subject Groups define their intellectual remit (e.g. existing capabilities, focus topics, research-development trajectory) and research areas where they wish to invest (e.g. recruitment implications of their research aims with sensitivity towards equality and diversity). Subject Groups rank themselves alongside competitor institutions, aligned with our strategy to be a world-class player in business and management; we ask they devise plans that drive up standards and outline how they will attract and retain high quality faculty. We aim high while recognising we cannot compete with salaries paid by some of the leading global business schools. Accordingly, we ask Subject Groups to help us ensure our School is a great place to work for our diverse faculty, with excellent research support and career opportunities, to help attract staff. We then pledge to invest in our talented and diverse faculty and help transform them into global leading researchers. These Subject Group strategy documents are scrutinised by our Executive Management Team to ensure sufficient aspiration, consistency across Groups, and alignment with School strategy.

#### 2.1.2. Recruitment

Since 2014, the School has grown from 104.4 to 158.15 FTE (research-active category A staff) on 31 July 2020. Our recruitment strategy has four main features:

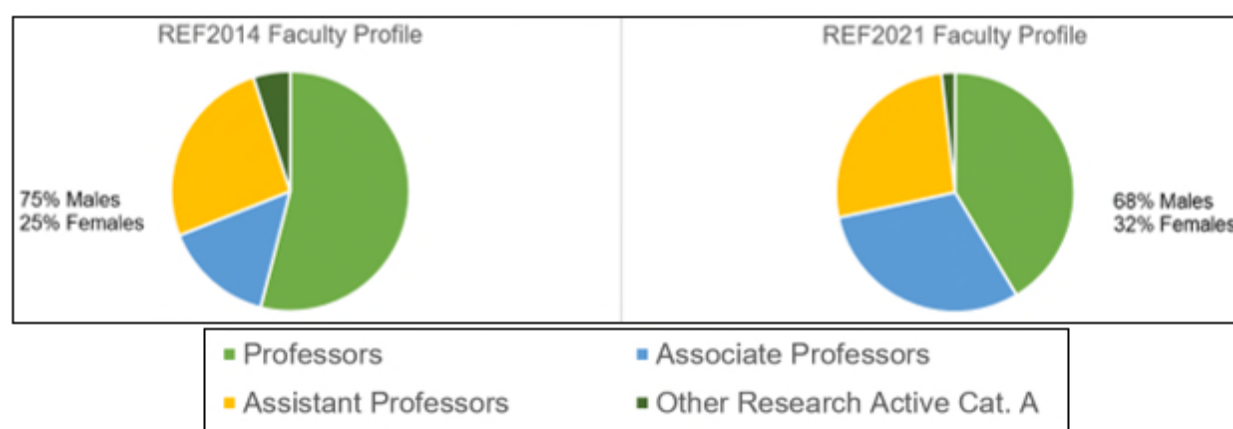
*Developing Career Pathways:* we have developed career pathways from doctoral through postdoctoral researcher onto full faculty. We internally fund two-year Research Fellowships through which we identify high-potential doctoral candidates and invest in their careers. This 'grow-your-own' strategy has generated high-performing, fast-progressing and committed faculty and helped ensure gender-balance within the School (see chart-2.1.2), with female faculty including **Croft** and **Surdu** (who obtained PhDs with us); and **Cacciotti**, **Beer**, **Burgess**, **Alempaki**, **Korica** (former Postdoctoral Research Fellows) obtaining faculty positions. Given the

## Unit-level environment template (REF5b)

age-demographic challenge in the wider business and management academic community, such faculty are our rising future stars.

*Recruitment Profile:* our recruitment is guided by intellectual fit with the Group, demonstrable high potential, shared values (i.e. strong commitment to participate in collective research practices), and strategic imperative to address gender imbalances. The latter has been achieved by identifying (through our networks) prospective female senior faculty (**Horton, MacDonald**), by discussing potential posts with female ECRs in our Summer Schools (e.g. Practice and Process Studies Summer School: **Aristidou, Dittrich, Sasaki, Slavova**), and by funding two-year Postdoctoral Fellowships to support recent female PhD graduates, preparing them for permanent faculty positions. With a large faculty, change takes time, but we have seen good progress. In the 2020 Financial Times Full-Time MBA rankings, WBS has now risen to joint-second in the world for gender-balance of faculty, behind only the University of California at Irvine. We are first in the UK and joint first in Europe. During the REF-2021 period, across all grades, over 35% of all research-focused hires have been female. Within the next two-to-three years, we aim to become the leading Business School in the world for faculty gender-balance. We are proud that Warwick is the first Business School in the UK to receive an Athena SWAN Silver award in 2017; with much still to do, this was encouraging external validation of our rapid progress on equality and diversity staffing. Finally, at the last REF, some Subject Groups had few ECRs or mid-career faculty. Our recruitment strategy has addressed this imbalance, by hiring at the more junior level (see chart-2.1.2).

**Chart 2.1.2: Faculty Profile 2014–21**



*Hiring Senior Faculty:* Senior faculty applicants have naturally published at the highest-level in business and management journals, but we also require evidence of academic leadership, in developing institutional research capacity sustainedly, and nurturing ECRs to full Professorship. For example, **Ram Gopal** (previously at University of Connecticut) in the Information and Systems Management Subject Group leads data-science research initiatives – bringing together faculty from Operations, Information Systems and Management, and Behavioural Science – and became Pro-Dean (Research, Engagement and Impact) from late 2020.

*DREPs:* we have invested in DREPs, within Subject Groups, focusing on capacity-building, working with ECRs, PhD students, postdoctoral researchers. Since 2014, we have hired three new DREPs (**Reuer**, University of Colorado Boulder; **Sandberg**, University of Queensland; **Segal**, Interdisciplinary Center Herzliya, Israel) to complement the long-established cadre of eight, drawn from the top business schools globally.

**2.1.3. Staff Development**

Research Environment Leads (RELs) – in partnership with an ECR in their Subject Group – organise high-quality research seminars by external speakers. We have spent £257.2k supporting over 900 seminars since 2014. Shifting from a ‘Wednesday afternoon’ model, external speakers spend two-days at the School, engaging in one-to-one consultations with postdoctoral researchers, PhD students and ECRs, reading and commenting on draft papers, and delivering research seminars. The Entrepreneurship and Innovation Subject Group exemplifies this practice, recent speakers including Ethiraj (Editor-in-Chief, *Strategic Management Journal*), Kilduff (former Editor-in-Chief, *Academy of Management Review*), McMullen (Editor-in-Chief, *Journal of Business Venturing*), Ahuja (Editor-in-Chief, *Organization Science*), Antonakis (Editor-in-Chief, *Leadership Quarterly*), Pratt (Associate Editor, *Administrative Science Quarterly*) and Astebro (Associate Editor, *Management Science*).

All Subject Groups’ faculty circulate manuscripts with revise-and-resubmit decisions to colleagues and PhD students, who meet to discuss the approach. Subject Groups organise ‘Meet-the-Editor’ sessions for PhD students and faculty, arrange ‘Awaydays’ (where research and research-activity support are discussed), with many arranging workshops on particular research aspects, e.g. grounded theory and computational methods (Information and Systems Management Subject Group, 2019/20). Subject Groups organise weekly PhD workshops and ‘brown-bag’ seminars over lunch, with a supportive, developmental ethos; here, PhD students present their research and receive detailed feedback. Subject Groups also arrange writing retreats and research incubators where they generate, articulate and scrutinise research ideas. In particular, annual Summer Schools have been developed, e.g. aforementioned Behavioural Science Summer School (2014-); ‘Data Science for the Social Good’, led by the School (**Branke**) with the University’s Computer Science and Mathematics Departments, and Alan Turing Institute (2019-); ‘Practice, Process and Institutions’ (PPI) (2013-); and IER’s co-organised ‘Future of Work and Welfare’ in San Sebastian, Spain (2019-). Supported by senior faculty, they are convened by junior faculty, e.g. **Dittrich** and **Slavova** (PPI Summer School, 2020, supported by **Nicolini** and **Sandberg**).

We grant study leave in line with University process; i.e. one academic term within a six-term period. We occasionally grant leave to staff whose performance is below expectations, e.g. where they have assumed significant administrative roles and require space/time to develop high-quality publications. We also granted leave to staff returning to work following prolonged and serious illness. In addition to automatic leave for probationers, we have granted leave to 30 Professors (43.3% female, 56.5% male) and 33 Associate Professors (33.3% female, 66.7% male) since 2014/15 (equivalent to 102 academic terms). In addition, IER has granted study leave to six (Senior) Research Fellows, four Professors and two Associates (equivalent to 12 academic terms).

Given that periods of maternity leave curtail research productivity of female academic faculty, the University developed the Academic Returners Fellowship (see REF5a-3.4), providing study leave of up to 12-months. Since 2014, seven female staff utilised these Fellowships. Where faculty have been ineligible for this scheme due to their employment circumstances (e.g. recent hires), we have nonetheless reduced teaching and administrative workloads to allow a research-focused return for female faculty (e.g. **Cacciotti**).

**2.1.4. Recognition and Reward**

Within the School, we have developed a bespoke workload model, implemented in 2016/17. For research-active faculty, 40% of workload is allocated to research, 60% comprise teaching,

supervisory, administrative and other activities. All probationers have the equivalent of a full year's study leave spread across first four years of employment. A full term of leave is given in years one and two; we have 42 Assistant Professors on our faculty (52.4% female, 47.6% male). Workload allocation is given following research funding awards in line with time allocated for Principal- or Co-Investigator roles. Research leadership/administrative roles are supported by workload allocation for RELs, Research Centre/Network/GRP Leads, Summer School Leads, DPC Representatives, the Impact Lead and Impact Champions. Since 2016/17, 11,220 working hours have been assigned to these roles. As outlined in 1.5, impact-case leads are supported by workload allocation (5,500 hours, provided since 2016/17), School-level Impact and Dissemination Funds (£201k from 2016/17 to 2019/20) and wider University schemes, e.g. ESRC IAA (£378,787 secured during the period). Thus, faculty enjoy significant resources, enabling deep engagement with policy and practice communities, to deliver tangible benefits for the economy and wider society. As well as promotion decisions, the School's Staffing Committee discusses and awards merit pay annually, following HoG recommendations. Such decisions are made with diversity and inclusion at the heart of the criteria for awards. For example, aligned with our emphasis upon developing ECR talent, from 2014 onwards, we allocated 59 merit pay awards (47.5% female, 52.5% male).

We give ECRs resources needed for high-level performance. In this REF period, research allowances have increased, with all faculty receiving at least £5k per year to support research activities, which they can increase to £10k per year, depending on their research contributions, e.g. publication success, editorial roles in journals, and impact case work. For ECRs, we allow up to £7.5k spend without additional research work. We are not rule-bound on funding and respond to requests for exceptional support on a case-by-case, with ECR requests viewed particularly favourably. All non-Professorial staff (mid-career faculty and ECRs) have a senior mentor with clear responsibilities. That regular meetings happen and suitable advice given is monitored at least annually during faculty's performance development review, and informally, Pro-Dean (Faculty) and Pro-Dean (Research, Engagement and Impact) commonly invite ECRs and mid-career researchers for discussions about their research.

### **2.1.5. Career Progression**

The School's Staffing Committee addresses all key staffing processes, making recommendations to the University on promotion, allocation of study leave and staff rewards. HoGs and mentors make recommendations to Staffing Committee that preserve equality, diversity and inclusivity safeguards on approach and process. Staffing Committee has oversight across Subject Groups, and cross-references HoG recommendations against all faculty profiles to protect against (unconscious) bias. Since 2014, 100% of females who applied for academic promotion were successful.

ECRs' probationary period is five-years, with potential extension for a further 12-months. If performance targets are met, staff can complete early following School recommendation to the University's Staffing Committee. When staff join us, our performance expectations are detailed in a three-page document, which has contractual status. Regarding publication, Assistant Professors are expected to submit a package of four strong papers or a smaller package including publications of exceptional quality. Their research performance is also judged in the context of the University framework, emphasising their awareness of and action around diversity, research-based teaching, impact, leadership and collegiate participation. Successful completion of probation automatically triggers promotion to Associate Professor (see REF5a-3.3). Evidence the approach is working well is 72% of our probationers complete early over the REF-2021 period, of which 44% were female, 56% male.

**2.1.6. Managing Performance**

We expect all staff to perform at or above the probationary standard, against which we monitor performance of all research-active staff. Where performance is insufficient, a managed process is enacted supportively and developmentally. We do not increase teaching loads or impose sanctions where research levels drop, instead working closely with the individual, and their mentor and HoG, to create conditions in which they can fulfil their potential against our aspirations for excellence in research publication/impact. We have issued study leave and actively curtailed teaching loads to give individuals the space needed to 'kick-start' their research, for example, where caring responsibilities or long-term sick leave inhibit research performance.

**2.1.7. Support and Career Progression of Postdoctoral Researchers**

We have many Postdoctoral Researchers (69.49 FTE during this REF period, with an average fixed-term contract of 2.5 years; 44 female, 37 male), due to our success in attracting research funding. We are keen to avoid Postdoctoral Researchers becoming 'jobbing contract researchers' who suffer job insecurity through a series of short-term contracts. They enjoy the same support as our Assistant Professors, e.g. an allocated senior-staff mentor. They are located in the same Subject Group to which the Principal Investigator for their external research contract or their previous PhD supervisor belongs, benefiting from access to seminars, workshops and conference-attendance funding. In particular, we seek to support postdoctoral researchers to attain high-quality publication records that strengthen their labour-market opportunities, internally and externally (see 2.2.5). The Operations Subject Group illustrates the success of our support, with **Burgess** (now Reader) and **Radaelli** (now Associate Professor) having recently progressed from postdoctoral researchers on externally funded research contracts.

**2.2. Postgraduate Research Students**

The School encompasses two streams of the doctoral programme (Business and Management; Finance and Economics). In 2014/15, a new programme structure was introduced across both streams, with the first year comprising primarily taught modules to ensure PhD students possess the research skills, knowledge and theoretical/methodological understanding to successfully complete their doctorates, and gain academic positions afterwards. We collaborate with the Department of Economics in the Finance and Economics pathway, recruiting around ten students annually. We are implementing a 2+4 year programme starting 2021/22 for this pathway, and then moving to a 2+3 year Business and Management pathway 2023/24. PhD students are vital members of the School, contributing to its intellectual vitality; we are committed to developing their skills to become independent researchers. Accordingly, alongside seminars and DREP support outlined earlier, PhD students are involved in organising workshops and Summer Schools (e.g. the Warwick Behavioural Insight Team events, supported by the 'Behaviour, Brain and Society' GRP), and we have made the training more comprehensive (e.g. with a professional-development module) and deeper (e.g. offering modules in advanced methods). Warwick leads the Midlands Graduate School Doctoral Training Partnership (DTP), funded by the ESRC, with Nottingham, Birmingham, Loughborough, Aston and Leicester. In the current REF-2021 cycle, 20 PhD students were funded by UK Research Councils (see 2.2.2).

**2.2.1. Recruitment**

The School employs a gender-balanced recruitment model applied through the Senior Admissions Panel practices (see below) and an approach to WBS scholarship awards that results in a gender-balanced population that exceeds the HESA 46.1% benchmark.



**Table 2.2.1: Recruitment Profile: PhD Students**

Year	Female					Male				
	Apps	Offers	Success	Accepts	Intake (% F/M ratio)	Apps	Offers	Success	Accepts	Intake (% M/F ratio)
2014/15	196	38	19.39%	27	24 (42.86%)	301	64	21.26%	38	32 (57.14%)
2015/16	194	50	25.77%	28	25 (51.02%)	278	53	19.06%	27	24 (48.97%)
2016/17	230	54	23.48%	28	25 (52.08%)	299	54	18.06%	22	23 (47.92%)
2017/18	188	44	23.40%	30	18 (46.15%)	321	55	17.13%	27	21 (53.85%)
2018/19	203	44	21.67%	23	22 (53.66%)	246	42	17.07%	23	19 (46.34%)
2019/20	187	47	25.13%	30	26 (52.00%)	227	47	20.70%	27	24 (48.00%)

*Our gender split across the entire programme is 52.7% female, 47.3% male.*

Prospective PhD students are allocated to academic supervisors, through the Senior Admissions Panel, chaired by the Doctoral Programme Director (**Oborn** (WBS), **Barnes** (IER)). The Panel meets regularly to review all applications, identifying those that fit our criteria for rigorous academic background and proposed research in line with Subject Group expertise, with cognisance of unconscious bias and the strategic drive for gender-balance and programme diversity. Panel members include at least four RELs and the Programme Director so that subject and methodological areas are well represented. Successful applications are progressed to DPC Representatives within relevant Subject Groups. DPC Representatives work with RELs of their respective groups to identify good potential supervisory fits for applicants, noting any preferences from applicants. Interviews are held by at least two faculty, with oversight from the respective DPC Representative. The Doctoral Programme Director has final oversight of acceptance decisions, which also consider the capacity and fit of the proposed supervisory team, with concern for equal opportunities of faculty to supervise.

### 2.2.2. Funding

The School awards approximately 24 scholarships each year from internal funds, ESRC DTP, the University's highly competitive Chancellor's scholarship, EPSRC, and sponsorship from external companies (e.g. Boots, Western Power, NHS Trusts, Living Wage Foundation, Severn Trent Water), other research bodies (e.g. Leverhulme Trust, China's Scholarship Council) and governments internationally (e.g. Malaysia; Columbia). The School's success in research degrees awarded largely results from scholarship support for PhD students (see table-2.2.2).

Research grants support additional fully-funded PhD studentships; e.g. the ESRC-funded Network for Integrated Behavioural Science (**Loomes**) supported an additional three PhD studentships. Students are able to apply for internal bursaries, generally awarded annually to approximately ten students based on financial need. University-level hardship funding is also available, focusing on supporting students with unexpected financial setbacks. These funds are additional to regular conference and other research support.

**Table 2.2.2: Scholarship: PhD Students**

	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
University (International) Chancellor's Scholarship	1		1	2	1	1
China's Scholarship Council	1					2
ESRC via Warwick Centre for DTP	8		5	3	1	2
WBS Scholarships	18	18	19	17	15	17
IER Scholarship (Robert Lindley)	1					
Scholarships Funded by External Research Grants	4	2		1	1	
Scholarships Funded by Industry Partner		1		2		2
<b>TOTAL</b>	<b>33</b>	<b>21</b>	<b>25</b>	<b>25</b>	<b>18</b>	<b>24</b>

**146 scholarships awarded 2014/15 to 2019/20: 47.3% female, 52.7% males.**

### 2.2.3. Monitoring and Support

All PhD students have two supervisors, with expertise drawn from across the School and other University departments where relevant (e.g. **Branke**, with Maths; **Stewart**, with Psychology). Additionally, faculty supervise PhD students from other departments, including Maths (5), Psychology (2), Statistics (2), Sociology (1) and Medicine (1), and for other universities, e.g. Glasgow (1), Nottingham (1) and Vrije Universiteit Brussel, Belgium (1).

Progression through the doctoral programme is monitored: all first-year students must pass all training modules, achieving an overall average of 60% or more. Annual progress review panels give developmental feedback, affirm progress and encourage discussion of wider research-related issues. The panel normally comprises both supervisors, two subject experts and (in IER) Programme Director (of Graduate Studies). The first-year panel is an upgrade panel; passing signals the successful completion of year one. Annual reviews are held by similarly constituted panels in second and third years, with a completion review panel in the spring of fourth year. Panel outcomes are provided by a green/amber/red signal system. Candidates receiving a second red signal may be encouraged to move to an MPhil – following agreement by the Progression Review Group, chaired by the Pro-Dean (Research, Engagement and Impact), which considers any mitigating circumstances, feedback from supervisors and the respective DPC Representative. PhD students document evidence of ongoing supervisory meetings on the my.wbs/Tabula system. Here, summaries of interaction are tracked, giving the Doctoral Programme Office oversight of ongoing participation and engagement with the programme and research. PhD students meet with supervisors at least monthly. Finally, PhD students are encouraged to participate and engage actively with Subject Group activities. Any student with concerns they feel unable to discuss with supervisors are encouraged to seek support from their DPC Representative. If students or DPC Representatives have particular concerns, they can also engage the Programme Director for support and guidance.

Support is also provided through a Health and Wellbeing Group, e.g. sports activities, mindfulness sessions and a dedicated health and wellbeing support officer signposting students to University-level wellbeing services. Further support includes desk space and computers for

full-time students; communal space, facilitating peer interactions; dedicated funds to support professional development and conference attendance; and additional resources to support research dissemination and conference attendance (e.g. PhD students regularly present at the Annual Academy of Management conference in North America).

#### **2.2.4. Skills Development**

The School and University offer practical training sessions to PhD students, particularly on research methods and skills development, including teaching skills. Specific workshops and training sessions on methods cover data-analysis techniques, Python coding and qualitative skills (e.g. interview coding techniques and discursive analysis). Additionally, other departments across the University similarly run courses that are available to our students, e.g. in Psychology and Computer Science. All PhD students with an interest in teaching on undergraduate courses receive a four-day training workshop on basic teaching skills.

The University launched a new system in 2019, Skills Forge, to formalise and consolidate skills development available to all research students across campus. All courses with a practical component (spanning time-management skills or analytic software use in data-coding) can be accessed and tracked through this platform, providing a summary of all transferable learning upon degree completion (see REF5a-3.8).

#### **2.2.5. Preparation for Future Academic Careers**

Our aim is to place our PhD students in top institutions; this requires that high-quality outputs are developed during study. Our PhD students have had considerable success in publishing in peer-reviewed journals prior to, or just after, thesis submission, e.g. **Nofal** in *Journal of Management*, **Friedland** in *Leadership Quarterly*, **Hadjimichael** in *Academy of Management Annals*, **Buechner** in *Review of Financial Studies*, **Maligkoris** in *Management Science*, **Cascaldi-Garcia** in *American Economic Review*, **Burlinson** and **Krishnakumar** in *Research Policy*, **Papachroni** in *Human Relations*, and **Rofcanin** in *Journal of Occupational and Organizational Psychology*.

Post-graduation, the School increasingly places its former PhD students in top institutions, e.g. Cambridge Judge Business School, London School of Economics, Copenhagen Business School (Denmark), KU Leuven (Belgium), University of Geneva (Switzerland), University of Pennsylvania, Princeton and NYU Stern (USA), Zhejiang University (China), University of Queensland and QUT Business School (Australia). We also manage such talent internally to take up WBS faculty positions (39 PhD students (23 female, 16 male) have secured WBS postdoctoral fellowship/research/faculty roles during the REF-2021 period). The School has won competitive funding to support postdoctoral research from the University's Institute of Advanced Studies (**Johnson, Luchinskaya**, from IER).

#### **2.2.6. Doctor of Business Administration**

Our Doctor of Business Administration (DBA) programme was launched in 2016/17, and further supports internationalisation of our research, given most participants are from outside the UK. They contribute to the School beyond their own research on real-life business issues. For example, in 2019/20 they launched the Warwick Consulting Group (<https://www.warwickcg.com/>), which organised a conference, *Reframing Impact – Driving Change Under Wicked Conditions*, at our Shard campus. They also organised a session at the *Strategic Management Society Special Conference* at UC Berkeley in March 2020, and a conference extension at the 2020 *Strategic Management Society's Annual Conference*. One

DBA student (**Oviedo**) has already co-authored with supervisor (**Paroutis**) in *Strategic Management Journal*. Our long-term goal is to create a cadre of high-quality scholar-practitioners that helps us further close the gap between our research and practice.

### 2.3. Equality and Diversity

We are committed to promoting a positive working culture and collegial environment, so individuals feel they belong and are valued. The Equality and Diversity (E&D) Committee, chaired by Pro-Dean (Faculty) (**Llewellyn**), oversees these activities. Initiatives are grouped according to themes, aligned to each protected characteristic. Each theme is co-led by an academic and professional services staff member; initiatives include:

- **Age:** Raising awareness on the menopause and retirement planning.
- **Caring Responsibilities:** Launch of 'Good Practice Guide' for Maternity, Paternity & Adoption Leave.
- **LGBTUA+:** Launch of student coffee catch-ups, promotion of our LGBTUA+ supporters network.
- **Race and Religious Belief:** Launch of our 'Race Equality Champions', a review of degree awarding gap, curriculum review and speaker series for Black History Month;
- **Wellbeing:** Events, 'Time to Talk' and 'Blue Monday', talks with our 'Study Happy' team and a wheelchair challenge that has led to several structural building changes to improve accessibility.

The E&D Committee also has oversight of the Athena SWAN activities that promote gender equality. The School obtained a silver award in 2017 and continues to deliver on the action plan to further progress in this area. Outcomes include an increased representation of female academics and the extension of the own-grown CORE Development Programme to include a CORE Leadership Programme, providing further support for career progression and succession planning. We have developed a UK network of Business Schools who are engaged in E&D activities, many of whom have also achieved Athena SWAN awards or working towards an award. The network now has representation from over 30 Business Schools and meets annually.

In 2020, the School began more focussed work on race equality, appointing a Race Equality Lead (**Zeitoun**), who is supported by a number of Race Equality Champions. Three race equality sub-groups have been established: Curriculum and Degree Awarding Gap; Student Engagement and Alumni and; Staff, with oversight of activities provided by the E&D Committee. Our demographic data shows that the School has grown in diversity since REF-2014, with a 6.63% increase in the employment of faculty from ethnic minorities, with the proportion of faculty 26.05% BAME at end of REF period.

#### 2.3.1. Flexible Working Arrangements

The School has supported faculty with temporary or permanent reduction in hours to assist with childcare responsibilities, personal circumstances, or those returning from long-term sick leave. Outside of scheduled teaching hours, faculty have a great deal of autonomy over when and where they work, with option to work remotely from home for research and administrative duties. Following the COVID-19 pandemic, the School have supported faculty who have experienced difficulties with childcare and caring responsibilities, by providing flexibility in covering some teaching activities. For faculty that are clinically extremely vulnerable and unable to teach on campus, teaching has been covered or arrangements made so they can teach online from home.

### 2.3.2. Conference Attendance

The University supports research-active staff by providing small awards of up to £150 to help with childcare or caring responsibilities associated with attending conferences. Faculty are eligible to submit one claim per trip and a maximum claim of two in any academic year. Additionally, the School may support further costs not covered by the University award.

Moreover, the School has its own Childcare/Caring Support Scheme to provide funds for the following non-conference related activities: supporting collaborative research work (e.g. co-author visits); data collection; work related to impact and engagement; accompanying PhD students on overseas trips.

### 2.4. REF 2021 Code of Practice

In line with the University's REF Code of Practice, the School has adhered to equality and diversity issues in preparing all elements of the REF-2021 submission (see REF5a-3.5). Specifically, we developed and implemented a dedicated REF Output Code of Practice, guided by our REIC and Senior Management Group, and communicated to all faculty. We have a four-stage process for selecting outputs for REF return: initial filtering of outputs, two stages of internal review, and a third-stage of external review. We carefully select internal and external reviewers to work alongside each Subject Group's HoG and REL, ensuring gender-balance and expertise which aligns with the output's content and methodology. We send outputs for review following initial internal screening by the relevant HoG and REL. Aligned with our interdisciplinary research, we consider outputs that lie outside the business and management domain; e.g. in core disciplines of behavioural science, and that are of international quality (e.g. *Journal of Experimental Psychology*, *Nature*, *Science*). Following review, we have set a benchmark 'rating' for including outputs in our return, aligned with the requirement for total number of returned outputs.

We have emphasised our strategy to rebalance our faculty profile towards ECRs and a diverse faculty, and to develop a setting that supports them becoming future senior research leaders. Where ECRs have only Working Papers (a particular feature of our Finance Subject Group), we review these outputs internally, sensitive to compromising the blind-review process when manuscripts are submitted to peer-reviewed journals. Working Papers constitute 3% of our submission.

Staff members affected by equality-related circumstances make their case through the University Disclosure Form to the independent REF Staff Circumstances Group, which considers whether the number of equality-related circumstances has disproportionately affected the School's total output pool.

The majority of our outputs are generated by current staff. Where leavers' outputs have been returned, we base this decision on their output being of high-quality following review, with number of outputs returned against each being largely determined by their length of service during the REF period. Outputs authored by leavers account for 12% of our submission.

Finally, regarding DREPs, the number of outputs we return is determined by their employment proportion and length of employment (many DREPs have been employed since before 2014). Outputs authored by DREPs account for 8.5% of our submission (excluding **Henfridsson**, who was a substantive Professor and HoG for the vast majority of the REF period).



### 3. Income, infrastructure and facilities

#### 3.1 Income

The School has a long, successful history of raising large-scale research income to facilitate the input–output virtuous relationship across research activity. We focus on impact in key domains of intellectual strength, e.g. behavioural science, enterprise/innovation and healthcare improvement, commonly in interdisciplinary teams that cross University departments. Our success in attracting research income is evidenced by being ranked first in the UK in the CABS 2019 report on research income across higher education. The report, employing HESA data from 2012/13 to 2017/18, shows we received over £27.3m, with £4.4m in 2017/18.<sup>2</sup> Our strategy and support for academics seeking research income orientate them towards areas in which we have necessary critical mass to impact grand challenges of society, and which align with our Cols, Research Centres/Networks. Accordingly, we develop interdisciplinary teams for large-scale research-funding bids, commonly with commercial, civic or public organisations. We proactively identify non-professorial faculty to join bids, commonly supported by or led by our senior staff, in particular with concern for diversity (e.g. **Burgess**, supported by **Currie**, for Health Foundation funding £400k). Our diverse range of funding sources include UKRI (ESRC, EPSRC, AHRC, NERC, MRC); government agencies, e.g. the NIHR, Department for Culture, Media and Sport, Department for Health, Department for Education (DfE), Department for Business, Energy and Industrial Strategy (BEIS), Department for Work and Pensions (DWP), Social Mobility Commission, Ministry of Defence and Innovate UK; charities, e.g. Health Foundation, Nuffield Foundation, Gatsby Foundation, Edge Foundation, Joseph Rowntree Trust, Leverhulme Trust and Wellcome Trust; the European Commission with European Research Council Framework Programme (FP-7), Horizon 2020 and European Research Council (e.g. Advanced Grants); and commercial organisations, e.g. British Telecom and Royal Bank of Scotland (see 1.5; chart-3.1.1). The diversity of sources enables us to sustain significant funding, even if income from one agency declines (see table-1-REF4b).

Highlights include:

- **Currie** (with **Swan** as Co-Investigator) partner with Newcastle University Medical School, Tilda Goldberg Centre for Social Work and Social Care, Bedfordshire University, NHS children's care providers, and a charity (Care Leavers' Association) in £1.63m ESRC research programme, supporting diffusion of meaningful innovation for looked-after young people negotiating the transition from care to adulthood.
- **Loomes** leads for the School in a partnership with Universities of Nottingham and East Anglia – crossing economics, computer science, maths and psychology – in a Network for Integrated Behavioural Science that attained successive funding from the ESRC, most recently £2m in 2017–21.
- We have received successive rounds of funding, each just under £10m, for the NIHR Collaborations for Leadership in Applied Health Research and Care (CLAHRC 2014–19), later renamed ARC (2019–24) West Midlands, co-directed by **Currie** (also includes **Burgess, Kiefer, Oborn, Swan, Vlaev**). We partner with Warwick, Birmingham and Keele Medical Schools, and over 20 health and social care providers in the West Midlands. This has a translational role to accelerate, deepen and broaden the use of evidence generated by clinical researchers in frontline practice to improve service

<sup>2</sup> See 'Research Income for Business and Management: Analysis of HESA Data 2012/13-2017/18' at <https://chartereddabs.org/wp-content/uploads/2019/04/75287-CABS-Research-Income-Report-2019-1.pdf>

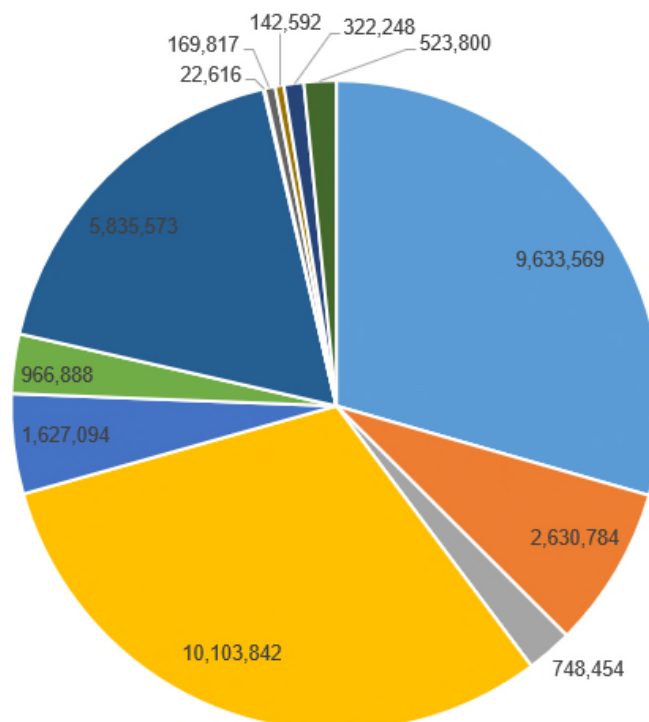
delivery for patient benefit. Our income from NIHR CLAHRC/ARC over the REF period approaches £3m.

- ERC, co-directed by **Roper**, partners with Aston University Business School, and has been funded by the ESRC over three rounds, totalling £6.5m. ERC closely collaborates with regional government agencies (e.g. Midlands Innovation, West Midlands Combined Authority) and national government agencies (BEIS, Innovate UK, British Business Bank).
- Funded by EU FP7 research funding of €6.8m (2014–18), IER (**Brown, Bimrose**) collaborates with academic partners (Karlsruhe University of Applied Science, Ruhr-University of Bochum, Jozef Stefan Institute, Clausthal University of Technology, ZSI-centre for Innovation) and government agencies (e.g. DWP UK, and Slovenian and Croatian Employment Services) in the project 'EmployID' supporting learning innovation in European Employment Services.

Aligned with our talent development strategy, focusing on ECRs and encouraging development of diverse faculty, supporting progression of mid-career researchers towards Chair appointments, we highlight the following successes:

- ESRC awards for ECRs: Two female Assistant Professors, **Aristidou** (2018–) and **Dittrich** (2020–), were awarded seven-year ESRC Future Leadership Fellowships for over £1m each. We enjoyed success with awards for ESRC Postdoctoral Fellowships for female researchers: **Bharatan's** study of the lives of container ship employees (£84,999, 2018–19) and **Sarkar's** with NGO Child Rights for You, to address the problem of child labour in India (£128k, 2019–21).
- British Academy awards for mid-career faculty: **Micheli** (£115,885, 2017–18) on design thinking to improve people's lives; **Ozcan** (£125,734, 2019–20), on market transformation in banking through regulatory change, and **Morrell** (£103,829, 2015–16) on policing and the public good. All three progressed to Chair during the REF period, with **Ozcan, Moat** and **Galvao**, representing three female promotions to Chair in the 2017/18 internal promotion round.

**Chart 3.1.1: Cumulative Research Income Generated in REF 2021 (£32,727,277) by HESA Column (2013/14 to 2019/20)**



- 1. UKRI Research Councils, The Royal Society, British Academy and The Royal Society of Edinburgh (29.44%)
- 2. UK-based charities (open competitive process) (8.04%)
- 3. UK-based charities (other) (2.29%)
- 4. UK central government bodies/local authorities, health and hospital authorities (30.87%)
- 6. UK industry, commerce and public corporations (4.97%)
- 7. UK other sources (2.95%)
- 8. EU government bodies (17.83%)
- 10. EU industry, commerce and public corporations (0.07%)
- 11. EU (excluding UK) other (0.52%)
- 12. Non-EU-based charities (open competitive process) (0.44%)
- 13. Non-EU industry, commerce and public corporations (0.98%)
- 14. Non-EU other (1.60%)

## 3.2. Infrastructure and Facilities

### 3.2.1. Research Office (RO)

Since REF 2014, we have significantly invested in scaling up a dedicated RO. Seven permanent staff (versus two previously) provide support for various research activities, including application/post-application support for grant income and research engagement/impact. Our RO works closely with the University's R&IS team to scan the funding horizon proactively, and provide intelligence to develop 'funder insights'. RO/R&IS staff provide education through workshops aimed at particular cadres of faculty (e.g. ECRs) and/or linked to particular funding programmes (e.g. the ESRC's Future Leaders Fellowship). They host events with senior national and regional government officials, and policy/research directors/officers of charitable foundations, to discuss key policy issues and inform research priorities. They provide one-to-one grant-writing support for faculty. Once the bid is drafted, Pro-Dean (Research, Engagement and Impact), relevant senior members of faculty experienced in successful research bidding, and University R&IS staff familiar with the particular funding programme, then offer internal peer review to improve it. Finally, for some schemes (e.g. for ESRC Centres), the PVC (Research) convenes a sub-committee to provide the demand management required; this provides further feedback to applicants (see REF5a-1.7).

The RO supports cultural embeddedness of impact within the School by organising impact-related workshops. We have invested £210,110 to employ a dedicated Impact and Environment Manager since 2016/17, significantly improving how we pursue and record impact. Faculty of Social Sciences Impact Manager and Impact Coordinator from R&IS are embedded within the RO, dedicating two days per week to support impact activities. Faculty Impact Team provides guidance on developing engagement activities and impact-funding applications, including to University schemes (e.g. ESRC IAA and Warwick's Impact Leave schemes), from which we have enjoyed success.

### **3.2.2. Investment in Physical Infrastructure and Facilities**

School's building facilities have expanded at both the main campus in Coventry and The Shard in London. The Coventry campus includes a main building where all faculty have individual offices, and a Teaching Centre Annex that is currently a dedicated space for PhD students registered on the Business and Management pathway. PhD students on the Finance and Econometric pathway are located in the main School building. As promised in REF 2014, the Phase 3b building extension in 2015 brought together all our faculty (previously split across different locations on the main campus) under one roof. Behavioural Science Laboratories have promulgated further interdisciplinary collaborations with Economics, Psychology, Philosophy, Statistics, Mathematics and the Medical School. The Laboratory is used for administering (computer-based) large-scale psychological and economic experiments, with facilities available for studies involving eye-tracking, electroencephalogram and other specialist equipment. The number of academic offices has increased by 39 from 2013 to 2015. Plans were approved for another building expansion in 2020 (Phase 4a) at Coventry, to provide space within the main building for all PhD students, close to their Subject Groups, to further enrich and enhance their research experiences. This is currently on hold due to COVID-19.

Our expansion into The Shard enhances connection to policy and practice, and internationalisation of research and impact. The space is used for academic events such as conferences (FinTech 2016, Mergers and Acquisitions 2019) and special guest lectures from senior executives from private, public or third-sector organisations (e.g. NASA's Chief Technology Officer). We also use it for workshops to diffuse our research. For example, **Hoque** engaged London-based policymakers to engender significant policy impact in employment of those with disability. **Currie, Kiefer, Roper** and **Heracleous** partnered with the London-based Open Innovation Unit in the Cabinet Office to engage senior civil servants in our research on healthcare and other public-sector innovation, following which a NIHR CLAHRC researcher was seconded to the Cabinet Office for six months, working on a Green Paper about youth mental health. Meanwhile, **Bradshaw** leads the Annual Energy Forum at The Shard, generating his policy briefings on UK energy security.

### **3.2.3. Investment in Organisational Infrastructure**

Our investment in Subject Groups builds on historical strengths while adopting a forward-looking and adaptive approach. For example, our historical strength in Organisation and Human Resource Management, and Operations Research, have been features of the School, in different guises, since the 1967 inception. We have evolved to develop new areas of scholarly endeavour, most recently our world-leading Behavioural Sciences Subject Group, integrating global talent from Economics and Psychology Departments.

We remain keen to engage the public with our research. Taking advantage of our distance-learning infrastructure – in place for over 30 years – we invested in seven Massive Open Online Courses (MOOCs, at around £60k each), attracting over 180,000 registrations. For example, the

six-week MOOC *The Mind is Flat: The Shocking Shallowness of Human Psychology* (Chater) ran eight times in 2014–20, with 97,000 active learners collectively. This MOOC was developed using the latest research in behavioural science, including Templeton Foundation-funded research into ‘Decision Time for Free Will’ (£72,918, 2011–14), and an ERC Advanced Investigator Grant to research ‘Rationality’, particularly with respect to decision-making (£1.5m, 2012–17).

#### **3.2.4. Investment in Data Infrastructure**

With the University’s Library, we invested significantly in databases and data sources to support business and management academic research. These include ABI/INFORM Global, Amadeus, British Standards Online, Business Expert Press (E-book platform), Business Source Complete, Company Reporting, DataStream, EconLit, Emerald, Europa World Plus, Fame, Global Business Intelligence, Global Company Intelligence, GlobalData Power, Gore-Browne on companies, IBFD Tax Research Platform, International GAAP online, Manifest Voting Data, MarketLine, Mintel Oxygen, Nexis, OECD i-Library, Passport, ScienceDirect, Scopus, Statista, Supply Chain Analysis, Sustainable Organization Library, Thomson ONE Banker, Thomson Research, UK Data Service, Web of Science, World Competitiveness Online (IMD) and XperTHR. Additionally, IER holds data from the UK Data Service (UK Quarterly Labour Force Survey, Annual Population and Understanding Society Surveys) and Eurostat (European Labour Force Survey); it also operates the ‘LMI for All’ data portal, containing labour-market information, on behalf of the Department for Education (DfE). PhD students enjoy access to Bloomberg financial and Thomson Reuters Eikon datasets via a WBS-dedicated terminal. Respectively, these provide access to financial information on equities, stock market indices, fixed-income securities, currencies, commodities, and futures for both international and domestic markets; and financial market data and analytics. The University also subscribes to Research Professional and Community of Science to ensure researchers can keep up-to-date with the latest news and funding opportunities.

Underpinning our impact data is my.wbs IT system. Specifically, my.wbs Impact Capture System allows the Impact Case Lead and others (Col Champions, relevant RO/R&IS staff) to develop and edit impact cases in real-time as impact and its evidence matures. The system is so successful, it has been embraced by the wider University and implemented across all departments (see REF5a-2.6).

Regarding data security, School procedures have been implemented to support compliance with the new General Data Protection Regulation (GDPR) plus the University’s Data Protection Policy, Information Security Policy, Research Code of Practice and Ethical Framework. Our procedures are designed to ensure all staff and research partners manage data in a way that ensures its confidentiality, integrity and access only to authorised users following the ISO 27001 principles. IER is the only research institute in UK business and management higher education to have ISO 900:2015 quality certification for its research provision. Procedures are routinely audited and monitored through our quality-management system. The nature of our research, requires dedicated systems for processing sensitive and personal data on behalf of government departments.

#### **3.2.5. Investment in Communications Infrastructure**

Our media strategy aligns with our Cols to focus on key themes seen as strategically important for the School. Our ‘Core Insights’ campaign sees research in these areas written as op-eds for practitioners and published on the School’s website, with social media and advertising used to drive readership. From inception in April 2018 to July 2020, Core Insight series has generated



241,773 page views and 741,557 social media clicks, resharing, comments and likes. Short videos of Core Insights articles have also been curated, leading to 705,563 views on YouTube and social media. The articles are republished on *Medium*, *The Conversation* and *Forbes* adding another 1,404,221 page views. More recently started podcasts – ‘Leading through COVID-19’ – are using the Core Insights research to offer practical advice to businesses and organisations during the pandemic. To July 2020, 14 podcast episodes attracted 8,605 downloads/listens (e.g. **Powdthavee** ‘How to exit the lockdown and save money’, **Spyridonidis** ‘The guiding principles for leading organisations in a crisis’, and **Bradshaw** ‘What will the energy industry look like after the pandemic?’).

Core Insights research is also pitched to the media as press releases, op-eds and expert comment, where academics’ research expertise ties in with breaking news to give the public evidence-based insight. This totalled 62,796 media mentions in the REF-2021 period, including 1,750 television and radio appearances; and citations on BBC (1,226), *Financial Times* (628), *The Times* (337), *The Guardian* (277) and *The Telegraph* (192).

We have encouraged faculty to engage through publishing in *The Conversation*, with 181 articles within this REF period, with a readership of over 2.6m. For example, **Chater’s** ‘Would you stand up to an oppressive regime or would you conform? Here's the science’, published in 2019, achieved 213,140 reads.

Research Centres, Networks and Institutes communicate and disseminate their research, including relevant analyses and key findings, directly to stakeholders. For example, the ESRC-funded ERC has a dedicated website (<https://www.enterpriseresearch.ac.uk/>), monthly newsletter and prominent social-media presence ([https://twitter.com/ERC\\_UK](https://twitter.com/ERC_UK)), with over 3,000 followers – and the IRRU’s working-paper series (disseminating key research findings in industrial relations) has 111 issues circulated to date, e.g. ‘Making Britain the best place in the world to work: how to protect and enhance workers’ rights after Brexit ... and coronavirus’ (June 2020). Meanwhile, IER has a monthly e-newsletter to disseminate its latest research, primarily to policymakers (<https://warwick.ac.uk/fac/soc/ier/aboutier/newsletter/>).

Several faculty members have established prominent social-media presence, using tools such as Twitter and LinkedIn, to disseminate research findings, offer thought leadership pieces, and contribute to ongoing debates in their areas of expertise. For example, **Heracleous**, Professor of Strategy (<https://twitter.com/Strategizing>), has over 18,000 Twitter followers and regularly promotes research findings, e.g. two pieces in *The Conversation* (31,593 reads), and a post on his research with Xerox ‘Structural ambidexterity and competency traps: insights from Xerox PARC’ (over 11,000 views and likes on LinkedIn).

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

##### 4.1. Research Collaborations

Our University and School are regionally ‘grounded’, while also addressing national priorities and striving for global standing. Ensuring *Excellence with Purpose* is realised (see REF5a-1.2;2.1), our value of openness drives us to collaborate, including with policymakers, business and management practitioners, trade unions, the public, other disciplines (within and beyond our University) and those developing executive education. Large-scale external funding, complemented by internal support, provides the foundation. Our Research Centres and

Networks support our collaboration and impact regionally, nationally and internationally, cohering around our CoIs. Reflecting our interdisciplinary openness, University GRPs (particularly 'Productivity and the Futures of Work', 'Energy' and 'Behaviour, Brain and Society') also represent conduits for impact.

#### 4.1.1. Regional

We work closely with local business and public-service agencies (e.g. Local Enterprise Partnerships with West Midlands Combined Authority and Midlands Engine) to drive regional productivity and wellbeing. This aligns with our critical mass for impact in enterprise and innovation, and healthcare improvement. Our Research Centres (specifically NIHR CLAHRC/ARC and ESRC ERC) are key conduits for regional collaboration and impact. Our 'knowledge-brokering' impact model is increasingly evident in healthcare improvement: we simultaneously pull clinical practitioners into our research team, and embed our researchers 'in residence' within practice settings. For example, **Currie** and **Swan**, with Singh (WMS), were awarded funding through the ESRC Impact Accelerator Account to 'buy out' (at one day per week for two years) a lead clinical practitioner from Coventry and Warwickshire Partnership Trust (CWPT) to work on their study of innovation to support care-leavers' transition into adulthood (2019–23). Our deep research relationship with regional healthcare providers through NIHR CLAHRC/ARC leads such providers to fund secondment of research faculty into their organisations. For example, Heart of England Foundation Trust (HEFT) paid half the salary of **Burgess** and **Vlaev** for three years (2016–18) to drive research-informed quality improvement through in-house workshops and presentations to key stakeholders. **Burgess** and **Vlaev** – with University Hospitals Coventry and Warwickshire (UHCW) and HEFT respectively – drew down large-scale Health Foundation funding to examine value-based re-engineering of services (£440k, 2018–21), and handwashing and medicines adherence (£185k, 2016–18). **Vlaev**, with WMG and WMS, also gained Midlands Engine funding to drive simultaneous productivity and employee health and wellbeing in the regional economy (NHS England, £93k, 2018–20).

Consistent with our strategic aim to develop ECRs and world-class PhD programmes, our regional impact strategy includes doctoral researchers. Many are funded by NIHR CLAHRC/ARC, via ESRC DTP, by the School, or through financial contributions from practice partners (e.g. in UHCW). For example, **Woolley** (a former HEFT executive director) has completed her PhD in this REF period (supervisors **Croft**, **Currie**), focused upon an ethnographic study of UHCW board's decision-making. We have sustained her research through internal funding for a two-year postdoctoral fellowship designed to support progression towards a full faculty position. Meanwhile, in CWPT, many doctoral researchers are or have been 'in residence', including **Latuszynska** (who completed her internally funded PhD during this REF period on managing risk within a mental-health crisis team, supervised by **McGivern**, **Oborn**); and, funded by ESRC DTP, **Stevenson** is examining the enactment of patient safety in mental health, focused on eating-disorders services (supervised by **Currie**, and MacKintosh from Leicester University Health Science Department, via ESRC DTP funding). In total, through NIHR CLAHRC/ARC we have embedded over ten doctoral researchers in practice within this REF period, with real-time feedback provided to the organisation to support their service improvement efforts.

Exemplifying our input–output virtuous relationship and capacity-building, a critical mass of research expertise within NIHR CLAHRC/ARC focuses on healthcare leadership (**Croft**, **Crump**, **Currie**, **McGivern**, **Oborn**, **Spyridonidis**), drawing on research studies in regional healthcare providers. The design and delivery of leadership-development interventions followed, and **Crump**, **Spyridonidis** and our Director of Executive Education are currently delivering a

leadership programme (funded at c.£200k) to the senior-management team within UHCW.

Together, our Research Centres respond to priorities regionally. NIHR CLAHRC/ARC and ESRC ERC have collaborated to create regional economic, health and social value through the successful Coventry City of Culture (CofC) 2021 bid (led by **Neelands, Beer**), with academic researchers throughout the University brought together by the GRP 'Connecting Cultures'. Our development of theory of change within which nuanced measures of economic, social and health impact are embedded, drives the CofC programming.

#### **4.1.2. National**

Our Research Centres are also key conduits for national-level impact. IKON instituted a national Knowledge and Innovation Network (KIN), with 13 organisational partners (e.g. PwC, Severn Trent Water, MacMillan Cancer Support), each paying a subscription fee. KIN focuses on knowledge mobilisation and networks to support innovation processes, with reported benefits for profitability, customer satisfaction, staff retention and innovation in partner organisations (**Dittrich, McGivern, Nicolini, Swan**). Our recent national success as a lead partner in ESRC Productivity Institute (**Driffield, Roper, Surdu, Warhurst**, £32m, 2020–25) highlights how our School Research Centres (ESRC ERC and IER) and University GRPs (Productivity and the Futures of Work) collaborate and develop partnerships with other universities to impact UK's economic performance.

Aligned with our critical mass of expertise within Research Centres and Networks, we make impact through both research funding and faculty's expert-adviser membership of high-level external committees, groups and societies. Research carried out by IRRU and IER impacts through involvement in Performers' Alliance APPG's Inquiry into mobility in the creative sector, UK Parliament (both **Dean**), DfE Skills Policy Analysis Academic Panel (**Warhurst**), Ofqual's Vocational Advisory Group (**Brown**), House of Lords Select Committee on Affordable Childcare (**Lyonette**), Centre for Social Justice Disability Commission (**Hoque**), Oxfam GB on poverty alleviation, economic empowerment of women (both **Wright**) and Oxfam Scotland Decent Work (**Warhurst**). Extending beyond ESRC ERC and ESRC Productivity Institute, but similarly focused on enterprise and innovation, **Mitchell** (Macroeconomic Policy and Forecasting Research Network) was funded 0.2 FTE to work with ONS (2017–19); **Bradshaw** (Lead for University GRP Energy) is Chair of the Department for BEIS Fossil Fuels Price Projections Expert Panel; collaborating with faculty from the University's Department of Economics, **Battisti** and **Galvao** are members of the ONS Economic Experts Working Group; and **Mitchell, Galvao, Petrella** collaborate with NIESR on funded research programmes, including the Economic Statistics Centre of Excellence (£134k, 2017–19).

The breadth and depth of our national impact is reflected in impact cases not submitted for REF-2021 consideration. For example, the Work, Employment and Governance Col supported impact derived from **Hoque's** research, informing removal of Clause 13 in the Trade Union Bill and protecting facility time for union representatives.

#### **4.1.3. International**

Through NIHR CLAHRC/ARC, our research has derived international benefit. **Burgess, Crump, Currie, Oborn** and **Spyridonidis** gained internal Monash–Warwick Health Alliance funding of £0.5m to recruit a Professor, and the School match-funded an Associate Professor post (**Croft**), with Monash Medical School, to pursue health improvement across the two national systems (2017–20). Comparative international learning and impact has derived from associated large-scale research funding: Australian Research Council (\$Aus500k), transforming Victorian

healthcare systems (2014–17) (**Burgess, Crump, Currie** – presenting to policymakers in Victoria Department of Health and Human Resources and local-level providers during international visits to support healthcare improvement); NHMRC (\$Aus750k), women in healthcare leadership (2020–) (**Croft, Crump, Currie** – using our research-derived logic model of distributed leadership to work with senior executives from Victoria State healthcare providers and Royal College professional leads to co-design organisational-level interventions supporting women into healthcare leadership); and internal Monash–Warwick funding (£60k, 2019–21), short distance-learning courses on leadership for healthcare improvement in Australia (**Crump, Currie**). Meanwhile, Skouteris (Monash Medical School) is a co-investigator on the ESRC-funded (£1.63m) research programme on the transition of looked-after young people out of care (EXIT study, 2019–23, **Currie, Swan**).

Collaboration across our Research Centres generates social value for large-scale EU funding. Cohering around our Col in Work, Employment and Governance, IRRU and IER, we established a UK Observatory for the EurWORK European Observatory of Working Life (£400k, **Kispeter, Meardi, Hoque, Hogarth**, 2014–). Aligned with our strategic imperative to generate economic value and partner with other universities, research by **Branke** and **Strauss** forms part of an EU Horizon 2020-funded grant (COCTA, funding over £360k, 2016–18), with the Universities of Belgrade (Serbia) and Applied Sciences, Worms (Germany), to improve EU air-traffic-control efficiency.

#### 4.2. Contributions to Economy and Society

In line with our strategy to support UK economy’s competitiveness, our research beneficiaries extend across industry sectors. **Micheli’s** design-thinking research (funded by Design Council at £70k, 2013–15, and British Academy at £155k, 2017–18) has made Emirates Group’s finance function more customer-oriented. We delivered the bespoke Emirates Leadership Development Programme, training 120 people in design thinking (£1.5m, 2012–). Highlighting the embeddedness of doctoral researchers in our activities, **Baptista’s** research on digital working, with PhD Student (**Sheikh**), shaped a multimillion-pound investment hosting IBM’s expanding global software-development team (WeWork). Ocado used **Strauss’s** research (EPSRC, £10k, 2017) to develop algorithms to enable smart, automated and dynamic decision-making in e-fulfilment, to improve the efficiency of customers’ home-delivery slot-booking. We also secure funding focused on knowledge transfer in the corporate world through Innovate UK, e.g. **Nandhakumar** partnered Herbert Smith Freehills and analytics start-up Solomonic to apply machine-learning capability to resolve legal disputes (£115k, 2018–19). Through Innovate UK’s Knowledge Transfer Partnership programme, **Branke** and **Deineko** partnered Slicker Recycling to minimise driving distances for waste-oil collection from customers, thus reducing operation costs and carbon footprint (£211k, 2018–21).

Public-sector and not-for-profit organisations regionally and nationally also benefited from our research in line with our wider social mission, illustrated by three impact cases in this REF period that were not returned. **Burgess** led research (NIHR HS&DR, £309k, 2010–12) enhancing Nottingham University Hospitals Trust’s clinical governance and organisation development, with the lead geriatrician reporting that research-prescription implementation in 2014–15 saved 66 older people’s lives. Directly funded by partners coproducing the research, our globally recognised expertise in nudge theory has informed policy and practice to improve citizen wellbeing, applying product development in retail banking to give consumers a better deal (with *The Fairbanking Foundation*), enhancing consumer compliance with tax returns (with *Behavioural Insights Team* and *HRMC*), increasing cervical-cancer-screening take-up (with



*Hillingdon Borough Council*, London), improving compliance with council-tax payment (with *Croydon Council*) (all led by **Vlaev**). Meanwhile, the Behavioural Science and Marketing Col has also led an impact case included by the University's Psychology Department in its REF return, 'Informing the Financial Conduct Authority's measures to help consumers take better control of their spending' (**Stewart**).

Our research beneficiaries include UK government: Department for Education, drawing upon **Hogarth's** research-informed implementation of the Apprenticeship Scheme; Department for Digital, Culture, Media and Sport, informed by **Neelands'** and **Beer's** research through a Warwick Commission-informed national policy to support cultural industries, and measuring the impact of cultural and sports investment; British Council, applying **Swan** and **Nicolini's** research on tacit knowledge-management practices to an insourcing IT team, increasing service efficiency and saving £0.5m of operating costs; National Grid and Ofgem, applying **Bradshaw's** research on energy security, shaping debates and approach to current N-1 assessment for supply security; ONS, using **Moat** and **Pries'** research on big data's use in predicting human behaviour, informing methodology for estimating tourism patterns using *Flickr* data; Home Office, applying **Elias's** work being used to identify jobs on the Shortage Occupations List to inform visa-granting.

Major global governments benefit from our research. The Brazilian government have used **Moat** and **Pries** modes of social media data analysis to address the Zika disease crisis. NGOs have benefited from our research, including Friends of the Earth (**Bradshaw's** research on UK energy security was used in the fracking-prevention campaign at Kirby Misperton) and OECD (**Battisti's** research on innovation economics was used to shape its innovation strategy, 'Innovation in Firms: A Microeconomic Perspective').

### 4.3. Engagement with Diverse Communities

Alongside enhancing economic competitiveness of UK corporates, our engagement with diverse communities through Cols produces societal, health and economic benefits for socially disadvantaged or marginalised groups globally. Examples are:

#### 4.3.1. Regional

**Purcell's** work on transitions from education to employment (ESRC, £532k, 2014–17) resulted from collaboration with The Prince's Trust, Coventry City Council, Progressive Employers Group, Coventry Youth Council and local schools to produce guides supporting young people in career-related decision-making. The Midlands Youth Labour Market Forum was also created, bringing together employers with statutory and voluntary sectors to promote joined-up policy-making for young people in the Midlands.

#### 4.3.2. National

Many of our large-scale funded research programmes, commonly with other universities, focus on vulnerable populations. NIHR Research for Patient Benefit-funded research (**Swan, Currie**, £118k, 2020–21), with Oxford University's Saïd Business School, supports new care models for the homeless. **Dean** is co-investigator on an AHRC-funded study with Queen Margaret University, Edinburgh (£56k, 2019–21) to reduce the women's prison population. **Stewart's** West Midlands Police and Crime Commissioner-funded study (£56k, 2017–19) provided and implemented officer-specific measures to reduce over-patrolling of ethnic-minority groups.

Meanwhile, IER has a track record of research on work, welfare and public policy, and



participation of diverse groups in the labour market. Its work programme on poverty and welfare benefits informed a White Paper on social security (**Orton**, funded by Trust for London, £313k, 2017–21); its analysis of growth sectors for poverty reduction provided a detailed evidence base for what works in reducing poverty (**Green**, funded by ESRC, £195k, 2014–17); and it is supported by various large-scale funds (Big Lottery Fund, £217k, 2013–19; ESRC, £635k, 2014–17).

#### 4.3.3. *International*

**Fernando** worked with highly-skilled women and refugee/migrant communities and the government in Sri Lanka, to support capability and career development (supported by internal impact funds, £37k, 2017–20, and workload allocation of 30 per cent 2018-19). **Barboni** secured a fellowship from the University's Institute for Global Sustainable Development (IGSD) (£60k, 2019–21) to support work with people living in poverty in Chhattisgarh, India, by delivering and evaluating the effectiveness of business-skills training for women. **Bimrose** and **Brown** helped low-educated adults across seven EU states better manage careers and working-life transitions (funded by CEDEFOP, £202k, 2014). **Lyonette's** research shaped a public–private partnership intervention in India addressing skills gaps and social inclusion (ESRC, £330k, 2018–20). **Currie** (through an international network supported by NIHR Global Research funding of £1.5mn, 2017-2020) supported implementation of early intervention services for first episode psychosis in India, collaborating with the All India Institute of Medical Sciences (AIIMS) Delhi and the Schizophrenia Research Foundation (SCARF) Chennai.

#### 4.4. Contributions to Sustainability of Discipline

As a leading UK business school, we are keen to sustain and enhance the research contribution of our discipline and its sub-disciplines, nationally and internationally, through our Subject Groups' excellence, and to develop the very best peer-reviewed journals in which our faculty largely publish. Current faculty account for 82 editorships of special issues in this REF period. For example, our Information and Systems Management Subject Group has edited special issues of *MIS Quarterly* (**Henfridsson, Yoo**) and *Information Systems Research* (**Henfridsson; Constantinides**). We also have four Editors-in-Chief and 30 Senior/Associate Editors during the REF 2021 period, spread across all Subject Groups, including FT50 and/or world-elite publications, e.g. *Journal of Management Studies* (**Patriotta**), *Journal of Management* (**Allen**), *Human Resource Management* (**Hayton**), *Information Systems Research* (**Henfridsson, Gopal, Nandhakumar**), *Journal of Banking and Finance* (**Bartram**), *Journal of Corporate Finance* (**Gamba, Gantchev**), *Journal of Operations Management* (**Johnson**), *Management Science* (**Stewart**), *MIS Quarterly* (**Oborn, Sandberg**), *Organization Studies* (**Currie, Fotaki, Reay, Swan**). Meanwhile, **Warhurst** from IER chairs *Human Relations* journal's Management Committee. 98 of our faculty hold editorial-board positions across 249 journals, focusing on FT50 and/or world-elite journals, e.g. *Academy of Management Journal* (**Allen, Heracleous, Reay**), *Academy of Management Review* (**Denrell, Tsoukas**), *Administrative Sciences Quarterly* (**Reay**), *MIS Quarterly* (**Constantinides**) *Journal of Management* (**Hoque, Dittrich, Paroutis**), *Academy of Management Review* (**Denrell, Heracleous, Patriotta, Sandberg, Tsoukas**), *Journal of International Business Studies* (**Allen, Driffield, Reuer, Mellahi**), *Journal of Business Venturing* (**Lockett, Nicolaou, Ucbasaran**), *Organization Science* (**Heimeriks, Reay, Reuer**) and *Strategic Management Journal* (**Heimeriks, Reuer, Stadler**).

The high peer regard for our faculty's interdisciplinary intellectual contributions is evidenced through Fellowships, spanning arts and sciences, including **Battisti** and **Galvao** (ONS); **Bradshaw** (Royal Geographical Society, Academy of Social Sciences); **Chater** (British

Academy, Association for Psychological Science, Cognitive Science Society); **Bradshaw, Chen, Currie, Driffield, Grint, Reay and Rope** (Academy of Social Science); **Dean, Elias, Neelands, Roper and White** (Royal Society of Arts); **Doan, Moat, Preis, Strauss and Warhurst** (Alan Turing Institute); **Foss and Reuer** (Strategic Management Society); **Levina** (AIS College of Senior Scholars); **Glaister and Voss** (British Academy of Management); **Deineko, Chen and O'Brien** (Operational Research Society); **Rudd** (Chartered Institute of Marketing); and **Taffler** (Chartered Financial Analyst Association of the UK). Our faculty regularly obtain best-paper prizes from renowned conferences and journals. Highlights include the Academy of Management Annual Meeting (**Heracleous, Kiefer, Tsoukas**), Strategic Management Society Conference (**Liu, Denrell**), Decision Analysis Publication Award (**Stewart**) and Journal of Management Scholarly Impact Award (**Ucbasaran, Lockett**).

Taking our community obligations seriously, we encourage faculty to contribute to its governance. A number of staff are members of the ESRC (**Donaghey, Driffield, Elias, Filippou, Fraser, Galvao, Gkeredakis, Johnson, McGivern, Mitchell, Thanassoulis, Warhurst**) and/or EPSRC Peer Review College (**Branke, Chen, Doan, Straus, Warhurst**), and are/have been members of ESRC Research Committee (**Bradshaw, Love**), ESRC Grant Assessment Panel (**Driffield, Roper**), ESRC Data Infrastructure Strategic Advisory Committee (**Moat**), and other research commissioning groups, e.g. the NIHR Knowledge Mobilisation Research Fellowship Programme (**Currie**) and Royal Statistical Society (**Elias**). Staff have also participated in many international grant-awarding bodies' commissioning panels, e.g. Irish Royal College of Physicians and Norwegian Research Council (both **Burgess, Currie**). The School contributes to the wider business and management academy through organising and hosting conferences. In 2017, we hosted the British Academy of Management's annual conference and, in 2020, the 27th European Operations Management Association annual conference (held virtually). Individual faculty also play key roles in developing the community more widely. For example, **Currie** directs the CABS/BAM Development Programme for Directors of Research in UK business and management schools, and sits on the CABS Research and KEF Committees. **Warhurst** co-led the Review of Scottish Business Schools' Fair Work Pedagogy in 2020, supported by the Scottish Funding Council and Scottish Government.

#### 4.5. Responsiveness to National and International Priorities

Our Research Centres are important conduits for responding to national priorities. For example, ERC's research supports economic-infrastructure development within which STEM research flourishes, by informing UK government's Industrial Strategy and responding to contemporary events, e.g. Brexit and COVID-19 (**Driffield, Fraser, Mole, Roper**). It has informed policy on the possible benefit for the UK of retaining European legislation on Geographical Indications for products such as the Cornish pasty, and provided evidence to inform policymakers about firm dissolution and incorporation in COVID-19 (**Roper, Mole**). IER (led by **Warhurst**) is explicitly responsive to policy needs, with its funding secured mainly from UK government departments and EU agencies (see 3.1).

Our responsiveness is showcased in our ongoing pandemic-related research, e.g. from the recent UKRI grant programme evaluating the impact of COVID-19 on working-class women (**Lyonette**, £46k, 2020–21), on household expenditure and savings (**Stewart**, £233k, 2020–21) and on the UK care-home sector's finances (**Fotaki**, £353k, 2020–22); from the Health Foundation to examine the operational response of hospitals (£40k extension of pre-existing £400k research award to **Burgess**, 2020); from Innovate UK to address innovation challenges in SMEs (**Roper** with Oxford Brookes, £32k, 2020–21); from the NIHR-funded Policy Research

Unit on Behavioural Science led by University of Newcastle (**Vlaev**, £440k to Warwick, 2019–23) to provide evidence-based advice to NHS England through its COVID-19 Behaviour Change Unit to encourage policymakers to embed behavioural science into the national response (April 2020–) and from ESRC IAA (**Hoque**, £15k, 2020–21) to support the All-Party Parliamentary Group for Disability’s work in encouraging a disability-inclusive government response to the pandemic. Faculty have also published rapidly on COVID-19, e.g. **McGivern**, **Weidner** and **Croft** on improvised innovation in *British Medical Journal Leader*, **Lee** on compliance with behavioural guidelines in *PLOS One*, **Chater** on dealing with uncertainty during and beyond COVID-19 in *Nature Human Behaviour*, and thought-leadership pieces in Core Insights and research reports from ERC (see 3.2.5). Our behavioural scientists have a leading role (**Chater**, **Powdthavee**, **Vlaev**) in the newly constituted interdisciplinary Global Institute for Pandemic Planning within the University, and with colleagues from mathematical epidemiology and public health, they conduct applied research and have advised government agencies, for example, providing evidence to government about releasing young people from lockdown measures (**Powdthavee**).

Our response to international priorities can be set against the United Nations’ Sustainable Development Goals (SDGs). Derived from our CoIs (highlighted in Section 4.3.3), our research directly impacts SDG-3 Gender Equality and SDG-8 Decent Work and Economic Growth (**Barboni**, **Bimrose**, **Brown**, **Fernando**, **Lyonette**), and (in Section 4.1.1) SDG-11 Sustainable Cities and Communities (**Beer**, **Neelands**). Meanwhile, our Research Centres drive impact on SDG-3 Good Health and Well-Being (NIHR CLAHRC/ARC WM), SDG-8 Decent Work and Economic Growth (IER and IRRU), and SDG-9 Industry, Innovation and Infrastructure (ESRC ERC). Within IRRU, **Donaghey** and **Reinecke’s** research responds to SDG-8 to improve working conditions for women in Bangladeshi garment factories, with NGOs, Ethical Trading Initiative and ILO Better Work acting as conduits for research impact (supported by British Academy Small Research Grant, £10k, 2014–15). Additionally, the University’s GRP Energy, which the School leads, responds directly to SDG-7 Affordable and Clean Energy - see **Bradshaw’s** 2019 co-authored paper exhibiting the School’s interdisciplinary approach to societal challenges, published in *Nature*, which considers four geopolitical scenarios for 2030 that could arise from the move to a low-carbon economy.

## Conclusion

The School’s research strategy is fully aligned with the University’s *Excellence with Purpose* strategy, which provides a roadmap through to 2030. Our research is underpinned by our values of curiosity, openness, restlessness and excellence, with the School’s inclusive and supportive culture at the heart. Furthermore, our research strategy is sustained by our emphasis on recruitment and development of young talent, with the expectation that senior academic faculty provide research leadership to help develop the next generation of research leaders. Sustainability is further enhanced through our development of a virtuous relationship between acquisition of large-scale funding to support interdisciplinary research, in partnership with user organisations and other HEIs; institutional capacity building through leadership of University GRPs, and School Research Centres and Networks. In doing so, we are able to simultaneously generate world-leading academic publications and address societal grand challenges in a sustained and transformative way.