

Institution: University of Surrey
Unit of Assessment: 17- Business and Management
<p>1. Unit context and structure, research and impact strategy</p> <p><u>Context and structure</u></p> <p>With a global reputation and distinctive research strengths, Surrey Business School (SBS) is a leading research-intensive business school, best known for innovative research in the areas of digital economy, business analytics, business transformation, leadership, quality of working life, sustainable innovation, and responsible management. SBS is research-led with a supportive, diverse and vibrant research culture. Knowledge is advanced through rigorous, original and pioneering research with impact delivered both locally and globally. Working closely with business, public sector and charitable organisations, researchers publish in world-leading journals and disseminate research widely beyond the academy. Over the REF2021 period (2014-2020) SBS research outputs have been cited more than 2.5 times the UK average with a field-weighted citation impact (FWCI) of 2.61 and 57% of publications have an international co-author (Source: SciVal).</p> <p>The SBS mission is to inspire and enable positive change in business and society, for individuals and organisations, locally and globally by delivering impactful research and programmes which promote a global and digital mindset for the future of business. Positive change is enabled through stakeholder collaboration and high-quality, impactful business and management research combined with the strengths of a technology-led university. Central to this is the recognition of the importance of a socially responsible outlook for understanding the role of business in building a better society. Since 2015 a core strategic aim has been to create significant and far-reaching research impact for business, policy and the third sector. This has been enabled through considerable investment in people and resources.</p> <p>The UoA 17 REF2021 submission comprises 53.55 FTE. SBS has grown in research intensity, invested in research and strengthened capabilities and training to respond to the changing external environment. Investment in research over this REF period has enabled the recruitment of top-quality researchers, a focus on output quality, impact and funding success, and strengthened research leadership and core expertise via resourcing of departments and interdisciplinary Research Centres. It has also expanded the provision of facilities, administrative research support and project management. SBS is also committed to the career development of Early Career Researchers (ECRs) and Post-Graduate Researchers (PGRs) (ECR and PGR support details are provided in section 2). During this REF period SBS total research income was £4.345 million, with average research income of £620,714 per annum (the REF2014 average research income was £316,400 per annum for the Business and Management UoA). Funding was from a range of sources including UK Research Councils, the European Commission, industry partners, and other public and charitable sector organisations. This increase in average yearly research income during the REF2021 period was achieved through diversification of funding sources as well as tailored support for grant application development and submission.</p> <p>Research is organised around six subject-focused departments and two core interdisciplinary Research Centres, supported by an additional management education focused Centre. Reflecting a thriving community of PGRs, SBS awarded 56 research degrees in this REF period. In 2019/20 SBS had over 2,000 undergraduates, approximately 760 taught postgraduates and 38 registered postgraduate research students (PGRs). It is one of nine Schools in the Faculty of Arts and Social Sciences (FASS), one of the University of Surrey's three Faculties. SBS research strengths align with the University Research and Innovation Strategy and interdisciplinary cross-Faculty priority themes, namely digital innovation, sustainability and technology and society, drawing support and funding from them.</p>

The Dean (Wood) is responsible for overall strategic, financial and operational management. The Director of Research (Di Domenico) is responsible for research strategy and management. All researchers and PGRs are based in one of six departments (subject units), each led by a Head of Department (HoD). SBS also has interdisciplinary Research Centres, which are designed to enable researchers from different departments, and elsewhere in the University and externally, to come together to develop joint projects, creating a dynamic and collaborative research environment. The School, Faculty and University have invested in the growth and development of SBS Departments and Research Centres through targeted recruitment of faculty with expertise that reinforces the School's research strengths, ECR/ PGR support, and provision of administrative staff.

The Departments are: **People and Organisations** (led by Woodhams); **Marketing and Retail Management** (led by Jayawardhena); **Finance and Accounting** (led by Buchanan); **Strategy and International Business** (led by Rajwani); **Business Transformation** (led by Aitken); and **Digital Economy, Entrepreneurship and Innovation** (led by Gawer). Research originates within each of these subject areas and from internal and external collaborations beyond them. The departmental structure provides research continuity and sustainability, allowing for the School to evolve and develop according to its research strengths and priorities. For example, since REF2014 the Department of Business Transformation was formed partly to spearhead research excellence in business analytics, and the former Entrepreneurship and Innovation Department is now the Department of Digital Economy, Entrepreneurship and Innovation, reflecting the growth of and investment in the digital economy as a core research focus.

The **People and Organisations** Department conducts cutting-edge research in organisational behaviour and human resource management, driving forward the School's global reputation and strengths in areas including leadership, quality of working life and responsible management. The **Marketing and Retail Management** Department researches retail marketing, services marketing, and consumer behaviour. Researchers in **Finance and Accounting** carry out world-class research that positively impacts the financial services sector in areas including FinTech, corporate governance, corporate finance and macro-finance. The Department of **Strategy and International Business** is influential in the fields of international business, trade and strategic management. The **Business Transformation** Department is a leader in business analytics and sustainable supply chain management research. The Department of **Digital Economy, Entrepreneurship and Innovation** is internationally recognised as being at the forefront of pioneering research on the digital economy, digital and business transformation, entrepreneurship and sustainable innovation.

SBS also encourages dynamic research and collaboration via interdisciplinary **Research Centres** that support its strategic research objectives (discussed below), drawing members from departments across the School, wider University, and external national and international research communities. Following REF2014, SBS has built on the success of existing research and moved towards an arrangement of having two core Research Centres as well as one further centre focused on management education and pedagogy. The Research Centres serve as research *hubs* positioned to address key societal-level research challenges organised around identified thematic clusters. Research Centres carry out timely and impactful research pivotal to the research strategy. The **Research Centres** are the **Centre of Digital Economy (CoDE)** and the **Centre for Social Innovation Management (CSIM)**. The pedagogy-focused centre is the **Centre for Management Education (CME)**.

The **Centre of Digital Economy (CoDE)** is a leading, world-class research centre. Led by Gawer (CoDE Director), CoDE is internationally recognised for its research which is organised around five thematic clusters: **digital entrepreneurship and innovation; digital platforms and new business ecosystems; digital transformation of government; ethics and privacy of big data; and social media**. Facilitated by its global research reputation, CoDE attracts and includes leading researchers from the School, across the University and internationally (e.g., leading researchers recruited by SBS over this REF period include Castello Molina; Gawer; Parry; Tee; Vanhaverbeke).

The **Centre for Social Innovation Management (CSIM)** conducts research into social innovation and entrepreneurship, responsible management and social impact investing. Led by Matos, CISM has three thematic clusters: **sustainable innovation and entrepreneurship for social inclusion; social impact investing** and **responsible management**. CSIM has a national and growing international reputation. This is reflected by for example, its pioneering work on recent global societal challenges for business and policy makers in more advanced and developing economies, such as those in Europe and South America. CSIM activities have been further boosted in recent years by increasing membership, including joint collaborations with members who contribute to both CoDE and CSIM (e.g., Bonina; Castello Molina; Di Domenico).

The **Centre for Management Education (CME)**, a pedagogy-focused centre, enhances teaching excellence through industry-informed innovative curriculum design, staff development, research and events. Serving as a *bridge* between research and teaching, it supported research-led digital learning and collaboration, effectively addressing challenges exemplified by the Covid-19 pandemic. A well-resourced, hybrid model was developed, combining face-to-face and virtual working to facilitate collaboration between colleagues, PGRs and students, leveraging investment in IT infrastructure and digital platforms.

Research strategy and objectives

Over the assessment period SBS achieved the strategic aims it set itself following REF2014. These were as follows:

- a) *To create an environment where business and management research is valued as an indicator of personal achievement, a contribution to disciplinary knowledge and a tangible benefit to society.***

SBS nurtured personal achievement and research collaboration. Disciplinary knowledge and engagement with business and society were supported and enabled through collaboration between Departments, Research Centres and disciplines across the School, wider University and externally with stakeholders. For example, the CoDE Research Centre achieved notable success in further enhancing its world-renowned international profile, and researchers proved highly successful in raising research income in collaboration with researchers externally and across the University (e.g., Computer Science and Engineering). Investment in the CSIM Research Centre facilitated its growing reputation and contributions to several of the School's main research strengths (e.g., sustainable innovation and responsible management). Also, the University of Surrey Business and Economics Experimental (USBEE) Behavioural Laboratory was established in 2019 to support world-class experimental research through £76,000 of University capital investment. Consequently, through its strategy, structure and organisation, SBS created an environment where researchers thrived both in terms of their individual contributions and their collaborations (see section 4 for evidence of esteem indicators, collaborations and contributions to the research base, economy and society).

- b) *To support and encourage staff to produce work of the highest possible calibre in relation to their international peers and of sufficient value to be worthy of external funding.***

SBS grew and strengthened its departments and Research Centres, investing in staff and creating clusters of world-leading scholars. Established senior researchers and ECRs have joined SBS over this REF period, further strengthening research activity. External funding bids and publishing in high esteem journals were enabled through training and development focused on supportive peer review, mentoring, and workloads, including dedicated research time for all researchers, from ECRs to professors (see also section 2 on people: staffing strategy and staff development). This evidence of vitality and sustainability has resulted in high quality and quantity of research outputs and £4.345 million research income over this REF period (REF2014 research income was £1.582 million).

c) *To foster collaborations that bring intellectual vitality, insight and innovation to bear on consequential problems.*

Collaboration is embedded within the research strategy. This was facilitated by, for example, strengthening Research Centres as collaborative *hubs* for researchers across departments, the wider University and externally. Investment included recruitment of top-quality researchers and strengthened research leadership. Collaborations involved working with a range of stakeholders, including through joint funding bids with industry partners/other Universities, Knowledge Transfer Partnerships (see section 3 for examples of KTP projects), consultancy, and industry PhD partnerships/co-funding. SBS hosted international researchers via the visiting scholar programme and actively engaged alumni in research events and activities. Collaborations were built with research funders, major corporates, Technology Research Centres such as the 5G Innovation Centre, and innovative SMEs including those at the Surrey Research Park, a centre of excellence in technology, science and engineering. Examples of successful collaborations included the HEFCE-funded 'Innovation Gateway for Connected Digital Economy' project involving CoDE and other SBS researchers (with the 5G Innovation Centre and numerous industry partners) and UKRI funded projects exploring Blockchain and Distributed Ledger Technologies (DLT) alongside academics from across the University. The diversity of funding sources over the REF period evidences a highly collaborative approach.

d) *To develop a world-class PhD programme that produces graduates who will be sought by top international business schools or businesses.*

Over the REF period SBS also invested in the development and launch of tailored, cutting-edge methodological training and career development courses. Since REF2014 these have become mandatory for all first year PGRs, providing a rigorous doctoral training foundation supported by high-quality research supervision. SBS PGRs provided a 92.9% overall satisfaction score in the 2019/20 AdvanceHE Postgraduate Research Experience Survey (PRES) (see section 2 for PGR programme details and development activities).

Enabling impact

A key strategic aim for SBS has been to enable and enhance impactful research. Creating impact from its world-leading research has been a high priority for the School. Impact is considered within recruitment and staff are recognised for impact in appraisals. Pump-priming awards are available locally and centrally and regularly taken up by colleagues (e.g., Hilson received £2,000 in 2017 for stakeholder visits to support research impact), with ECRs encouraged and supported to apply for funds. The University won an ESRC IAA (Impact Accelerator Award) grant of £1 million (2019-23), which has been used to facilitate impact during this REF period and beyond.

SBS actively plans and nurtures impact of different types, as reflected by the range of impact case studies. The Research Impact Lead (Parry) led and supported impact. Support for impact included training events to raise awareness of impact pathways, cultivating, and communicating with, potential user groups and providing time and financial support to impact authors and others. The selected case studies evidence the approach to enabling, and achieving, impact in line with the SBS mission and research themes. Brief impact case summaries and lead authors are provided below (other impact evidence beyond the 5 submitted cases and examples of developing impact are provided in section 4).

- Research impacted Argentinian policy-making; unilateral tariff reductions and talks with MERCOSUR, a 270 million inhabitant trading block, and the EU-Mercosur free-trade deal; leading to tariff-reform proposal and partial revision of the Common External Tariff (CET) of MERCOSUR (Carluccio).
- In sub-Saharan Africa (SSA), reform of artisanal and small-scale mining (ASM) entails policy change and engagement of individual operators. Research has provided a voice

for 500,000+ female gold panners in Mali; shaped ASM policy architecture across SSA; and guided donor interventions, including the €13 million UN/ACP/EU Development Minerals Programme and World Bank ASM projects (Hilson).

- Research on employee involvement in workplace decision-making as a key element of job quality has shaped UK and Welsh government policy, influenced policy in the OECD, and been adopted in the G20 Labour and Employment Ministers' Ankara Declaration in 2015 (Zhou).
- Research on digital transformation in government has developed a tool for the Organisation for Economic Co-operation and Development (OECD) to assess its digital government directives. Research also impacted digital government strategy in Colombia, new legislation in Costa Rica and open data for business strategies in Argentina as part of an influential World Bank report (Bonina).
- Research influencing the retail experience, consumer behaviour and price management has triggered successful changes to the strategic positioning, store concept and service portfolio of a major European wholesaler supplying over 57,000 convenience stores, and successful changes to their wholesale pricing strategy leading to a 3% increase in sales for 20,000 German customer stores; category and price management reform of a petrol station chain; and to the services that the Association of Convenience Stores (ACS) offer their 33,500 organisational members (Benoit).

Future strategic aims and goals for research and impact

Over the next five years SBS will:

- (i) maintain and extend a culture of research excellence;
- (ii) continue to be a leader in field-defining research;
- (iii) produce world-class outputs; and
- (iv) use impactful research to contribute to society and the economic base.

To achieve this, the School's strategic research aims, targets and enablers are as follows:

1. **To continue to focus on research quality, world-leading expertise and publications.** SBS will maintain its focus on areas of research strength. Delivery will be evidenced by publication in world-leading journals, strong engagement with business and policy-makers, research-led teaching, income streams indicative of research quality (through peer review) and sustained by necessary levels of investment in infrastructure and research time. Enabled through mechanisms including mentoring, provision of research infrastructure and administrative support and guidance, these activities will be supported through career development and appraisal as well as annual output reviews (AOR) of publications by both internal and external assessors. Fundamental to this approach is a commitment to the principles of openness, integrity and research ethics.
2. **To grow the range of impactful and relevant research developed by SBS.** To ensure SBS continues to support vitality and sustainability of impact in the future, the strategy will support a "culture of impact" to affect commercial activity, policy, the third sector and wider stakeholders. This will be further enabled by activities including a researcher development programme, impact workshops and doctoral programmes supporting high-impact research. Research impact will continue to be supported by the School Impact Lead and impact mentors, including external experts where required. Structured support will be provided through an Impact Committee, the SBS Advisory Board, and corporate and third sector partners.

Research strengths in the areas of digital economy, business analytics, business transformation, leadership, quality of working life, sustainable innovation, and responsible management will be proactively resourced and supported throughout the next REF period. This approach includes an emphasis on future collaborations and initiatives (e.g., Oct 2020 – Sept 2025 EPSRC £4.65 million 60-month EPSRC Decentralised Digital Economy Centre, partnering 30+ companies, Universities of Surrey and Edinburgh, and

the Digital Catapult, with SBS as a key partner). Emerging and complementary research areas may be identified where appropriate.

3. **To further develop a supportive and collaborative research culture.** Senior academics support ECRs through mentoring and peer review. SBS will continue to run its series of popular research seminars through its Research Centres and Departments and support PGRs through its leading 1+2 PhD programme. SBS will also develop an Executive PhD programme built around the needs of those seeking to undertake PhD study part-time whilst in employment. This is based on a goal to grow PGR student numbers to approximately 75 by 2023/24. These aims complement the University's overall Research and Innovation Strategy, which aims to grow the PGR and ECR communities and enrich their experience and preparation for future careers. This would solidify SBS and the wider University as a first-choice destination for aspiring research leaders.

Research collaboration at all levels will be supported. For example, the Visiting Researcher Scheme will be further promoted to support leading internationally-recognised researchers and the creation of new collaborations. All academics are allocated funds to present at least one refereed paper per year at high esteem conferences, including strategically-targeted conferences outside Europe (e.g., Academy of Management). Flexible use of the conference funding model will be encouraged, maximising opportunities for collaborations and learning. Collaborative bid development will be enabled through mechanisms including interdisciplinary sandpit and other facilitative events and support.

These strategic aims inform overall planning and the School 2020–2025 five-year plan. The SBS Dean (Wood) and the Director of Research (Di Domenico) have responsibility for defining strategic aims in collaboration with Department and Research Centre Heads and colleagues, and ensuring they are met. The Impact Lead also champions and supports impact. The heads of the six SBS Departments have responsibility for developing research activity at subject level, alongside engaging with research streams from other Departments and in collaboration with Research Centre heads. These are monitored and reviewed by the Senior Management Team (SMT). The Faculty Research Committee, led by the Faculty Associate Dean (Research & Innovation), acts as an intermediary between SBS and the University Executive. It receives regular updates on School progress and performance against targets, providing direction and support from the University Research and Innovation Committee, led by the Pro-Vice-Chancellor, Research and Innovation. Strategic aims and targets are appraised in line with this structure to ensure they continue to leverage the School's research strengths and address opportunities and challenges both internally and externally. Individual staff members have research targets set annually at appraisal. These are necessarily stretching, and are fully supported by training, infrastructure and investment. These targets prioritise research quality, publications, research income, impact, esteem, external engagement, collaboration and working with industry and policy makers.

Open research and integrity

SBS is committed to transparency, open communication and making research findings widely available to other researchers and the public in accordance with the University's open access policy. Researchers work closely with the Open Research and Surrey Research Insight (SRI) teams as well as the University's academic lead for research culture and integrity, embedding open practices across all activities including publication, impact and dissemination. In accordance with the *Concordat on Open Research Data* SBS promotes and supports open access to publications, data and other outputs wherever possible. This is a key part of the research strategy and regularly emphasised to colleagues in communications, meetings and reviews. Examples of application of open research activities include: data and publications are shared through the SRI open access repository and researchers deposit all outputs at the point of acceptance; upon completion, all PGRs deposit an electronic copy of their thesis in the SRI

repository; researchers are encouraged to use ORCID profiles; regular presentations cover topics including Open Research, research visibility, impact, data management, and open data approaches; and periodic checks ensure practice is actioned. Commitment to openness cuts across research strengths, thematic clusters and impact. For example, a submitted impact case (Bonina) focuses on open data (see 'Enabling Impact', this section).

SBS supports staff and student engagement with ethical and legal research aspects to ensure a culture of integrity. Formal processes ensure research of the highest ethical standards. The University Research Integrity and Governance Office (RIGO) provides guidance on proposals and ethical review submissions. SBS works closely with the University's research legal contracts department. Data is stored securely, maintaining subject confidentiality where relevant, and preventing unauthorised access or loss.

The University Ethics Committee (UEC) focuses on research with human participants and has a diverse, interdisciplinary membership including lay representation. It works closely with the Faculty Ethics Committee, Chaired by an SBS academic (Kreuzbauer). SBS prioritises high quality research ethics education, a key part of UG, PGT and PGR programme content. As an advocate of ethics, responsibility and sustainability in business and management, SBS became a signatory of PRME (Principles for Responsible Management Education) in 2017.

2. People

Staffing strategy and staff development

SBS has successfully managed growth in UG/PGT student numbers while developing world class research specialisms and embedding professional business expertise into the School. Category A eligible staff included in this submission comprise 21 Professors, six Readers, 10 Senior Lectures and 19 Lecturers.

SBS recognises that ensuring effective approaches to the recruitment and support of staff and research students is crucial to sustaining a thriving research culture. Strategic investment in Departments and Research Centres and the creation of a diverse body of researchers enhanced the vitality and sustainability of the research culture over this REF period. Pivotal to the School's research strategy has been recruitment, development and retention of researchers with a track record or potential to publish, raise income and generate impact at world leading and internationally excellent levels. There is an explicit commitment to, and expectation of, high calibre research. This is reflected by the research staff output and impact profiles and rising research funding.

Since REF2014, colleagues who have left through a combination of career progression and retirement have been replaced on a like-for-like basis. In addition, in areas of research strength and strategic importance, the School grew and built capacity through recruitment (e.g., Aryee, Benoit, Buchanan, Gawer, Jayawardhena, Parry, Rajwani, Travlos, Vanhaverbeke, Woodhams), enabling effective management of research activity and succession planning. Reflecting a strategic focus on developing staff and research activity, SBS also recruited high-potential early and mid-career researchers, providing an environment and culture in which they can excel. This augmentation of research leadership included attracting and retaining talented ECRs. Where new staff are recruited, priority is given to researchers with strengths that align well with existing research areas and thematic clusters (see section 1). SBS also has a track record of supporting existing staff, evidenced, for example, by promotions and career development. Support is available to staff seeking progression, including ECRs, which comprises of mentoring and processes for identifying future candidates suitable for promotion and leadership development through the annual appraisal. Research active colleagues at various career stages were successful in this REF period. Excluding teaching-focused roles, the majority (eight) were from lecturer to senior lecturer, one lecturer A to B, four from senior lecturer to reader, and a senior lecturer and a reader to professor.

All colleagues are recognised for their outputs, bids, impact and other activities through appraisal. Colleagues can apply to, or nominate peers for, competitive School awards including 'Researcher of the Year', 'Innovator of the Year' and the 'SBS Impact Award'. Winners are considered for Faculty level awards and may be put forward for annual University Research Excellence Awards. There are also competitive awards for 'PGR Student of the Year' and 'PGR Supervisor of the Year'.

Dedicated research time is facilitated using a workload model ensuring researchers can devote approximately 40% time to research. Colleagues have access to and are encouraged to make use of research-related development opportunities including, but not limited to: research leave (sabbatical); training workshops (e.g. bid writing, data analysis software, pathways to impact); a generous conference attendance policy enabling engagement in leading UK and international conferences funded from Head of Department (HoD) budgets, individual research fund allocations in addition to conference and other allowances; funding for data sets and computing software/hardware; further HoD-managed funds for activities including research seminars, away days and seminar series attracting leading scholars; and various 'pump-priming' competitions including seedcorn funding. Internal financial research support is primarily via the School-level research budget, complemented by Departmental allocations. All researchers, including ECRs, have access to seedcorn funding (e.g., via a School research budget), providing financial support for new research projects, data collection and other resources, and facilitating impact activity and development of external funding bids (e.g., Hilson's research on Sub-Saharan Africa artisanal small-scale mining). Other examples include attendance funds for the 2019 OGP (Open Government Partnership) Global Summit, Ottawa, Canada (Bonina) and funds for a 2019 research symposia series (Ahmed). Tailored funds are also provided for themes or facilities for researchers with early stage, experimental and collaborative work. For example, using the School's interdisciplinary USBEE (University of Surrey Business and Economics Experimental) Laboratory infrastructure, SBS provides funding via its 'Trailblazing Award' (i.e., £1,000 for projects); 'Grant Application Award' (i.e. £1,100 to prepare larger grant applications involving at least one PGR/ECR); and 'MSc Thesis Award' (i.e., thesis supervision awards of £330 per student project).

Additional Faculty level support includes pump-priming funds and the annual 'Festival of Research' interdisciplinary conference. The latter brings together Schools and Departments across the social sciences. The University's Institute of Advanced Studies (IAS) also provides support for workshops bringing together researchers and practitioners and SBS researchers received competitive IAS awards (e.g., £3,500 in 2019 by Cojuharenco for hosting a 'Behavioural Science for Usable Security' workshop). SBS colleagues also secured University-level competitive funding (e.g., Heliot received two awards in early 2020: £11,000 from the ESRC Impact Accelerator Award Grant for research into workplace religious identity, and £11,552 from University of Surrey 'Lifelong Health' theme funding for research into wellbeing and resilience amidst the Covid-19 pandemic).

Support is provided to all colleagues to apply for external funding by dedicated research support staff and internal peer review. Funding calls are distributed at least monthly. Colleagues are encouraged to consider impact from the outset of bid development. Support is provided for research events, training and pathways to achieving impact through nurturing interactions with collaborators, participants, user groups and other stakeholders. The Research Applications Service team provide costings support for funding applications.

The SBS research strategy is committed to research leadership and staff development for colleagues at all career stages and the implementation of the principles of the '*Concordat to Support the Career Development of Researchers*'. These encourage recruitment and retention of researchers from the widest pool of available talent, including those from diverse backgrounds. The School works with HR colleagues to ensure explicit consideration of equality, diversity and inclusion in design, execution and monitoring of recruitment, promotion and development. Commensurate with contracts, fractional appointments carry the same research quality expectations and commitments as full-time appointments. Senior colleagues are responsible for

setting research priorities (in collaboration with the Dean and Director of Research), mentoring less experienced staff, providing publication and bidding guidance and involvement in academic networks.

There is a sabbatical policy that eligible staff can apply for and, if awarded, the typical length is one semester. In this REF period 14 SBS research colleagues were awarded sabbatical leave. Sabbatical leave is being further supported in future, with an aim of having one member of staff on sabbatical at any one time within each department.

A core part of SBS research strategy is providing ECR support through training and collaboration with senior colleagues and peers. All ECRs have a senior colleague as a mentor for research and teaching. ECRs usually have a three-year probation period during which they have reduced teaching, publication and income targets commensurate with career stage. The School has shifted to an approach whereby individual targets are set at Department level, ensuring publication and income targets are appropriate to subject discipline and field. ECR Support Groups are encouraged and actively led by ECRs themselves. For example, 'Thinking Space' is an SBS ECR group offering publication workshops, including presentations by journal editors, bidding advice and career development. These are well-attended, positively received and inclusive (i.e., although ECR-focused, PGRs and senior colleagues contribute).

In addition to its visiting scholar programme, SBS has commercial links developed through Executive Education, its Advisory Board, companies on the University-owned 'Surrey Research Park', and connections through student placements facilitating exchanges with industry, public and third-sector bodies. The School has a dedicated full-time Business Development and Advancement Manager and a full-time Business Co-ordinator to support business links and develop research and innovation funding sources. Staff working on consultancy projects can take individual payments or use monies as research funds.

SBS has an Advisory Board consisting of eleven senior managers in regional and national industry. It supports business engagement, providing an external perspective on research partnerships, development, curriculum and employability. Through their wide-ranging experiences, the Board brings strategic advice, acting as a sounding board for impact activity. Current Advisory Board members hold, or have held, senior roles in organisations including the Foreign and Commonwealth Office, HSBC, McKinsey & Co., Duke of Edinburgh's International Award Foundation, Western Union, Goodwood Estate Company, Institute of Directors, Isotrak, Celador, News International, Spezialguss Wetzlar, Rocket Fuel, Tesco, Mott MacDonald, and Shell International.

PGR students: Support mechanisms, training and supervision

Table 1 shows SBS doctoral awards over the REF period. Doctoral completion rates are strong due to an ethos of recruiting students exhibiting potential, and providing the support needed to succeed. Applicants are expected to hold a good first degree (minimum 2:1), a Master's degree (minimum Merit) in a relevant subject from an internationally-recognised university, be successful at interview, and have suitable references. Recruitment panel members and supervisors complete diversity and Unconscious Bias Training (UBT) ensuring adherence to equality, diversity and inclusion (EDI) policies. In the current REF period there were 56 doctoral awards, 50 PhDs and 6 Research-based professional doctorates (DBAs). Various mechanisms support completion rates including regular progress monitoring (i.e., six-monthly reviews), monthly supervision, and a formal oral and written assessment 12-18 months from registration assessed by two internal examiners independent of the supervisory team. 38 PGRs were enrolled in 2019/20 and research strategy is to pursue growth in PGR numbers, aiming for approximately 75 by 2023/24.

Table 1. Doctoral Degrees Awarded

Academic Year	PhD	Research-based professional doctorate (DBA)	Total
2013/14	4	2	6
2014/15	8	1	9
2015/16	6	1	7
2016/17	4	1	5
2017/18	9	0	9
2018/19	11	1	12
2019/20	8	0	8

New DBA enrolments were suspended from 2014/15 due to altered programme demand patterns. Although the DBA is no longer offered for new entrants, there is evidence of continuing demand for research-based business and management professional doctorates, particularly the PhD through flexible and part-time provision. In response to this, in 2021 SBS is launching an innovative, new Flexible Executive PhD designed around the needs of those seeking to undertake PhD study whilst in employment. Delivered as a blended six-year programme, it will have two optional two-day long schools per learning unit, structured using seven units delivered via SurreyLearn, a bespoke Virtual Learning Environment (VLE), and day schools. The new programme has been approved by the University.

SBS has a long history of supporting research students. Since 2017 the core 'Management and Business' doctoral programme has been revised and strengthened (by Aryee, PGR Director 2017-2019; and Alexander from 2020-present). The programme (full-time and part-time) commences with specialist modules focused on methodological training and broader research skills supporting students to scope out and refine proposed research. These include intensive training on advanced quantitative and qualitative methods, researcher development and publishing. To meet research goals around interdisciplinarity, doctoral training provides in-depth subject-specific knowledge and grounding on topics cutting across business disciplines. Once PGRs acquire the foundation training for their doctoral research and pass 'confirmation exams', they proceed to empirical and field research, data analysis and write-up. PGRs are considered junior academics and are an integral part of the School. Students can either write a traditional monograph or follow a three-paper dissertation model. Near to completion, they are provided with opportunities to attend professional development workshops in preparation for the academic job market.

Following the reorganisation of the ESRC Doctoral Training Centres (DTCs), the University established a Doctoral College in December 2016 to support the development of PGRs and ECRs. The Doctoral College has been a partner institution in the South East DTC and member of the South East Network for Social Sciences (SeNSS). It provides additional support to PGRs and supervisors such as training and facilitation of administration, including progress reviews and viva voce examinations. It launched its own competitive PGR studentship scheme in 2018. PGRs enrolling during this REF period included two who received competitive Doctoral College (launched 2018) studentships, 27 who received Faculty-sponsored studentships, and two who received ESRC-funded studentships covering a maintenance stipend (UKRI Rate £15,009 in 2020) and/or tuition fees waiver (one of these was a CASE-style ESRC studentship co-funded by an industry partner). PGRs receive a £750 per annum research and mobility allowance for three years full-time (or part-time equivalent) for PhD related activity (e.g., conferences, fieldwork, additional equipment).

PGRs are visible at the heart of SBS culture and thrive in the School's environment as key researchers and future aspiring academic leaders. They make valuable contributions to research strategy and are actively involved in the research agendas of their supervisors. All PGRs are attached to an SBS Department according to disciplinary focus and supervisory team, engaging with departmental events including presenting in research seminars. PGRs can also be active

members of a Research Centre, providing further opportunities for collaboration and mentorship. PGRs often help to drive business engagement and impact strategy through empirical research with industry or collaborative projects with partners and outside organisations.

The PhD programme is led by the PGR Director (Alexander), who sits on the Doctoral College Research Committee. PGRs have at least two supervisors, who receive mandatory supervision training, updated every three years. PGRs meet at least monthly with their supervisors, including monthly reporting on progress. At 12-18 months from their start date, PGRs undertake an oral assessment and submit a confirmation report assessed by two Internal Examiners who are not part of their supervisory team. Supervisors, Internal Examiners and viva/confirmation examination Panel Chairs undertake tailored Doctoral College training and refresher training. All academics eligible to supervise are expected to do so. PGR supervision is recognised within workload models and as part of promotion criteria. To facilitate ECR and mid-career researcher development, supervisory teams are encouraged to include an ECR or a mid-career researcher as a second or third supervisor.

The SBS building contains physical spaces for formal and informal interaction between PGRs and faculty. Full-time PGRs have dedicated desks in shared offices. In addition to required modules, PGRs have access to over 300 Doctoral College professional development courses, training and seminars available to academics. PGRs contribute to the annual University PGR Conference, Faculty 'Festival of Research', ESRC advanced training workshops and residential PGR Summer School.

Evidence of support for and promotion of equality and diversity

SBS is dynamic and collegiate, with an international staff body representing over 19 nationalities, and diverse knowledge and experiences that have benefited the School's research activities and environment. SBS is committed to equality, diversity and inclusion (EDI) and in May 2020 was awarded the Athena SWAN Bronze Award after successfully carrying out a detailed self-assessment of EDI approaches, policies and activities. It is also committed to University participation in national schemes including Disability Confident, Race Equality Charter Mark and Stonewall Workplace Equality Index.

SBS embeds EDI principles into its culture and workings in terms of policies and as an academic subject for research and teaching (e.g., Woodhams carried out extensive research on the gender pay gap on behalf of the UK Government Department of Health & Social Care). Staff organise regular research seminars addressing EDI. Information is shared about EDI training and staff contribute to University EDI policy work and are encouraged to take up leadership and other roles across the School, Faculty and wider University on equality initiatives and committees. Contributions are recognised in appraisals and workload (e.g., Di Domenico successfully led SBS's Athena SWAN bronze award application; Heliot contributed to University EDI policy on student diversity, religion and wellbeing).

SBS has specifically considered equality and diversity in its curation of the REF2021 submission. Publications submitted by staff for potential inclusion in this submission were reviewed by internal and external assessors as part of an annual output review (AOR) exercise. Staff had the opportunity to nominate their top five publications which fed into the output selection process. Consistent with the University's code of practice, output selection was conducted at UoA level output selection panel meetings attended by a member of the University REF2021 Team to ensure fair process and held in accordance with guidance set by the University's REF2021 Team. Membership of output selection panels took account of the population characteristics of the UoA. All attendees completed bespoke REF2021 EDI and Unconscious Bias Training (UBT).

SBS is committed to EDI in all processes including recruitment, retention, promotion, remuneration, training, and career development. For example, online UBT is mandatory for all staff and face-to-face UBT is mandatory for all staff involved in recruitment, disciplinary and

promotion procedures. Recruitment adverts for new posts are prepared by staff who have completed UBT *and* Diversity in the Workplace training. Job purposes and advertisements are scrutinised to not bias certain groups or those with protected characteristics. All disabled candidates meeting the core competencies are offered an interview. Consideration is given to whether posts can be undertaken on reduced hours/flexibility/job share. Recruitment, short-listing and promotion panel members must complete diversity training and UBT, with panels having at least 25% of the minority gender. For senior posts, one panel member is from another academic department, adding a different perspective to decision-making. Appropriate support for all staff, including those with protected characteristics, is considered in all research and support processes including external funding applications, access to internal funds, conference attendance, sabbaticals and training.

SBS promotes equality of opportunity. For example, the remote working policy has been expanded, offering more flexibility to colleagues to work from home where possible and desirable. To maximise inclusion and participation, meetings are scheduled within core hours (10am – 4pm). Occasional optional events may extend beyond core hours where unavoidable and notice is provided (virtual attendance is available). Wednesday afternoons tend to be preferred as no teaching is scheduled. The 'Flexible Working Policy' considers a wide range of arrangements, including part-time and/or term-time working, job-sharing, annualised hours and additional planned unpaid leave. In addition to part-time i.e., fractional FTE contract working (four SBS Category A eligible staff members were employed on fractional contracts as at the census date 31st July 2020), other flexible working arrangements are supported, including flexible scheduling of teaching hours as per the 'Teaching Constraints Policy'. Policies allow for phased return to work following parental leave and teaching and/or administration loads are reduced for one semester to facilitate staff reaching their research targets. SBS supports staff returning after career breaks and, where practical, approves requests for transition from/to full-time or part-time roles. Academics returning from extended leave are eligible to apply for the Vice Chancellor's Inclusion and Career Investment award for research (the Academic Returners' Award) worth £5,000. All staff, regardless of level of seniority, have the same access to research support and are eligible to apply for research (sabbatical) leave after five years' service, irrespective of FTE.

As well as adhering to University EDI policies, SBS implements local initiatives to enhance EDI, supporting staff and student wellbeing, fostering a culture of mutual respect and equality. From April 2019 the SBS 'Wellbeing Champion' role was introduced, comprising specially trained staff who promote wellbeing and enhance the relationship with the University's Centre for Wellbeing (which supports the health and emotional wellbeing of staff and students). A wellbeing newsletter and dedicated 'Wellbeing Noticeboard' feature EDI news. Colleagues have free access to an anonymous, non-judgemental online environment providing 24/7 professional support from trained counsellors. Close links are held with the University Chaplaincy (e.g., Heliot is the School's contact champion). 17 chaplains provide representation for those with faith, belief and non-belief who wish to avail themselves of their support, pastoral care or advocacy.

Regular EDI events include annual SBS International Women's Day events and the 'SBS Athena SWAN annual lecture' addressing career progression and women leaders in academe. SBS has events for LGBT History Month, Black History Month, Holocaust Memorial Day, Trans Memorial Day and Disability Awareness Week. Training and support are provided for staff and students including the Doctoral College's disability and neurodiversity service for those with additional learning needs and other disabilities, mental health 'first aid training' to support PGR and ECR mental health, the 'Rainbow Allies' network enabling staff to show support for LBGTQI+ colleagues, and anti-racism and LBGTQI+ awareness training.

3. Income, infrastructure and facilities

Research income

Income links to high quality research outputs and is considered vital for leveraging additional resources, increasing impact, developing collaborations, and enhancing team research. During this REF period SBS sought funding from a broad range of sources, earning **£4.345 million** in research income from sources including UK Research Councils, the European Commission, industry partners, and other public and charitable sector sources (£1.582 million research income was received over the previous REF2014 period).

Income-generation is supported and encouraged. SBS strategy is to further grow research income which aligns with our thematic research strengths and priority areas. Moving forward, the aim will be to particularly increase income in targeted research areas such as digital economy where, since REF2014, the School has been especially successful in generating funding. Over this REF period, awards ranged from major projects involving multiple collaborators, to smaller awards enabling completion of individual investigations. The School has funding expertise reflecting its distinctive research strengths in areas including **digital economy, business analytics, business transformation, leadership, quality of working life, sustainable innovation, and responsible management**. SBS has been active in engaging with a range of bodies including charities, private corporations and the public sector (e.g. the Department of Health, NHS England, regional authorities and Surrey County Council). This enabled identification of how business and management research can help to drive agendas and generate impact as part of a process of strategic engagement with end-users and funders.

Research income has been aligned with the strategic objective of developing more impactful research, achieved by working closely with industry and stakeholders at the outset and engaging in impact development planning throughout from the early stages of crafting funding bids. Examples of recent research income awards evidencing and reinforcing research themes and strategic priorities include, but are not limited to:

- 2020 – £23,973 **EPSRC** (UK Manufacturing Symbiosis NetworkPlus grant) **ROADS UK – Reimagining the Opportunities of Asphalt Development for Sustainability in the United Kingdom** (Cole and Aitken)
- 2018-20 – £843,000 (SBS £106,000) **EPSRC** funding as part of the **dynamic, real time, on-demand personalisation for scaling (DROPS) project**. DROPS examines privacy, trust and identity issues arising from the development of personalised e-books for children's reading. DROPS utilises HAT (Hub of All Things) micro servers developed under £2 million of previous EPSRC grants. This fully scalable technology creates a decentralised person-owned database, providing individuals with data ownership, enabling reuse when interacting with websites and apps (Parry, with Warwick, Exeter and UCL).
- 2018 – £82,927 (SBS £59,914) funding from the **Department of Health and Social Care** to research the **gender pay gap in the NHS** (Woodhams).
- 2017-22 – £2.2m (SBS £86,000) **EPSRC** project to develop the **next generation of 'Trans-Disciplinary Design-Engineers'** with skills to realise the potential of current and future manufacturing processes and techniques (Parry, with Bath and Bristol).
- 2017-20 – £1.9m (SBS £79,000) **Optimising Me Manufacturing System (OMMS) EPSRC** funding for developing a healthcare micro factory providing on-the-body therapeutics manufacturing (Parry, with Kent, UCL, Imperial, Cambridge and Bath).

SBS received research income for, and amplified impact generated by, close collaboration with industry. These included consultancy (e.g., Gawer regularly consults for major international corporations on platform and ecosystem strategy), executive education which facilitated industry engagement and income (e.g., Benoit and other colleagues regularly engage businesses such as retailers and other organisations through executive education programmes), and Knowledge

Transfer Partnerships (KTPs) via UKRI (Innovate UK) in partnership with private, public and third sector organisations. Examples of KTPs and researchers include, but are not limited to:

- 2019-2021 – KTP project with Basemap Ltd (grant amount £152,341) to develop a holistic logistics management routing software tool, enabling rapid entry/growth in the commercial electric transport market (Garn, Turner and colleague in Faculty of Engineering & Physical Sciences);
- 2017-2020 – KTP project with William Medcalf Ltd (grant amount £151,121) to prepare for expansion, formalise a supply chain and embed new knowledge enabling deployment of cutting-edge techniques for vintage cars (Aitken and colleague in Faculty of Engineering and Physical Sciences);
- 2015-2019 – KTP project with Surrey County Council (grant amount £113,490) to increase patronage of bus services by establishing new ways of identifying customer needs, behaviours and user-experience (Aitken, Garn);
- 2016-2019 – KTP with Sustainable Homes Ltd., part of Hastoe Housing Association (grant amount £138,087) to build an advanced predictive tool providing improved business decision-making promoting sustainable living for the social housing sector (Garn and colleague in Faculty of Engineering and Physical Sciences);
- 2013-2015 – KTP with the Royal Mail Group Ltd (grant amount £62,205) to transfer knowledge and capability of business analytics combined with swift even flow for optimisations and simulations of letter and parcel sorting processes (Aitken, Garn).

Infrastructure and facilities

SBS is located on the University's main (Stag Hill) campus in Guildford and housed in a purpose-built facility comprising teaching rooms, a large lecture theatre, meeting and conference facilities, staff common rooms, self-catering facilities, interactive meeting spaces, offices, a cafeteria and a full-service restaurant.

The University's Research and Innovation Strategy is a key driver for supporting innovation through investment in infrastructure and facilities. This, together with local SBS support structures, enable vibrant research and innovation, ensuring facilities and processes incentivise research and impact activities. These include proactive bid identification through an 'intention to bid' process; internal bid peer review and audits for research quality and integrity management; dissemination of short-term government/third sector calls; dedicated bid development, technology transfer and partnerships teams; contract management; pre and post award administration; and annual output review (AOR) exercises involving internal and external expert reviewers providing a rigorous, independent system for output quality. There are seedcorn, conference, and impact pump priming funding; impact support and mentoring by the School Impact Lead; facilitation of interdisciplinary bidding; ECR mentoring by senior colleagues (bids and papers); and a workload system ensuring research-active staff are allocated teaching duties commensurate with career stage (see also section 2). The latter can involve teaching in only one semester, team-taught modules and sabbaticals. SBS employs teaching fellows who undertake the bulk of teaching administration.

Infrastructure investment supports cultivation of high-quality research impact, income and outputs. Investment supports collaborative research through the interdisciplinary Business and Economics Experimental (USBEE) behavioural laboratory, providing computer and other spaces for experiments. Launched in 2019 and receiving capital investment for equipment and facilities of approx. £76,000 through University Research & Innovation Equipment CapEx Cross-Faculty funding (led by Cojuharenco) the USBEE lab facilitates world class experimental research in business, economics and other social science disciplines, promoting a vibrant research community. The USBEE Lab is SBS-based but open to all University staff and affiliated external members. It enables research including psychometric assessments, experimental design, hypothesis testing, project operationalisations, manipulations, quality checks, and data analysis. USBEE links to other facilities including the cross-faculty Digital Lab, a facility for next generation eye-tracking equipment. This joint infrastructure involves an SBS co-investigator (Cojuharenco) in collaboration with investigators in three other Schools and Departments (i.e., SBS, School of

Hospitality and Tourism Management, Department of Psychology, and the Centre for Vision, Speech and Signal Processing). USBEE and the Digital Lab form part of ongoing plans to form a University-wide Network for Behavioural Science. This demonstrates commitment to infrastructure and equipment investment, ensuring capacity for cross-faculty and external collaborations.

Academics have individual offices with high quality IT facilities and online access to all key management journals. Servers and data security are regularly upgraded to meet research delivery and legislative requirements. Academic offices are physically co-located to ensure departmental colleagues have frequent interactions. Administrative support for research, HR, finance, marketing, events management, and IT is located within the Business School building. SBS has invested in a range of specialist research software packages for project management and data analysis. Staff have access to over 140 bibliographic and other online databases, 42,000 subscribed e-journals, over 300,000 e-books, and extensive finance and accounting databases such as Bloomberg. Further resources include e-theses, audio-visual materials, special collections and unique archive collections.

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

Research collaborations, networks and partnerships

Success indicators in collaboration as an integral part of the School's research environment include partnerships and networks; collaborations with research users, beneficiaries and audiences; hosting prestigious conferences; joint publications with international co-authors from the UK, Europe, Asia, Australasia, Canada and the US; successful collaborative awards and grants; and exchanges with visiting scholars.

Collaborations between and across disciplinary boundaries

SBS nurtures interdisciplinary research. Collaborations are a pre-condition for most major funding awards and a source of intellectual stimulation. Strategies to build capabilities in income generation, particularly for converting small bids into larger bids, include a scheme providing pump priming grants. Reflecting the increasing importance of interdisciplinary research in gaining access to larger grants, research activities are directed towards stimulating large collaborative applications cutting across disciplinary boundaries, including outside SBS (e.g. the USBEE and the Digital Lab infrastructures as outlined in section 3).

Funding is available from the School research budget for collaborative staff visits (UK and overseas). The University's Research and Innovation Services provides set-up and ongoing support for collaborating institutions. Overlapping research interests with other disciplines include but are not restricted to: economic geography (Wood), business history (Alexander); sociology, business ethics and sustainability (Di Domenico; Matos; Sadler-Smith); tourism management (Di Domenico); sustainable management of extractive industries (Hilson) and of the natural environment (Castello Molina); psychology and work (Cohen-Chen; Cojuharenco; Dhensa-Kahlon); and international trade and economics (Carluccio). Newer recruits are extending these interests into fields including digital science (e.g., Jayawardhena; Parry; Vanhaverbeke).

Successful major SBS collaborations during this REF period included, but are not restricted to, the HEFCE-funded 'Innovation Gateway for Connected Digital Economy' project (with the 5G Innovation Centre and numerous industry partners). UKRI funded projects exploring Blockchain and Distributed Ledger Technologies (DLT) involved socio-technical projects contributed to by technical and social science disciplines across both the Faculty of Engineering and Physical Sciences (FEPS) and the Faculty of Arts and Social Science (FASS), including academics from CoDE, the SBS Research Centre of Digital Economy.

The ALPHA (African Livestock Productivity and Health Advancement) Initiative was created in May 2017 following a \$14.4 million, three-year co-funded grant awarded by the Bill & Melinda

Gates Foundation (BMGF) to Zoetis Inc., the largest global animal health company. CoDE partnered with Zoetis and the Veterinary Health Innovation Engine (vHive) Research Centre and start-up incubator working on new digital technologies in animal health. The partnership links new science in animal health to technological opportunities represented by the Internet of Things (IoT) and other advances.

Collaborations with industry, research users and beneficiaries

During this REF period researchers have collaborated with companies, public and third sector organisations such as with joint industry (CASE) PhD studentship co-funding, Knowledge Transfer Partnerships, consultancy, and with companies on the Surrey Research Park. SBS has a visiting scholar programme, with research visitors (staff and PGRs) hosted and engaging in joint research activities. Alumni take part in School activities, presenting guest lectures and enabling data collection and industry engagement. Alumni involvement in research activities is facilitated by the School's Business Development and Advancement Manager and Business Co-ordinator. Researchers and PGRs engage with organisations for data collection, impact and research dissemination. This can involve co-designing projects with corporate, public or third sector partners to address research questions that maximise the potential for impact, as well as the facilitation of data access and resources by partner organisations. There are jointly funded collaborative agreements and sponsorships such as the PhD studentship CASE-style award co-funded by the ESRC (2013- 2016) in collaboration with UnLtd, The Foundation for Social Entrepreneurs, which addressed ageing and 'later life' social entrepreneurs (supervised and led by Di Domenico). Evidence of other research leadership and collaborative roles with industry and research beneficiaries include Parry's Academic Directorship of HATLab, a coalition of academic and businesses working towards empowering individuals with digital rights <https://www.hat-lab.org/> and Xiong's non-executive Chairmanship of London-based innovation centre, Cocoon Global.

Research partnerships, networks and conferences/contributions to sustainability of the discipline

SBS engages in international partnerships. The **University Global Partnership Network (UGPN)** is a key strategic formal partnership network spanning four continents (<https://ugpn.org/>), aiming to develop sustainable world-class research, education and knowledge transfer. The collaborating universities are: University of Surrey, North Carolina State University, USA, University of São Paulo, Brazil, and University of Wollongong, Australia. Annual conferences foster joint collaborations and staff and PGR exchanges. In 2014 and 2018, the University of Surrey hosted the UGPN conference and in 2018 SBS academic Di Domenico led a major conference track on 'Entrepreneurship and Economic Development'. SBS researchers contributed papers to that track and to a parallel 'Digital Innovation and Applications' track.

SBS organises and hosts/co-hosts other regular prestigious conferences, with three to four international conferences and large-scale workshops held annually. Demonstrating SBS's extensive international collaborations and esteem as a recognised leader of research at the forefront of the digital economy, in April 2018 it hosted the three-day **Academy of Management (AOM) Specialised Conference on 'Big Data and Managing in a Digital Economy'**. It included the following Divisions and Interest Groups of the Academy of Management: Strategic Management (STR), Human Resources (HR), Management Consulting (MC), Organisational Behaviour (OB), Organisational Communication & Information Systems (OCIS), Organisation & Management Theory (OMT), Organisations & the Natural Environment (ONE), Social Issues in Management (SIM), Technology & Innovation Management (TIM). The conference was attended by over 350 delegates from more than 30 countries. Sponsors included Google Cloud Platform, Tableau, RAE (*Journal of Business Management*), MIT Press and SAGE Ocean. Keynote speakers included Paul Y Mang, Senior Advisor, Aon plc.; Cassie Kozyrkov, Google Chief Decision Intelligence Engineer; and Nuria Oliver, Director of Research in Data Science, Vodafone.

Other examples of international research conferences and events hosted during this REF period include the 2018 **Colloquium on European Research in Retailing (CERR)**, providing a high-profile platform for European retail researchers focusing on marketing and operations.

Commencing in 2018, SBS's Research Centre CoDE has co-hosted the annual '**Regulation of AI' International Workshop Symposium** in collaboration with the Surrey Centre for Law and Philosophy. Sponsored by IBM, the annual interdisciplinary workshop includes academic and industry speakers addressing how artificial intelligence (AI) is changing business and professional services. It reinforces the AI@Surrey University interdisciplinary collaboration, bringing together world-leading expertise in AI research. Since 2016 SBS has supported the annual **Extractive Industries for Development (Ex4Dev) international interdisciplinary workshop** (<https://ex4dev.com/>), bringing together leading academics, expert practitioners and PGRs specialising in extractive industries and sustainable development.

Collaboration success indicators also include the chairing and organisation of high-standing international special interest groups. For example, Massaro is a founding co-chair of the **Academy of Management (AoM) Organizational Neuroscience Interest Group (NEU)**, established in March 2020. The Organizational Neuroscience (NEU) Interest Group is dedicated to using neuroscience knowledge and approaches at different levels in organisations, as well as promoting linkages to management practice.

Academics co-author journal articles and books with esteemed collaborators across the UK, Europe, Asia, Australasia, Canada and the US. Examples include Wojakowski's collaborator, Economics Nobel laureate Professor Robert Shiller (Yale University) and Gawer's collaborators Michael Cusumano (MIT) and David Yoffie (Harvard Business School). In 2019 the latter resulted in the book *The Business of Platforms: Strategy in the Age of Digital Competition, Innovation, and Power* that was subsequently favourably reviewed in the New York Times.

Collaborations to develop impact that have enriched the research environment

SBS has an Advancement Manager dedicated to nurturing links with alumni and industry. The Advisory Board also provides industry expertise and collaboration. Organised through its Departments and Research Centres, each focusing on issues resonating with non-academic end-users, SBS has emphasised building critical mass to enable substantial and sustained academic and non-academic impact.

Beyond the research impact captured in submitted impact case studies (see case summaries in section 1), additional evidence of collaborative contributions, activities and impact that enriched the research environment include:

- A 2020 EPSRC Network+ grant in the Centre of Digital Economy (CoDE) brings together a multi-university academic team to develop Digitally Enhanced Advanced Services (DEAS) within the rail transport sector (total award £98,000). The team includes SBS, Henley Business School, Exeter Business School, the Institute for Future Transport and Cities at Coventry University, and industrial partner Thales UK (Parry).
- The 2020 project "Promoting citizens' health and well-being through a multi-level model of resilience amidst the Covid-19 pandemic" (awarded £11,552 seed funding by the University's Lifelong Health Research Theme fund), with the LSE and Nottingham Trent University (Heliot).
- Research on environmental sustainability and plastics with business partner RECOUP (REcycling of Used Plastics Ltd), a charity providing expertise across the plastics recycling value chain, examines how to improve communication effectiveness to reduce plastic pollution (by companies both in developing countries and the UK). AHRC funding was received in 2019 (£60,000) and a paper on plastic pollution and social media communication was published in 2019 in the *Academy of Management Journal* (AMJ) and reported in the Financial Times (24th Feb 2020) as a leading example of business school research having social impact (Castello Molina & collaborators).
- Funded by the £82,927 (SBS £59,914) Department of Health and Social Care award, research on the NHS gender pay gap examined 10 years of staff data, including 16,000 GPs and approximately 96,000 trust doctors. It showed that the doctors' gender pay gap is 17% based on total pay, a large contributor to the overall 23% NHS pay gap. This work led to collaborative and stakeholder engagement events with end users including NHS management, doctor and consultant groups, and NHS Employers (Woodhams).

- The Research impact project 'Influencing and supporting religious identity in the NHS' was funded £11,000 in 2020 by the ESRC IAA (Impact Accelerator Award). Research was also commissioned by NHS employers (part of the NHS Confederation), the outcomes of which were disseminated in a report published in January 2020 on 'Religious identity and working in the NHS' and at two stakeholder engagement events attended by key NHS groups, practitioners and end-users (Heliot).
- Research into online harm and cyberbullying received funding from Amazon in 2019 (£20,000) in partnership with Exeter Business School, Google, the Cybersecurity Institute (Spain) and the Alan Turing Institute. It aims to improve analysis and detection of online harm and advance debates on global internet challenges (Castello Molina and collaborators).

Wider contributions to the research base, economy and society

SBS engages with diverse communities and publics (locally, nationally and internationally) through research, including consultancy reports, for the public sector and industry. Annual agenda-setting sandpits and think-tanks are held with academics, industry, government and third sector participants. Staff research (e.g., Gawer; Parry; Zhou) is cited by UK government bodies and select committee reports including by the UK Parliament and House of Lords. Staff present, advise and provide evidence to government. For example, Zhou's research into job quality has shaped UK and Welsh government policy. Gawer advises the European Commission on the regulation of online platforms as an expert member of the European Commission's Observatory of the Online Platform Economy. She has also advised the UK Parliament House of Lords, the UK Government, and the OECD.

Indicators of wider influence, contribution to, and recognition by the research base

SBS's responsiveness to national and international research priorities is evident, for example, in success with KTPs and grants through public, private and third sector funders. Research Centres are aligned with three ESRC strategic priority areas: 'Productivity' and 'Climate Change' - reflecting the remit of the Research Centre for Social Innovation Management (CSIM), and 'New Ways of Being in a Digital Age' - reflecting the remit of the Research Centre of the Digital Economy (CoDE). Interdisciplinarity is threaded throughout research activities, both large and pilot projects.

Influential activities contribute to the sustainability and vitality of business and management, enabling researchers to shape and influence agendas and future research directions for the discipline. Colleagues regularly chair, review for and are invited keynotes at national and international conferences (e.g., Academy of Management Meeting). Researchers host and give expert talks to global audiences. They contribute as Editors, Associate Editors, Consulting Editors and Special Issue Editors (including numerous Editorial Board memberships) of leading journals and review for book publishers e.g., Cambridge University Press, Elsevier, Kogan Page, MIT University Press, Oxford University Press, Pearson, Routledge/Taylor & Francis, Sage.

Colleagues act as expert reviewers for 100+ business and management journals. Staff undertook significant journal editorial leadership roles for 21 international journals during this REF period as Editor-in-Chief, Associate or Consulting Editor. These include, but are not limited to, the following leading journals: *Journal of Occupational and Organizational Psychology* (Aryee: Consulting Editor); *Business & Society* (Castello Monlina: Associate Editor); *Long Range Planning* (Lawton: Associate Editor); *International Journal of Management Reviews* (Sadler-Smith: Consulting Editor); *Journal of International Management* (Rajwani: Associate Editor); *Management Learning* (Sadler-Smith: Editor-in-Chief then Consulting Editor); *Technovation* (Vanhaverbeke and Matos: Joint Editors-in-Chief); *Gender, Work and Organization* (Woodhams: Associate Editor).

In addition, colleagues served as Editorial Board members for more than 50 international journals during this REF period, including for leading journals such as the *British Journal of*

Management (Rajwani); *Human Relations* (Aryee); *Industrial Marketing Management* (Heirati); *International Business Review* (Lawton); *Journal of Business Research* (Benoit; Huo); *Journal of Development Studies* (Pal); *Journal of Management* (Aryee); *Journal of Management Studies* (Aryee); *Journal of World Business* (Rajwani); *Long Range Planning* (Rajwani); *Psychology and Marketing* (Benoit); *Supply Chain Management: An International Journal* (Aitken).

During this REF period colleagues participated on grant committees, including UKRI Peer Review College panels. They also served as grant peer reviewers for ESRC (Alexander; Balse; Benoit; Cole; Pal; Parry; Rajwani; Wood; Woodhams; Zhou) and EPSRC (Parry). Colleagues reviewed for the British Academy Reviews Panel (Hilson); Medical Research Council (Eldabi; Rajwani); UKRI Global Challenges Research Fund (Balse); Innovate UK (Eldabi); Austrian Academy of Sciences (Floh); Netherlands Research Council for social sciences and humanities (Matos; Turner); Swiss National Science Foundation (Cohen-Chen); US National Science Foundation (Massaro); University Grants Commission, Hong Kong (Aryee); SSHRC - Social Science and Humanities Research Council, Canada (Aryee; Petmezas); Sloan Foundation (USA)/National Bureau of Economic Research (Gawer); Fulbright Core Scholar Selection Committee, Finland (Buchanan); German Research Foundation (DFG) Humanities and Social Sciences (Gawer); and Polish Scientific Research Council (Buchanan).

Researchers offer expert commentary on news and current events. Social media and press releases communicate research findings to the public, end-users, general and specific audiences. A dedicated 'social media influencer' manages social media exposure. Research attracted global media attention including BBC, Sky, Channel 4 and other broadcasters and featured in the New York Times, Financial Times, Economist, The Wall Street Journal, The Guardian, The Times, The Conversation, The Wire Science and Times Higher Education (Castello; Cojuharenco; Gawer; Lawton; Pal; Parry; Rajwani). Research was also published in professional journals and highly-regarded industry-focused outlets including Forbes (Heliot; Parry; Sadler-Smith), People Management, published by the Chartered Institute of Personnel and Development (Heliot; Sadler-Smith); and foreign-language publications including French newspaper Le Monde (Zhou) and Danish newspaper Weekendavisen (Kreuzbauer).

Colleagues contribute to discipline sustainability. SBS provides capacity building, recognising and resourcing contributions to the wider research base by senior colleagues and ECRs/PGRs. During this REF period research received recognition via prestigious prizes and awards. Examples include:

- Academy of Management (AoM) Conference, various years for Best Paper Awards/ Proceedings or Best Paper Finalists (e.g., Benoit; Chu; Castello Molina; Gawer; Heliot; Hu; Massaro; Tavalaei; Tee; Zhou);
- 2019 Abbie Griffin High Impact Award Winner for 'the most influential article published in the past five years' in the *Journal of Product Innovation Management* (JPIM) for the 2014 paper "Industry Platforms and Ecosystem Innovation" (Gawer);
- 2019 Emerald Literati Award Winner, 2018 paper "Modern slavery in supply chains: A secondary data analysis of detection, remediation, and disclosure", *Supply Chain Management: An International Journal* (Cole);
- 2019 & 2018 Best Paper Finalist EurOMA Conference (Cole);
- 2018 British Academy of Management Conference Best Developmental Paper Awards (Parry; Tavalaei);
- 2018 Best Paper nomination in corporate finance, European Financial Management Association (EFMA) Conference, Milan, Italy (Petmezas);
- 2018 Best Paper nomination in Corporate Finance, European Financial Management Association Annual Conference (Karampatsas);
- Best Paper Awards from the Korean Society of Strategic Management Conference 2018 and the Korean Academy of International Business Conference 2016 (Park);

- 2018 & 2017 Best Paper Awards, *Journal of Services Marketing* and *Journal of Service Management* 2019 Highly commended paper award (Benoit);
- 2017 Highly commended paper awards by Editor of *Supply Chain Management: An International Journal* (Aitken and Garn; Parry);
- 2017 & 2016 Best Paper Awards, *Journal of Service Research* (Benoit);
- 2016 Best Paper Award: Strategic Management Society Conference (Tee);
- 2016 Best Paper Award Behavioral Finance Working Group Conference, London (Buchanan);
- 2016 Emerald Citation Award, 2013 paper 'Corporate political activity: a literature review and research agenda,' *International Journal of Management Reviews* (Lawton; Rajwani);
- 2014 Monica M Lee Research Excellence Award, 2014 paper 'HRD research and design science: recasting interventions as artefacts,' *Human Resource Development International* (Sadler-Smith).