

Institution: Manchester Metropolitan University
Unit of Assessment: B17 Business and Management
<p>1. Unit context and structure, research and impact strategy</p> <p>Overview</p> <p>Since 2014, academics in the Business School have undertaken high-quality research with demonstrable impact on business and management. During this period, strategy and resources have focused on continuing to build established areas, such as international business, SME growth, High Street regeneration, and decent and inclusive employment, alongside the development of new areas of excellence in economic and policy analysis, Industry 4.0 and digital technologies. Key successes include: appointment of place management researchers to lead the Government's High Street Task Force; establishment of an Economic & Social Research Council (ESRC)-funded Good Employment Learning Lab working with regional and national stakeholders, and the award of several Knowledge Transfer Partnerships (KTPs).</p> <p>The number of staff with significant responsibility for research has grown from 26.4FTE in REF 2014 to 78.65FTE in REF 2021, and high-quality outputs have increased. For example, outputs in 3*/4* journals on the Chartered Association of Business Schools (CABS) Academic Journal Guide have increased to over 150 in our REF 2021 submission. Our environment also reflects extensive international relationships, with over 300 outputs written in collaboration with at least one overseas author. Furthermore, we have experienced substantial growth in research income to £4.271m, an increase of £961k on REF 2014, and our research continues to have high levels of impact, as evidenced by our membership of the United Nations Academic Impact (UNAI) initiative.</p> <p>Here we evidence that there has been a step change in research quality, volume and impact, set within the context of a high quality research environment. This notable improvement in research quality has played an important role in our gaining the 'triple crown', a trio of accreditations awarded by the Association of MBAs (AMBA), the Association to Advance Collegiate Schools of Business (AACSB), and the European Foundation for Management Development (EFMD) Quality Improvement System (EQUIS).</p> <p>Unit context and structure</p> <p><i>Manchester Metropolitan University Business School</i></p> <p>The Business School (hereafter 'the School') is one of the UK's largest full-service schools, offering a high-quality, research-based education. It has around 9,000 students and 318 academics, supported by a pool of Associate Lecturers, who combine part-time teaching with either doctoral studies or work in practice. The School draws on its vocational roots in its vision of '<i>transforming lives, businesses and communities</i>' and has substantial impact and influence regionally, nationally and internationally.</p> <p>The School comprises six departments: (Accounting, Banking and Finance; Economics, Policy and International Business; Marketing, Retail and Tourism; Operations, Technology, Events and Hospitality Management; People and Performance; and, Strategy, Enterprise and Sustainability). The School's return is also supported by academics from Manchester Law School. Academics are based in these departments and, where they hold significant responsibility for research (SRR), are additionally <i>Full members</i> of one of the School's University Centres for Research and Knowledge Exchange (UCRKE, Figure 1).</p>

University Centres for Research and Knowledge Exchange (UCRKE)

There are three UCRKEs: *Business Transformations*; *Decent Work and Productivity*; and *Future Economies*, which are the primary mechanism for developing and sustaining research and knowledge exchange (RKE) activity.

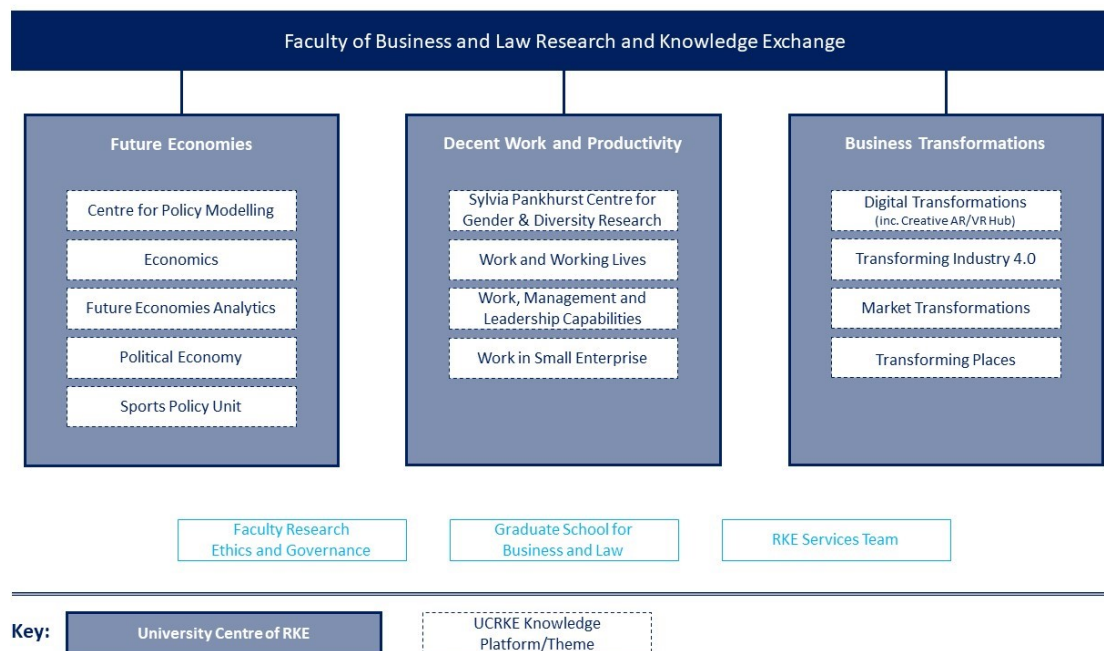


Figure 1: Research and Knowledge Exchange structure in the Business School

UCRKEs were established in early 2017 as part of the RKE Strategy (see REF 5a). They are responsible for all aspects of RKE governance and development, and are supported by both Quality Related (QR) and University-allocated monies. They provide an integrative and supportive research ecosystem and a solid foundation to achieve the School's ambitious research strategy. They combine rigour and relevance, supporting our impressive impact agenda, and building the School's reputation in both academic and policy/practitioner communities. Their research also underpins the School's research-based education, informing curricula to ensure that our graduates are employment-ready and contribute to businesses, the economy and society.

Business Transformations identifies and informs industrial, digital and place-making strategies that enable the transformative change needed for businesses to thrive and prosper. It has 38.8 Full members, plus two Knowledge Exchange (KE) members, 27 Associates and 104 postgraduate research (PGR) student members. It comprises four 'knowledge platforms' (KPs), the School's term for research groups:

Transforming Places: builds on a long tradition of place-related research focusing on place management and the UK High Street. Since the 1980s, its researchers have studied change in the retail sector and town centres. They have produced over 300 peer-reviewed academic articles (e.g. outputs 2179 and 2153), and have undertaken applied research projects valued at several million pounds. Recently, its researchers were awarded an £8.6 million contract to lead the Government's High Streets Task Force.

Transforming Industry 4.0: brings together expertise in operations management, project management, quality management, supply chains and sustainability. Academics investigate how organisations can configure themselves in terms of both structure and process(es) to compete successfully in rapidly-changing and complex environments (e.g. outputs 2250 and 2222). Academics have had substantial success in winning Knowledge Transfer Partnerships (KTPs).

Digital Transformations: investigates how the material qualities of technology influence organisations and individuals. It is inter-disciplinary in scope and incorporates the Creative AR/VR hub, which has produced a significant number of high-quality outputs (e.g. outputs 2310 and 2186) and conducted a wide range of international collaborative partnerships, and supported SME development.

Market Transformations: includes research into consumer, business-to-business and not-for-profit markets. Academics also specialise in consumer behaviour and international business, exploring the role of industrial policy in promoting inward foreign direct investment (FDI). Researchers have produced high-quality outputs (e.g. outputs 2175 and 2176), and had success in the first round of Management Practice KTPs.

Decent Work and Productivity engages with organisations and policy-makers to conduct research on the forces that shape the relationship between decent work and productivity. It has 21.85 Full members plus six KE members, 22 Associate members and 46 PGRs. There are four KPs:

Work and Working Lives: builds on a long-standing research programme that explores managing people, wellbeing at work, pay and reward, and regulation of work (e.g. outputs 2136 and 2308). In 2020, researchers won £1m of ESRC funding in the Management Practices, Employee Engagement and Productivity call to establish a Good Employment Learning Lab, working with national and regional stakeholders.

Sylvia Pankhurst Gender and Diversity Research Centre: focuses on demographic workplace diversity and is named after *alumnus*, Sylvia Pankhurst, whose granddaughter, Helen Pankhurst, is a Professor of Practice in the KP. It explores gender, sexuality, ethnicity, age, transgender, class and caste, and their impact on workplace performance, productivity and well-being (e.g. outputs 2202 and 2221). Expertise in equality law strengthens the KP's impact and policy influence.

Work in Small Enterprise: builds on historic strength in small- and medium-sized businesses (SMEs) research, including social enterprise, self-employment and entrepreneurship. Its research informs theory, policy and business support to SMEs (e.g. outputs 2242 and 2196). Researchers engage in extensive inter-disciplinary research, in particular with Science and Engineering in, for example, the Hydrogen Fuel Centre initiative and the Cyber Foundry.

Work, Management and Leadership Capabilities: we have invested in new expertise that explores leadership at work, technology and work organisation, and learning and innovation processes that underpin high-quality outputs (e.g. outputs 2223 and 2284). There has been substantial funding success, including an NIHR Greater Manchester Applied Research Collaboration project that investigates the translation of healthcare research into clinical practice.

Future Economies employs distinctive and innovative approaches to analyse, inform and shape the development of economies, economic governance and business. It builds a new research programme that has seen substantial investment in external appointments from research-intensive universities and regional policy bodies. It has 18 Full members plus two KE members, five Associate members and 42 PGRs. It has four KPs:

Economics: academics research behavioural economics, green economies and visitor economies to influence social policy, devolution, voting patterns and the de-growth agenda. They have also reframed established economic debates by drawing upon natural scientific approaches to explain economic patterns, and are engaged across numerous multidisciplinary projects (e.g. outputs 2173 and 2291).

Political Economy: recent recruitment, coupled with the existing *Centre for Policy Modelling*, means that there is now significant strength in policy analysis. Research centres on important and pressing policy debates, e.g. the industrial strategy; Brexit; devolution and regional governance; global trade; tax and governance in the UK and the USA (e.g. outputs 2229 and 2228).

Centre for Policy Modelling: has focused on complexity science and social simulation since 1991. It is one of the world's top research centres in agent-based social simulation, contributing significantly to the theoretical development of the discipline. Members have published many influential papers (e.g. outputs 2212 and 2159), and have gained a total of £3.5M funding. Recently, it has been awarded an Horizon 2020 project, addressing Populism and Civic Engagement (PaCE), and leads an ESRC project to create realistic computational models of social influence dynamics.

Sports Policy Unit (SPU): constitutes part of the recent ambitious, University-wide investment in the study of sport and is integral to the development of sports scholarship outside of the natural sciences. SPU is a founding contributor to the Manchester Metropolitan Institute of Sport, and its members are returned to C24 'Sport and Exercise Science' as part of the University's strategy for sports scholarship.

Research strategy

The School's RKE strategy supports delivery of research that combines academic rigour with real world relevance in knowledge generation and transmission. It seeks to deliver significant benefits for business, society, culture, the environment and the economy, which supports the School's mission of '*transforming lives, businesses and communities*'. It does this within clearly-specified fields, denoted by the UCRKEs, where it has both research quality and critical mass. In those fields, it builds reputation and profile for research that is recognised as being world-leading. Achievement of this strategy is premised on delivery of high-quality outputs; generation of substantial research grant income; delivery of impact; and creation of a strong and inclusive research environment, including support for PGRs.

Review of 2014 objectives and evidence of achievement of strategic aims for research

Table 1 sets out the objectives specified in REF 2014 and summarises evidence of their achievement.

Table 1: Review of objectives specified in REF 2014	
A centre-based approach to research	UCRKEs have provided the mechanism for implementing the School's RKE strategy and facilitated improved research volume, quality and capacity.
Strengthen research capacity through external recruitment and internal development and offering selective (but generous) allocation of research workload and effective career paths.	Capacity-building programmes and investment in 51 external appointments, 11 at professorial level, have enabled a step change in research performance. Building the professoriate has increased research leadership capacity. A new research, education and citizenship (REC) pathway and early- and mid-career development schemes have been introduced to support progression. Revised workload policies have supported those with SRR.
Research active staff are members of a centre, and funding is devolved to centres.	All academics with SRR are Full, research-focused members of a UCRKE. Each UCRKE has access to substantial funding to support delivery of its research programmes and capacity-building activities.
Increase both quality and volume of outputs. Increase research income and diversify income streams.	<p>Outputs in the REF submission have increased from 80 in REF2014 to 197 in REF2021, with the bulk of these being in CABS AJG 3* and 4* journals.</p> <p>Research income has grown to £4.271m, an increase of £961k on REF2014.</p>
Develop existing research streams and support inter-disciplinary research.	Research streams outlined in REF 2014 are integrated within UCRKEs. Place management and international business research, for example, are part of <i>Business Transformations</i> and people management and small firm research sit within <i>Decent Work and Productivity</i> . School UCRKEs also work with UCRKEs across the University to conduct inter-disciplinary research in science and engineering, health, education, and the arts and humanities.
Deliver an innovative and successful PhD programme to underpin sustainability.	There is a thriving PhD programme of 186 students, all of whom are PGR members of a UCRKE. £1.8m has been invested in 41 scholarships across the period. Postgraduate Research Experience Survey results have evidenced strong student satisfaction.
A clear focus on developing impact, ensuring it and its evaluation is built into all research activities and that visiting appointments from practice are made.	<p>Impact is an explicit part of the School's research strategy: each UCRKE has its own impact plan and every Full UCRKE member has a five-year RKE plan that incorporates impact activity.</p> <p>UCRKEs have Professors of/visitors from practice and advisory boards that include policy-makers and practitioners.</p>

Impact and public engagement strategy

The School's impact strategy ensures that its rigorous research has real world relevance. Our success in this is evidenced by our gaining membership of the UNAI initiative. Our research impacts directly upon the economic performance of firms, from small micro-enterprises to large multi-nationals, as well as improving public service delivery and the effectiveness of social and community enterprises. Impact, and its evaluation, is built into all research activities, from design to dissemination. KE and public engagement activities create established pathways that facilitate impact, helping to address global challenges and sustainable development goals, and making a strong contribution to Government and regional Industrial Strategies. In 2019, the School participated in the EFMD Business School Impact System (BSIS) exercise, the resulting report estimating that the School's impact on the local economy was £0.5 billion. The report also reflected that the School has a strong, shared awareness about the importance of impact; a positive attitude to collaboration with the world of practice; and considers academic, managerial and societal impact with local, national and international stakeholders.

To enable impact, the UCRKE remit comprises both research AND knowledge exchange. All UCRKEs have an Advisory Board, which is representative of its research-user constituents. The Board guides development of stakeholder-relevant research questions and an impact plan, and advises on its implementation and evaluation. The School has also appointed two Professors of Practice and ten KE members. Each UCRKE is additionally associated with a KE vehicle that supports transmission of its research. *Business Transformations*, for example, is allied with the *Institute of Place Management*, the professional body of place managers that uses place management research to inform policy and practice. *Decent Work and Productivity* works with the *Centre for Enterprise* so that its SME growth and people management research informs SME development programmes. *Future Economies* houses the *Future Economies Analytics Unit*, which combines quantitative economic research and data science to improve access to economic information, particularly at small geographies. UCRKEs also have other programmes of impactful research, including for ECRs and PGRs, and KE members in each have responsibility for impact activities.

A well-established infrastructure underpins transmission of research into policy and practice. The School has a dedicated Impact and Engagement Manager who works with UCRKEs to develop, deliver and evaluate impact activity. UCRKEs also draw on the University's policy think tank, Metropolis, to engage with high-level policy-makers. The School has had significant success, working with the University's award-winning Professional Services team, in winning KTPs that deliver impact. In the period, it has held ten KTPs, valued at £1.083 million in collaboration with organisations, including large multinationals, regional SMEs and national charitable organisations. Substantial funding streams also support impact delivery. For example, Tuselmann has benefited from a Chancellor's Policy Fellowship that enabled him to spend six months at the United Nations in Geneva, using his research to inform its policy.

This activity and infrastructure has resulted in substantial research impact, examples of which are showcased in six Impact Case Studies.

Interdisciplinary research

UCRKEs provide a cross-institution eco-system for internal, inter-disciplinary collaboration. Many of these are supported by the European Regional Development Fund (ERDF) and KTP funding, where the School has particular specialisms. For example, Business School academics

collaborate with those in the Advanced Materials and Surface Engineering UCRKE to establish a Hydrogen Fuel Cell Centre. Inter-disciplinary research is also conducted with external institutions, for example, the *Centre for Policy Modelling*, working in consortia to develop social simulation models (e.g. output 2320). In 2016, place management researchers received £20,000 of internal funding to develop interdisciplinary networks that deliver impact. Other interdisciplinary research applies advanced computational techniques to business and management problems (e.g. output 2182).

Open Research

Our Research Data Management policy applies to all staff and PGRs. The policy fully endorses, and is compliant with, the **Concordat on Open Research Data**, and with funder research data management expectations. It provides clarity on roles and responsibilities of individual researchers. £500,000 has been invested in a research data storage solution that affords the highest quality provision whilst protecting invaluable research data and providing full end-to-end support.

Our Open Access policy is fully aligned to REF 2021 requirements, and most journal articles and conference proceedings published in this assessment period are open access. Researchers may use Green or Gold routes to Open Access via our institutional repository, *e-space*, and/or by applying for the costs of an article-processing charge (APC). The most downloaded articles in *e-space* include Nabi's work on entrepreneurship education in the Academy of Management: Learning and Education, downloaded over 6,000 times (output 2146) and Whittle's 2016 Lancet article on transgender health (output 2157), downloaded over 2,000 times. In addition to growing RCUK/UKRI resource for APC payments, from 2017 we have had access to additional resource for university-funded APCs. Priority is given to papers that have external funding, international partners and/or underpin significant impacts. In the School, £115,000 has been invested in APCs for 62 articles, including a special issue of the Journal for Place Management, reporting on outcomes of our ESRC-funded High Street 2020 project. Additionally, we have arrangements for discounted APCs with several publishers. In 2017, the University also joined the Open Library of Humanities Library Partnership subsidy scheme (funded by the Andrew Mellon Foundation).

The School's marketing team works closely with academics and the impact team to communicate research evidence to an external audience. Impact is showcased via other platforms, such as The Conversation and outlets, such as the BBC.

Research Integrity

Research integrity is at the heart of the School's RKE strategy and activities. We comply with, and exceed, the requirements of the UUK **Concordat to Support Research Integrity**. Our Faculty Head of Research Ethics and Governance (Ashman) ensures research ethics and governance (REG) is embedded in all research activity and chairs the Faculty's REG Committee that reports into the University's REG Committee. The Faculty REG committee has oversight of strategic implementation, REG developments and review of applications submitted for ethical approval. Approvals are based on recommendations offered by the School's peer review college, which includes 30 members of our Business and Management submission. The application and review process is managed using an online system, *EthOS*, which offers guidance to applicants and reporting functionality for monitoring and audit purposes. Over the past two years, the School has approved 2,500 REG applications, comprising 290 from staff and PGR students with the balance from PGT and UG students. Substantial time has been invested

in training all groups, both to use this system and in the wider principles of REG to ensure awareness of research integrity matters. We conduct an audit of a sample of projects each year, which feeds into the University's reporting cycle for demonstrating its compliance with the UK Concordat.

Future research strategy

The School's strategy has established a clear direction that will be the basis for action over the next REF period. We will continue with our centre-based approach, building reputation and esteem around our three identified fields of expertise, and reflecting UKRI priorities within these. We will develop strong relationships within the institution and beyond that, support inter-disciplinary research. We will continue to grow our proportion of academics with SRR to 40% of the academic staffing base, by continuing to target high-quality recruits whose expertise aligns with UCRKE remits and offering sector-leading capacity-building programmes. We will run an annual Developing Research Excellence programme, which offers mentoring to support Early Career Researcher development and, from September 2021, are launching an annual Accelerating Research Excellence programme to support mid-career development. This development will strengthen the Professoriate further and ensure that the School is an employer of choice for those wishing to excel in their research careers, assuring a strong talent pipeline. We will support Full UCRKE members with generous research workload allocations and, via UCRKEs, allocate internal research funding to stimulate and support their research programmes. Our focus will be on assuring a portfolio of high-quality outputs, underpinned by a diverse range of external funding awards. High-quality funder awards, including KTPs where we have been so successful, will be integral to this. Building to a proportion of 40% SRR will facilitate external income generation of around £2m p.a. and ensure that our research is sustainable.

Impact will be a key strategic priority. Using our UCRKE infrastructure, we will ensure co-creation with, and transmission of, our research to policy-makers and practitioners. We will increase KE membership of UCRKEs and make further Professor of Practice appointments. We will invest further in KE and public engagement mechanisms, making greater use of sophisticated media. Our research foci mean that we are well-placed to develop our impact further in important national debates and we will address agendas, including devolution; Brexit; local and national Industrial Strategies; good work and productivity.

We will maintain a strong research environment, and PGR students are vital to this. We will grow our PGR community by diversifying into online PhD programmes and offering a DBA programme. We will build to an overall programme cohort of 250 by 2026. We will also ensure that equality, diversity and inclusion is central to all our processes and routines, drawing, alongside other things, on the research of *Decent Work and Productivity*. This vibrant research environment will underpin other School strategic imperatives, including, for example, research-based education in our sector-leading degree apprenticeship programmes.

2. People

Staffing and recruitment strategy

The School has successfully delivered on its REF 2014 staffing strategy of building research capacity through recruitment and development of a diverse and sustainable research base,

growing staff in areas of both existing and developing strategic importance. We have combined targeted investment in external recruitment of both senior and early-/mid-career academics with internal development via sector-leading development programmes. Nearly 70% of academics with SRR in REF 2021 are new appointments (51 new staff, including 11 Professors).

Professorial numbers have doubled from 11 to 22 and this has substantially strengthened research leadership and culture. We have invested in existing clusters of strength aligned to *Decent Work and Productivity* and *Business Transformations*, and in new areas identified as strategically important where critical mass can be rapidly grown, i.e. *Future Economies*.

Academics with SRR are all Full members of UCRKEs (Table 2). Across three UCRKEs, there are 78.65 FTE Full members, around a quarter of academics (FTE 296.3; 318 individuals; Business School only, excluding Law School staff in the wider Faculty). This is nearly three times the 26.4 FTE academics in the Business School's REF 2014 return and evidences the strong upwards trajectory of research. Succession planning is assured via a UCRKE membership structure, in which ECRs without independence have Associate member status, and development programmes that support them into Full membership. There are currently over 50 staff in this position. There are currently 26 Visiting Fellows and Professors who contribute to research profile and strengths (see Section 4). Given the breadth of the School's portfolio, we anticipate that growth in Full membership numbers will stabilise at around 40% and will emphasise growing research quality within our identified foci of UCRKE expertise.

Table 2: Submitted staff contract profile

Professor	Principal Lecturer and Reader	Senior Lecturer	Lecturer, Research Fellow
25%	25%	42%	8%

Staff contract level profile

Staff development strategy

There has been substantial resource invested in development for staff at all career stages, including targeted allocation of workload, mentoring, probation, appraisal and training.

Allocation of research workload

There is targeted workload allocation, with a revised Research Workload Allocation (RWA) policy that sets out clear expectations of research performance, coupled with supportive development mechanisms. Numbers of staff with 40% research workloads, commensurate with Full UCRKE membership (or equivalent categories used prior to UCRKE establishment), have substantially increased across the REF period (Table 3). RWA policy ensures that time is effectively allocated, establishing practices, such as two research-focused days each week, or a heavy term of teaching and administration followed by a light term where research is the main activity.

Development workloads are also offered to support career progression (further detail below). Finally, there has been substantial investment in supporting academics, many of whom have joined from professional practice, to undertake doctoral studies. This is important capacity-building activity and around 40 academics receive a 10% development allowance to support their studies.

Table 3: Research Workload Allocations 2014 – 2020

No. of staff	2014/5	2015/6	2016/7	2017/8	2018/9	2019/20
Full Member UCRKE (40%)	25	34	45	44	68	77.65

From 2018, workload has also been allocated to UCRKE KE members, at levels commensurate with Full and Associate UCRKE research membership. Further workload is allocated to Impact Case Study authors.

Staff development mechanisms

- Recognition of performance and reward: introduced in 2015, a Professorial Contribution Scheme ensures clear specification of performance expectations for professors, and reward is transparently linked to these.
- Performance Development Reviews (PDRs): Research, funding and publication plans are explicitly built into the annual PDR process for Full and Associate UCRKE members. PDRs for Chairs and Readers are conducted by the Head of Department and for others, by both their subject group head and an appropriate Chair/Reader. Personal development is identified and supported via the PDR process, e.g. training and conference attendance.
- Probation: ECRs have supportive development and mentoring processes, and reduced teaching workloads, to support development of their research careers.
- Mentoring relationships have been established for all Full members of UCRKEs, with Chairs and Readers acting as mentors. Each Full member also has a five-year development plan for research, funding and outputs, shaped through discussions with their mentor.
- Each UCRKE runs its own seminar series and workshops. These comprise both internal and external speakers and are well-attended.
- Since 2015, the School has had a research leave scheme that affords those with SRR, a term free of teaching and administration responsibilities. It operates on a competitive basis and has so far supported 20 academics to accelerate publication of papers or submission of research grants. Outcomes have included high-quality papers (e.g. outputs 2143, 2162 and 2200); and substantial funding bids (e.g. Rouse's ESRC Good Employment Learning Lab project). Research leave has also supported international visits; Atkinson, for example, spending three weeks at Griffith University in Brisbane in 2019.
- Annual two-day writing retreats for around 40 researchers have had positive outcomes in terms of publication success (e.g. outputs 2279, 2207 and 2298). Writing workshops are also run each year using software packages, e.g. Scrivener, to support productive writing.
- A reading programme was launched in 2018 to establish output quality and to avoid over-reliance on journal lists. It is designed as an open, transparent and developmental process and has been beneficial in developing a collegiate community of researchers.
- Development is also supported via various exchange schemes with business and policy bodies. A Chancellor's Policy Fellowship Scheme has, for example, supported a six-month internship at the United Nations in Geneva (Tuselmann, see ICS 4).

Cohort specific schemes

- **Mid-career development schemes:** five Business School Readers have participated in the *Future RKE Leaders* development programme. One participant has subsequently been promoted to Professor (Lupton). Another is part of the *Good to Great* scheme (Berry) that offers significant time and resources for staff to make a step change in their research careers. The School also provides mentors to these schemes (Atkinson, Bresnen, James and Rouse). From 2021, the School is launching an *Accelerating Research Excellence* (ARE) scheme to support mid-career development.
- **Developing Research Excellence (DRE)** is an intensive development and mentoring programme for ECRs, supported by a development workload. ECRs have a mentor, who also has a workload allocation, and works with the mentee over a two-year period to

accelerate their publishing career. 40 ECRs have participated across four cohorts. From the first three cohorts, around two-thirds have progressed to Full UCRKE membership with high-quality outputs (e.g. Lloveras, output 2319 and Sampson, output 2168). The programme has had a strong attraction effect, helping to position the School as a career destination of choice for ECRs. Academics on DRE are also encouraged to attend **Get that Grant**, the School's bid-training programme for ECRs.

In summary, substantial resource is invested in staff development. Indeed, the University's commitment to staff development has been recognised by an Investors in People 'Gold' Award, and Manchester Metropolitan has been awarded the EU HR Excellence in Research Award for the past six years in recognition of the quality of these processes and our compliance with the **Concordat to Support the Career Development of Researchers**. Our efforts ensure a vibrant and sustainable research environment, which has played a significant role in gaining the Triple Crown of accreditations. Along with investment in facilities and infrastructure, this has made the School an attractive career destination.

Post-graduate research students

The School has a large and thriving PGR community with 186 current students across all modes of PhD study. The School does not offer a professional doctorate/DBA.

Governance

The Faculty Head of Research Degrees (Rowley) leads the PhD programme, assisted by a Deputy (Platt). For recruitment and progression, they work with six departmental PGR leads and a UCRKE PGR lead, in a matrix structure. Each PGR student has a Director of Studies (DoS) and at least one other supervisor; for development and capacity-building purposes, a third supervisor may also join a supervisory team. The supervisory team guides the student on academic research and mentors the student on wider matters (e.g. careers and conference attendance). All DoS are Full UCRKE members, and PGR students are UCRKE members. All programme and supervisory roles are appropriately resourced via workload. We offer students six weeks annual leave and access to maternity leave.

Recruitment, progression and conferment

PGR students are vital to the School's sustainable and thriving research community and, across the REF period, there has mainly been a steady growth in annual student intake. We seek to ensure a diverse and inclusive approach to recruitment. Every student is interviewed (face-to-face or virtually) by a department PGR lead, as an independent party, and at least one potential supervisor, to ensure a fair and transparent process prior to an offer being made. There is a reasonable gender balance, 55%/45% male/female, and a wide age range, from early 20s to late 60s, with most students falling in the 28-35 band. Three quarters of PGR students are home/EU with the remainder from a wide range of countries, and 60% are White, with the balance being predominantly Black and Asian. We believe our processes support this diversity in the student group.

Across the REF period, the School has awarded 41 PGR scholarships, with 33 students receiving a bursary and fees, and eight students receiving fees only, to a value of £1.8m. This includes industry-matched funding; for example, a PhD student being match-funded by Greater Manchester Combined Authority with the Chief Economist partaking in supervision. Over 30 international PGR students hold/have held Government or industry-supported scholarships. There is also a balance of full and part-time students, the latter comprising, for example, senior

managers at Siemens, Esprit in Dusseldorf Global HQ and Diamond Resorts International (USA). This further supports our impact agenda.

All PGR students undertake formal review stages including progression and transfer points, with an independent reviewer acting as both performance assessment and supportive personal development reviewer. There is also an Annual Research Development Review process, again with an independent reviewer, to monitor progress and provide support. The Vitae Researcher Development Framework is embedded within this process to assure review and development of skills beyond those required for an individual's research programme.

Conferments have increased from 60 in REF 2014 to 90 in this period (Table 4).

Table 4: PGR conferments

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	REF2021	REF2014
Total	17	10	12	8	14	15	14	90	60

Training

All PGR students complete the School's Doctoral Research Training Programme (DRTP), which mirrors the ESRC's PGR training requirements. DRTP comprises four non-credit bearing units that develop skills in literature review and critical thinking, quantitative and qualitative research methods, and the principles and philosophy of research design. PGR students also receive impact and research bidding training and have the opportunity to attend seminars and training events across the University and externally through the White Rose Doctoral Training Centre (of which we are a member) and partnerships, such as the Northern Advanced Research Training Initiative (NARTI) and the European Doctoral Programmes Association in Management & Business Administration (EDAMBA). Annual doctoral symposia are held in the School and the University, at which PGR students are invited to present. PGR students are funded to attend conferences and offered other training, such as writing workshops and employability skills. In 2019, the School was awarded Society for the Advancement of Management Studies (SAMS) funding to run employability workshops for PGRs. PGR students are also encouraged to take part in the '3 minute thesis' (3MT) competition. We support students to undertake international placements; for example, a *Decent Work and Productivity* student (Weicht) spent a term at a German institution to gather data for her comparative analysis of self-employment.

Student satisfaction

The School has had strong Post Graduate Research Experience Survey (PRES) results in all recent waves (2015, 2017 and 2019). Overall scores have exceeded 80% satisfaction in all waves, and particular strengths have been: supervision (88%, 2019), research skills (87%, 2019 and testament to the DRTP's effectiveness) and progression (86%, 2019). Our focus now is on using PGR membership of UCRKEs to enhance research culture.

While the PhD programme has experienced steady growth over the REF2021 period, we anticipate that future on-campus PhD numbers will remain at current levels. We have ambitions to grow PGR numbers in two ways: i) We will offer an online PhD programme from 2021, for home and international students and ii) We will also introduce a blended, block delivery DBA programme that will extend our PGR offering to the professional sector, comprising both home and international students. The programme is currently in development for an anticipated launch in 2022. It is anticipated that the bulk of growth in PGR numbers in the next REF period will

come from these programmes, which will allow access to high-quality students irrespective of their geographical location and will offer a reliable student pipeline.

Equality, Diversity and Inclusion

The School actively works to embed principles of Equality, Diversity and Inclusion (EDI) throughout its research activity. This is evidenced through a set of quality marks and standards including: the Business Disability Forum Gold Award; a Disability Confident Leader; Athena Swan Bronze holders; the Stonewall index (where we are ranked 22nd in the UK and top transgender employer); a Race Equality Charter member; and being the first LGBTQ organisational role model for Greater Manchester.

The School is cognisant of the need for diverse UCRKE membership and monitors this across a number of protected characteristics. By gender, submitted staff are 45% women/55% men against an overall population that is 48% female. Gender diversity is reflected in our Professoriate where half are female and four ethnic groups are represented.

In relation to ethnicity, 83% of submitted staff are White; 3% identify as Black; 3% identify as Chinese; 5% identify as Asian and 6% identify as Other/Mixed. The total BAME (Black, Asian and Minority Ethnic) population of submitted staff is 17% against an overall eligible population percentage of 15%. Therefore, the proportion of BAME staff in our submission is higher than the overall eligible staff.

There is a higher proportion of disabled staff in the submission than in the overall eligible population and in the rest of the sector (8% compared to 6.5% eligible staff overall and 4% of staff in business and management according to the 2019 Advance HE Equality report). This reflects the success of the reasonable adjustments offered, e.g. providing business class travel to conferences where required. 9.5% of submitted staff identify as Lesbian, Gay, Bisexual or Other, compared to 7.2% overall.

The School's research also reinforces its commitment to EDI. *Decent Work and Productivity* research has been highly influential in the wider University's work. Whittle has advised on the University's LGBTQ Staff handbooks, which has contributed to its outstanding performance in this area. Rouse has led women's leadership programmes in Sociology, and Atkinson's work has informed the University's menopause policy, making it one of fewer than 20% of UK organisations to have adopted such a policy. *Decent Work and Productivity's* research has also informed the University's decision to become a Living Wage employer and the University's HR response to COVID-19, particularly in relation to flexible working (Lupton) and leadership (Haddock-Fraser).

The School encourages academics to work both flexibly and remotely, using tools such as MS Teams for communication and Outlook calendars to manage their whereabouts. Working patterns are adjusted to reflect caring and other external commitments and, where requested, academics can either reduce their contracted hours or change their working patterns, for example, several staff work condensed weeks. The REC pathway is open to all staff, including those working part-time or on fixed-term contracts. PDR processes ensure that career aspirations are considered on at least an annual basis, and expectations, in relation to volume, are adjusted as appropriate for those on part-time contracts or with other personal circumstances.

Conference attendance processes also reflect the needs of a diverse staff base. Where academics are involved in conference organisation, either on the University's campus or elsewhere, they are required to use the School's EDI conference organisation policy. This sets

out, for example, processes to follow to ensure speaker diversity and that those with caring responsibilities are able to be fully involved. We also support those with disabilities to attend conferences by offering business class travel.

EDI is supported for internal opportunities by using open, competitive processes; for example, there is an annual round of applications for seedcorn funds where, if oversubscribed, priority is afforded to ECR applicants. Research leave and access to leadership roles are both offered via open, competitive processes. For formal promotion, we hold workshops on Reader and Professor promotion processes for all staff, including those specifically for women and BAME staff. All involved in leading these processes have had equality and diversity, and unconscious bias training.

Support processes are in place for those returning from maternity leave, whereby those with SRR are afforded lighter workloads on their return with few/no teaching or administrative responsibilities so that they can accelerate their research. Those managing long-term illness or disability have access to reasonable adjustments to working practices, for example, working from home or using particular software (e.g. for those who are visually/hearing impaired).

Well-being is a priority for the School: in addition to the support already outlined, we have well-being champions in each department who work with academics to identify and address issues of concern. Similar consultative processes operate for PGR students. Each year, the University runs a well-being week offering a wide range of activities that encourage staff and students to reflect upon well-being and engage with supportive activities across the academic year.

EDI processes, already described, were applied to the construction of the REF submission. We also ran an 'individual circumstances' process, following our Code of Practice, to allow academics to bring to our attention any EDI-related matters that may have disadvantaged their research productivity. Six members of staff came forward to declare individual circumstances and we have adjusted our expectations of their contribution to the output pool within the scope of the revised rules without requesting an overall reduction to our volume of outputs. Additionally, we have mandated equality and diversity, and unconscious bias training for all those involved in any aspect of the REF process including selection of outputs and identification of impact case studies. Output selection was based upon the results of internal reading programmes and other metrics, and all data were available to individual academics. A UoA17 panel sat to agree selection of outputs, which was based upon output quality and overall submission profile. The output selection reflects the gender diversity within the submission, with 45% of outputs attributed to women and 55% to men.

3. Income, infrastructure and facilities

Funding and Strategies for Research Income

Funding for Research

The School has access to various sources of funding that it invests to carry out high-quality research. Each year, the QR income (c.£490,000 p.a.) is devolved to the School and is invested in UCRKE research programmes and School-wide capacity-building programmes. The Faculty Head of RKE (Atkinson) additionally has access to a proportion of research project overheads to support research activity (c.£100k p.a.). The University also makes a direct investment of c.£60,000 p.a. in UCRKEs and in their wider activities via its pump-priming and capacity-building programmes.

Research awards and income

The School has had continued success in generating research income. Total income across the period was £4.271m, an increase of £961k on REF 2014 (Table 5). This is a robust performance given the reduction in Business and Management research funding available across the period. The Chartered Association of Business Schools 2019 report showed that we were 38th out of 124 UK Business Schools for research income over the preceding six years.

Table 5: Business School research income 2014-2020

2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	REF2021	REF2014
608,173	748,939	546,911	804,684	598,975	562,816	400,290	4,270,788	3,309,982

The School has delivered on its REF2014 strategic objective of diversifying income sources, winning prestigious awards from research councils, charitable bodies and the European Commission (Table 6). Academics also work in international networks that have led to income generation; for example, Edmonds is UK lead on ToRealSim, a four-European country project that explores social influence processes generated in social media networks. We have also been successful at winning KTPs and funding for contract research. This reflects both the esteem in which the School is held and the applied nature of much of its research.

Table 6: Sources of RKE Income 2014-2020

Source of Income	Research Councils	UK Charities	UK Govt & Industry	European Union	Non-EU
Percentage of Income	23%	6%	38%	31%	2%

Research awards in the period total £5.291m and include prestigious research council awards:

- ESRC: The Good Employment Learning Lab ES/T014857/1, £809K, PI: Rouse
- ESRC: High Street 2020 ES/L005182/1, £112k, PI: Parker
- Innovate UK: Big Data to Small Users, 102549, £149K, Co-I: Parker
- European Commission Horizon 2020: SmartMaps, ID710500, PI: Randles
- European Commission Horizon 2020: Populism and Civic Engagement (PaCE), ID822337, PI: Edmonds

All projects have led to high-quality outputs. Edmond's SCID and PaCE projects, for example, tackled matters around diversity, inclusion and populism, and underpinned highly-cited papers (e.g. outputs 2212 and 2147), while Randles' SmartMaps project on mobilising responsible industrial technologies has informed innovation policy research (e.g. output 2322). Parker's projects around High Street regeneration have both informed high-quality outputs (e.g. outputs 2198 and 2301) and substantial impact (e.g. ICS 2).

The School has won awards from a number of charities including:

- British Academy: Industrial strategy and the transformation of British economic statecraft, (output 2254) PI: Berry
- Leverhulme Trust: Reconceptualising workplace courage, £52k (Lewis); Blame in Work Organisations, £56k, (output 2162) (Lupton); An investigation of fertility/pre-conception and work, £88k (Sampson);

- Nuffield Foundation: Understanding the influences on the academic trajectory of disadvantaged pupils in early secondary education, £31k (Cook).

Awards have also been won from international charities (Tuselmann, Hans Böckler Foundation, £150k, PI), which has underpinned both high-quality outputs (output 2312) and impactful international business research (e.g. ICS 4).

We have been successful in winning KTPs, with ten to a value of £1.083m across the period. Our esteem is also reflected in the winning, in 2020, of two Management KTPs, of only seven awarded nationally (Michaelides and Naude). We have also won a wide array of contract research from Government and policy bodies. Atkinson's work with the Welsh Government (PI, £25k) on employment in Adult Social Care has, for example, led to an impact case study based on legislative change (e.g. ICS 1). Atkinson has also undertaken contract research for The Department of Health and Social Care on Gender Pay Gaps in Medicine that has underpinned high-quality outputs (e.g. output 2413).

The School's strategy of focusing on research areas of strength and critical mass is paying dividends; for example, in *Decent Work and Productivity*, Rouse's 2020 ESRC grant explores how to create good employment, while in *Business Transformations*, KTPs investigate how management practice can create change and growth. While these recent awards will not appear in the income figures for REF2021, they provide a strong indicator of sustainability for the period ahead. Our strategy for generating external income also includes specific development activities designed to help build capacity and share best practice in writing external proposals. For example, the *Get that Grant* programme has run since 2015 and is currently in its fifth cohort, with around 70 academics having attended. It is aimed at supporting ECRs, or those who have not held grants previously, to get their first grant. Training is linked to a bid submission and a number of successful awards have resulted (e.g. Leverhulme, Lupton; and British Academy, Cook). The School also runs an annual round of competitive seedcorn funding, offering £2k to up to ten academics to pump prime pilot projects that lead to more substantial research bids. There are robust peer review processes that improve the quality of bids.

The synergies across research and impact agendas are also important to us, with an increasing reputation for research quality leveraging KE awards of £15.264m and income of £8.11m across the period. For example, in 2019 place management researchers in *Business Transformations* won an £8.6m KE award to lead the Government's High Streets Task Force. The profile and reputation of the School's place management research was fundamental to winning this award. It was also integral to winning the competitive tender to run The Business Improvement Districts (BIDs) Foundation. All of this work has delivered significant levels of impact (ICS 2). *Decent Work and Productivity's* SME research, in collaboration with the *Centre for Enterprise*, has also supported the winning of £19m of ERDF awards in the period. This KE work has, again, had substantial impact (ICS 3).

In summary, the School has generated substantial external income to invest in its research and impact activities and has explicit strategies to increase income generation further to ensure the sustainability of its research activity.

Organisational infrastructure for research and impact, areas of significant investment, and the development of clusters that focus on distinctive impactful work

The School has made substantial investment in its research and impact infrastructure. This has been primarily through the UCRKEs and, indeed, *Future Economies* has been wholly established in the REF2021 period with recruitment of a body of staff, 18 of whom form part of the UoA17 submission. Within this, the *Future Economies Analytics Unit* is a KE Unit intended to deliver impact. Its establishment was facilitated by a Manchester Metropolitan Strategic Opportunities Fund award (SOF, £200k) to support employment of two KE staff and pump prime delivery of the Unit's economic analysis programme. A Data Observatory and Modelling product has been designed and deployed to process large volumes of economic data. The unit will become self-sustaining through KE income generated by the sale of its economic analyses. In 2018, place management researchers in *Business Transformations* also received £100k SOF monies to support commercialisation of the town centre footfall dashboards that came from its Innovate UK Big Data for Small Users project. A product has been developed for use by local authorities and other place-based organisations to monitor High Streets' performance and is a core feature of the High Streets Task Force project. The School has also invested in AR/VR technologies as part of its digital transformations research in *Business Transformations*. This research has had an impact in supporting re-development of tourism in the North West, for example, in increasing visitor numbers to museums and national parks in the region.

There has been significant investment in other programmes to pump prime research to a sum of around £250k. For example, monies of £3k-5k are available to accelerate research bids, undertake personal fellowships, develop international networks or host international visiting researchers. Sums of £1k-10k are available to develop impact and public engagement activity.

Infrastructure supporting research and impact

Business School academics are housed in an award-winning, state-of-the-art building with dedicated office space for staff, and conferencing facilities. Excellent facilities are also provided for all PGR students, located on a dedicated post-graduate floor, and including workstations, computers, laser printers, scanners, telephone access, photocopying, storage facilities, social spaces and meeting rooms. This open-plan facility develops a strong research community amongst the students.

Research is led by the Faculty Head of RKE (Atkinson), who reports to the Faculty Pro-Vice-Chancellor/Dean and sits on the Faculty Executive Group. She has a dotted line to the Pro-Vice-Chancellor for RKE, sits on the RKE Committee and chairs the Faculty RKE Committee. UCRKEs and the Faculty REG Committee (chaired by Ashman) and the Faculty Research Degrees Committee (FRDC, chaired by Rowley) form part of the Faculty Head of RKE's portfolio. All faculty-level committees report to the relevant central committee and to the University's Academic Board, with their minutes received by the Faculty Executive Group.

The FHRKE works with the UCRKE Heads and the Heads of FREG and FRDC to ensure appropriate governance and development of research and impact activity. There is also a well-developed Professional Services structure. A central RKE directorate, led by the Director of RKE, supports research development and delivery, research environment and impact, and business engagement. For each, there is a nominated Business School partner who supports these activities, including a Research Development Manager, an Impact and Engagement Manager, a Research Ethics and Governance Manager and an RKE-specific Marketing Officer. UCRKEs are supported by an RKE Manager who manages a team of five dedicated delivery professionals. Our PGR activity is supported by a team of three FTE that is dedicated to

supporting the School. Additional support comes from teams covering Business Engagement, Research Marketing, KTPs, RKE Systems, the Press Office and the Library.

There has been substantial investment in digital infrastructure across the REF period, with a number of systems introduced. The main four are:

- *Symplectic*: an online database that captures outputs and other grant and esteem activity;
- *Worktribe*: an online system for the management of pre- and post-delivery research grants that has supported a more focussed bidding culture;
- *Ethos*: an online system for the submission and awarding of ethical approvals;
- *SkillsForge*: an online system for managing PGR student matters.

The University also continues to invest heavily in providing state-of-the-art Library facilities, and IT and research resources, including extensive electronic information services. All staff have a laptop and both on- and off-campus access to software packages, such as Endnote, NVivo, SPSS, Stata and Scrivener writing software. Library services provide access to an extensive range of subject databases, electronic books and journals, as well as material in hard copy. Over 3,000 business and management e-journals are provided and approximately 18,000 e-books. The library is also part of the NOWAL (North-West of England Academic Libraries) consortium and a member of SCONUL (the Society of College, National and University Libraries) in the UK and Ireland. Additionally, the Library works closely with the British Library in providing access to books, journal articles and conference proceedings, as well as doctoral theses via the inter-library loans service. The library also has long-established links with Manchester's 'Central' library.

We subscribe to a number of databases, many of which are international in scope, e.g. Euromonitor's Passport, EBSCO's Business Source Premier, and Bureau van Dijk's Osiris. Other databases include: FAME, FT.Com, Global Data, HeinOnline, LexisLibrary and Mintel. In addition to these databases, which have a specific, or at least considerable, business focus, there are several other interdisciplinary journal databases that will contain a significant amount of material pertinent to the faculty, e.g. Academic OneFile, JSTOR, Sage Journals, ScienceDirect, Taylor & Francis Online, and Wiley Online Library. We also subscribe to Emerald, and Sage Business Cases.

How E&D issues have been addressed in scholarly and operational infrastructure

The Business School building is fully accessible and facilities are available for those with particular needs, e.g. reading equipment for a visually-impaired PGR student. We operate open and transparent competitive processes to allocate funding, and all decision-makers have had ED&I training. Those returning from maternity leave have a reduced workload to re-energise their research programmes.

Specialist infrastructure and facilities

As noted above, the *Future Economics Analytics Unit* has developed a Data Observatory and Modelling product, and advanced server capacity is afforded to the *Centre for Policy Modelling* to support its social simulation modelling of big data. In *Business Transformations*, the *Digital Transformations* team has sophisticated, augmented and virtual-reality equipment to support its work in the tourism industry.

We also have secure rooms for the storage of sensitive datasets that can only be accessed by nominated academics, and three Bloomberg terminals in a dedicated room. As we grow, so we

are reviewing our space offer and increasingly making larger rooms available to house groups of researchers, e.g. *Transforming Places*, *Industry 4.0* and *Future Economies Analytics*, so that these groupings have actual, as well as virtual, identities. This has been very successful in research development and will be rolled out in the next REF period as part of the University's estate strategy.

Shared use of infrastructure

As part of the *Centre for Policy Modelling's* PaCE project, we share a data repository in Dresden, Germany and place management researchers in *Business Transformations* have shared server facilities with Cardiff University as part of the BDSU project.

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

Support and effectiveness of collaborations, networks and partnerships

The School has extensive collaborations, networks and partnerships, and projects with HEIs at local, national and international levels. Across the School, there are research collaborations with over 40 international institutions that underpin almost 100 co-authored outputs.

Locally, the School collaborates extensively with the Universities of both Manchester and Salford; Edmonds, for example, having been part of a UoM-led EPSRC project. Academics also collaborate widely with researchers across the UK. For example, Beel is a Co-investigator at the ESRC-funded WISERD Civil Society Research Centre based at Cardiff University. Other collaborations include: a Department of Health and Social Care-funded Gender Pay Gaps in Medicine project in collaboration with the University of Surrey and the London School of Economics (Atkinson); and an Innovate UK Bringing Big Data to Small Users (BDSU) project working with Springboard and Cardiff University (Parker). Rouse is also a member of the University of Aston's ESRC-funded Enterprise Research Centre.

European collaborations and projects have been particularly fruitful for the School in this REF period. There have been a number of H2020 projects, including a SMART-Map project on Responsible Research and Innovation (RRI) in industrial contexts (Randles) and a JERRI (Joining Efforts for Responsible Research and Innovation) Project in research and technology organisations that involved eight European partners from prestigious institutions, such as Aarhus University and the Fraunhofer Institute, Germany (Randles). Both led to highly-rated EU reports. Edmonds leads the PaCE project, a European consortium of nine universities. Other European collaborations have included two funded by the Hans Böckler Foundation (Tuselmann) in partnership with several European institutions including the Copenhagen Business School and Jönköping University, Sweden that investigated direct employment of skilled labour by foreign-owned subsidiaries. The School also has European collaborations, including a Swedish Government-funded research network, TechnAct, which examines digital technologies (Urquhart); and, a project working with the National Institute of Social Research in Greece on social and employment conditions across a number of EU countries (Papadopoulos).

Wider international networks are also growing: *Decent Work and Productivity* has developed networks in Australia and New Zealand and has a Memorandum of Understanding with the Massey People, Organisation, Work and Employment Research (MPOWER) group at Massey University (NZ). Lewis also holds Executive Board Membership of MPOWER and Associate Fellowship of the New Zealand Work Research Institute, Auckland University of Technology. Place management researchers are part of an international collaboration, the Future Retail City Centre project, investigating effective urban management interventions across the Netherlands,

Belgium and United Kingdom (Warnaby). For the last ten years, Manchester Metropolitan University has been actively developing research and academic links with Latin American Higher Education Institutions resulting in projects with significant policy/practical impacts. For example, the Erasmus Mundus EuroInka project (www.euroinka.eu) facilitated the transfer of knowledge and best practice in training the next generation of researchers and academic staff (Paucar-Caceres). Bamford is collaborating with one of Colombia's most prestigious institutions, Javeriana University, to develop its rail infrastructure. Relationships are also developing in Asia, where Shi collaborates with the Institute of Big Data at China's Shanghai University, Glennon with Japan's Kwansei Gakuin University in Osaka, and Dehe with Thai academics at both Thammasat University, Bangkok, and Khon Kaen University, Khon Kaen.

How staff engage with or develop relationships with key users, beneficiaries and audiences

Academics have strong relationships with a wide range of stakeholders. An important mechanism for this is the UCRKE Advisory Boards, which comprise policy-makers, practitioners and other research users who advise on, and co-create, the Centres' research agendas. Internal infrastructure further supports development of stakeholder relationships; for example, the impact infrastructure described earlier, and outward facing mechanisms, such as Metropolis. Connecting with these stakeholder groups has clear benefits for the research environment. As above, UCRKE advisory boards co-create research agendas of external relevance and offer feedback loops as to their impact and success. Working more widely with policy-makers and practitioners also serves to create a vibrant research culture, which emphasises research that makes a difference to individuals, businesses and communities.

Wider contributions to economy and society

The School's wider economic and societal contributions go far beyond those reported in our impact case studies. Place management researchers in *Business Transformations* work with an extensive range of partners, including the Landscape Institute; the National Association of British Market Authorities; Springboard; and Manchester City Council. Across these partnerships, they have substantial impact on place management strategy and activity at local, regional, national and international levels; for example, the Markets Matter study, for NABMA (National Association of British Markets), to identify the role of markets and their contribution to the local economy. Digital Transformations researchers (Jung) have had projects relating to tourism (with Lake District National Park, Manchester Jewish Museum and Geevor Tin Mine Museum, Cornwall).

There are strong regional relationships in employment research, where researchers are evaluating Greater Manchester's Good Employment Charter (Crozier and Lupton). Lupton was a member of the Charter's implementation Steering Group and, in July 2019, a workshop at the School brought together employer representatives, trade unions and other stakeholders to share developments and current thinking (Crozier). The School is also represented on the body awarding Charter membership (Davies) and on its Advisory Board (Atkinson). Academics have also contributed to wider action around the advancement of women's employment, careers and pay. GM4Women2028 aims to make Manchester a leading city for gender equality, and researchers have been involved in the Pankhurst-Fawcett Gender Scorecard, which has been developed to monitor progress to 2028 (Rouse and Pankhurst). Kislov is Co-Investigator for the National Institute for Health Research's Greater Manchester ARC (Applied Research Collaboration), which aims to promote the translation of healthcare research into practical

benefit. Research by Crozier, Atkinson and Bresnen has engaged the GM Health and Social Care partnership on Allied Health Professional workforce issues across the north. At national level, Bresnen's work with Highways England explores development of more effective supply chain partnerships. Other examples of a wider contribution include Atkinson's work for the Chartered Institute of Personnel and Development, on the menopause at work, which has also had a wide-ranging audience and impact.

Academics in *Future Economies* have built strong relationships with business in relation to economic and policy work, e.g. AJ Bell, Bank of America, Morgan Stanley, and Credit Suisse; with business organisations, e.g. the Chamber of Commerce and Institute of Directors; and with policy-makers including: The Greater Manchester Combined Authority (GMCA), HMRC, the Treasury, the House of Lords, Parliamentary Committees, and the Industrial Strategy Commission (Berry). We have an existing joint seminar series with HMRC and, in November 2019, launched a new seminar series in conjunction with the UK's largest Chamber of Commerce in Manchester to provide a forum to support open conversation between academics, businesses and policy-makers. This has already identified gaps in research and literature to inform policy design by GMCA and wider stakeholders, as well as exploring barriers to using academic research by policy-makers in real-world, contemporary scenarios.

Public engagement

We engage in many different ways with the public and diverse communities. As noted above, the UCRKEs have advisory boards; we take part in festivals, seminar series and other events, have Metropolis Fellowships, and use social media and blogs and other vehicles, such as the Conversation (where we have made 56 contributions since 2014). Examples of these activities follow:

In *Business Transformations*, place management researchers have given presentations on their research in various countries including: UK, Croatia, Finland, Australia, USA, Germany, Greece, Spain, Italy, Thailand and Luxembourg. Events include industry conferences and public events, e.g. Inter-American Development Bank; NABMA Conference; Victoria State Government Vacant Shops Forum; Boosting Britain's High Streets, Westminster Briefing. There is strong business and public engagement activity in employment research: indicative of this, at the formal launch of *Decent Work and Productivity* in May 2019, keynotes were given by then Director of Research at the International Labour Organisation (Prof. Damian Grimshaw) and by the Mayor of Greater Manchester (Andy Burnham). Researchers have also been heavily involved in the 100 Years Centenary Celebration programme of women's right to vote in Manchester. To promote women's leadership, a toolkit for Generating Routes for Women's Leadership was launched. Presented at the Top Employers Institute Conference on equality and diversity at Manchester Metropolitan in 2018, it has now been rolled out across firms in the region. A partnership has also been established with Greater Manchester Housing Providers (GMHP) to develop routes to leadership for BAME employees via a coaching programme involving directors from 13 housing associations. Academics have co-founded and/or work with national and international academic and practitioner bodies, such as Press for Change (the UK's trans rights lobby group), The Female Founders Forum, The Small Firms Enterprise Development Initiative, and Women's Enterprise Policy Group. Engagement with SMEs is extensive, particularly through several large-scale ERDF projects dedicated to small business development across the region and work done on developing associated training and business improvement initiatives. There is also substantial public engagement in wider economic matters: for example, there is a monthly seminar series, 'Future Policy Challenges', sponsored by HMRC, delivered in both Whitehall and

the Business School and attended by policy-makers, business and academics. We have also hosted the GMCA Analysts events.

Contribution to sustainability of discipline

The School's responsiveness to national and international priorities has been evident during the global pandemic caused by COVID-19. For example, place management researchers re-purposed the High Street Task Force project to address the crisis experienced by the High Street. They designed a four-stage model for Post COVID-19 town centre recovery, which is being used by numerous place partnerships, such as Business Improvement Districts (BIDs) and local authorities to structure their response to the situation. The High Street Task Force Sector Leaders Group (including representatives from IPM and The Bid Foundation (TBF), as well as a range of industry bodies, such as the British Retail Consortium) is using the model to feedback concerns to Government and it is a channel for informing/influencing policy. Research into self-employment has also flagged up gaps in policy support for the self-employed and, via GMCA networks, fed into Government policy discussions. *Future Economies* researchers have published high-profile thought pieces on the tax implications of COVID-19 support measures in, for example, *The Guardian*.

The School has also contributed on other priorities; for example, several academics are members of the ESRC Productivity Insights Network and have also been influential in industrial strategy where Berry is a Member of the Industrial Strategy Commission. Spence is a member of the Expert Panel on the Yorkshire Industrial Strategy and Berry is also a member of the commissioning panel for the ESRC Governance After Brexit programme. Researchers in *Decent Work and Productivity* are also actively underpinning the national agenda on good work (as per the Taylor Report) and the ESRC-funded Good Employment Learning Lab and their work on GM's Good Employment Charter are particular examples of contributions here.

In other areas, the School has representation of scientific advisors to the Chartered Association of Business School's Academic Journal Guide (Tuselmann and Urquhart) and an expert member of the Future Retail City (Warnaby). Academics also hold positions on the Council for Scientific and Industrial Research (CSIR), Pretoria, South Africa - Advisor (Naude); the equivalent of the REF subject panel in Hong Kong (Naude) and an advisor on the Computer Science panel to the Finland Academy of Science (Urquhart).

Collaborative arrangements for PGR training

The School has access to the White Rose Doctoral Training Partnership (DTP) training programme as part of the University's membership of this DTP. We are also an active member of NARTI, meaning that our students have access to both foundational and advanced research training. The *Centre for Policy Modelling* has also been a partner in a Marie Curie International Training Network in the period, offering two studentships, and supporting and benefitting from the network training offered.

Indicators of influence

Academics across the three UCRKEs have substantial influence through, for example, journal editorships, participation on grant committees, fellowships, prizes, membership of Research Council or similar committees, invited keynotes, lectures or performances, conference chairs, and refereeing publications or proposals. A selection of these is presented below, though space precludes an exhaustive description of these indicators:

Journal editorships/editorial board members

Business School academics hold over 70, mainly international, journal editorial and editorial board appointments, and over 200 journal reviewer positions. Many are with highly-ranked journals in the field, including journals in the Chartered Association of Business Schools Academic Journal Guide. Examples of editorships include: the International Journal of Sustainable Development (Andreoni); the European Management Journal (Dehe); the Public Management Review (Glennon); International Series Editor, Diplomacy and International Relations (Lee); Marketing Theory (Warnaby); and the European Journal of Information Systems (Urquhart). Examples of editorial board memberships include: Work, Employment and Society (Atkinson); Regional Studies, Regional Science (Beel); the Journal of Business Research (Kerrane); the Journal of Business-to-Business Marketing, the Journal of Services Marketing (Naudé); the Journal of World Business (Tüselmann); and the European Journal of International Management, (Kuznetsova).

International conferences

Over 20 international conferences have been held at the Business School. Examples include:

The 17th International Conference on Human Resource Development Research and Practice Across Europe (UFHRD) (2016, Atkinson); The 3rd and 4th International AR & VR Conferences (2016 and 2017, Jung); The 12th International Organisational Behaviour in Health Care (OBHC) Conference (2020, Kislov); The 28th Annual European Association of Evolutionary Political Economy Conference (2016, Kuznetsova); The Institute of Place Management (IPM)'s 4th International Biennial Conference (2017, Parker); The Contemporary European Studies Conference (UACES) (2019, Simpson); and The 42nd Academy of International Business UK & Ireland Chapter Conference (2015, Tuselmann).

Policy advisors/Advisory board members

Academics hold more than 170 advisory roles, (many international), and examples include:

The Economics and Resource Analysis Group (ERAG) Advisory Group – Applied Econometrics sub-panel (Albertson); Board Member, Greater Manchester Employment Charter (Atkinson); Member of the Industrial Strategy Commission (Berry); Associate Fellow of the think tank of The Institute for Public Policy Research (IPPR) (Cook); IAE Lyon School of Management, international advisory board member (Davies); The Department for Business, Energy and Industrial Strategy Advisory Board – review of Shared Parental Leave (Kerrane); Member, Government for Science/ESRC Working Group on Covid-19 Areas of Research Interest, Rebuilding a Resilient Britain project (Lee); The Council for Scientific and Industrial Research (CSIR), Pretoria, South Africa, Advisor (Naudé); Member of the Expert Panel on the Yorkshire Industrial Strategy (Spence); Member of Advisory Board/Member of United Nations Conference on Trade and Development (UNCTAD) World Investment Forum (Tuselmann).

SIG, academic and professional body members

Academics are involved in, and influence, their disciplines via both academic and professional bodies. Examples include:

The Chartered Institute of Personnel Development Manchester Branch, Fellows Forum Leader (Atkinson); ESRC grant panel members (Atkinson, Berry and Rouse); Chair, Social and Sustainable Enterprise Network, The Institute for Small Business and Entrepreneurship (ISBE) Special Interest Group 2014-5 (Bull); EFMD's doctoral conference steering committee member (Davies); The Health Research Board (HRB), Ireland and Applying Research into Policy &

Practice Postdoctoral Fellowships Review Panel – Member (Kislov); Track Chair with the US-based Production Operations Management Society (POMs) annual conference (Reid); Elected Secretary, University Association for Contemporary European Studies (Simpson); Member of the EPSRC Peer Review College (Urquhart).

Visiting professors and fellows (with institution, country)

In the REF2021 period, we have appointed over 35 Visiting Professors and Fellows, drawn from both the UK and internationally, who provide expertise and guidance, and contribute to our research environment through, for example, seminar delivery, PhD supervision and joint publication and bidding activity. Our Visiting Professors include: Andrew Pendleton (University of New South Wales, Australia); Helle Neergaard (Aarhus University, Denmark); Keith Townsend (Griffith University, Australia); Jane Parker and Jim Arrowsmith (Massey University, New Zealand); and Sebastian Kaiser-Jovy (Heilbronn University, Germany). In line with our impact agenda, we have also made a number of visiting appointments from professional practice including Mark Jarvis (investment banking); Laoise Flanagan (CMO, Deloitte, North West Europe) and Charlie Ball (Head of HE Intelligence for Prospects).

Keynote and invited speeches

The esteem in which academics are held is reflected in the wide range of keynote and invited speeches delivered. Examples include:

Invited Speaker at The Centre for European Politics, University of Copenhagen (Berry); Invited plenary presentation at the joint *Guidelines International Network and Joanna Briggs Institute (G-I-N/JBI) Conference* in Adelaide, South Australia on 30 October 2019 (Kislov); Editor and Chair of a series of State of the Art Reviews on Women's Entrepreneurship for the BEIS/ESRC Enterprise Research Centre, presented at The Shard, March 2020 (Rouse); Invited speaker at ITB Berlin (Leading world travel fair) in Berlin 2019 (tom Dieck); The Centre for Analysis of Social Exclusion, London School of Economics (Simpson).

Staff holding visiting positions elsewhere

Staff hold over 30 visiting positions in the UK and internationally. Examples include:

The Center for Empirical Research on the Legal Profession, University of California, USA (Francis); The Australian Centre for Health Services Innovation, Queensland University of Technology (Kislov); New Zealand Social Innovation and Entrepreneurship Research Centre: Massey University (Lewis); Global Europe Centre, University of Kent, Canterbury, Politics & International Relations, Canterbury (Simpson); The Centre for Architecture and the Visual Arts (CAVA) (Warnaby)

Awards made to academics

Over 150 awards have been made to academics in this period. Examples include: Fellow of the Academy of Social Sciences 2015 (Whittle); Winner of Sport, Business & Management: An International Journal Outstanding Paper in 2015 Emerald Literati Network Awards for Excellence (Gillooly); The HE Entrepreneurship Education International Journal of Gender and 2016 Emerald Literati Network Awards (Jones); The International Federation for IT and Travel & Tourism (IFITT) Journal Paper of the Year Award (Jung); The Emerald Outstanding Paper Award 2018 (tom Dieck); The Special Recognition Award of the Journal of International Business 2016 (Tuselmann); Awarded Fellow of the Association of Information Systems, Finland

Academy of Science (Urquhart); 2020 Winner, The American Marketing Association-EBSCO Annual Award for Responsible Research in Marketing (Warnaby).
