

Institution: University of Southampton
Unit of Assessment: 19 Business & Management Studies
<p>a. Overview</p> <p>Southampton Management School (SMS) hosts a vibrant and lively community of researchers and the excellence of its research has been recognised in all assessment exercises since 1992. Historically its main research strengths have been in quantitative areas (risk, finance and management science) but the School has grown substantially in breadth, and in size, over the past decade. SMS now hosts five Centres of Excellence (CoEs) and covers all the main management disciplines. These CoEs, which span research, enterprise and education, are: Decision Analytics and Risk Research; Digital, Interactive and Data Driven Marketing; Innovation and Enterprise; International Banking, Finance and Accounting; and Relational Leadership and Change.</p> <p>In practice, research activity in SMS is coordinated through several cross-cutting research centres. Staff may belong to more than one research centre: there is considerable overlap in membership, for example, between the two largest centres CORMSIS (the Centre for Operational Research, Management Science and Information Systems) and CRR (the Centre for Risk Research), which jointly form the CoE in Decision Analytics and Risk Research. CORMSIS includes six staff in Mathematics plus a further four staff with 50-50 joint appointments between Management and Mathematics, funded under the £1.2m EPSRC LANCS Initiative grant. This total of 36 permanent academic staff makes CORMSIS one of the UK's largest groups of OR/MS researchers, if not the largest. The other centres in SMS are the Centre for Research in Accounting, Accountability and Governance (CRAAG); the Centre for Banking, Finance and Sustainable Development (CBFSD) and the Centre for Strategic Innovation (CSI). All centres hold regular seminar series and some, like CORMSIS, run an overseas academic visitor programme which enables visitors to spend up to a month working in Southampton.</p> <p>Over the REF period, SMS has continued to build on its existing research strengths but has also established several new research themes, selected through a deliberate process of targeted horizon-scanning: for example, in the era of "big data", digital marketing was identified as a fast-growing emergent area in which SMS could exploit its traditional strength in quantitative analytics. Research areas within SMS, in many of which it has world-leading expertise, include corporate social reporting, accountability and governance, transportation and logistics, supply chain management, marketing analytics, healthcare modelling, credit scoring and credit risk analysis, project risk management, leadership and change management, human resource management, organizational behaviour, innovation and entrepreneurship, retail, strategy, quantitative financial risk management, risk taking in speculative markets, empirical finance, asset pricing, and international banking.</p> <p>Interdisciplinary research is a major feature across the whole University, and SMS researchers collaborate in RCUK- and EU-funded projects in many of Southampton's areas of global excellence, such as computer science, engineering, medicine and demography.</p>
<p>b. Research strategy</p> <p>At the time of the 2008 RAE, the School's overall strategy was incremental expansion from a relatively small, niche management school into a comprehensive full-provision business school. The research strategy at that time included the establishment of <u>new research areas</u> through the appointment of excellent new staff at all levels; <u>greater diversification</u> of research funding; increased numbers of <u>PGR students</u>; and increased <u>internationalization</u> in terms of staff, students and the research itself. All of these objectives have been successfully achieved, as described in detail below. However, since the appointment of Howells as Dean of Faculty in 2010, and backed by significant capital investment by the University, the School's overall growth strategy has become far more ambitious, with plans for rapid growth in both staff and students. On 25 June 2013 the University Executive Group (UEG) unanimously agreed to make SMS into an internationally recognised, research-led Business School and the strategic business plan was signed off as a formal University project and became the top strategic investment priority for the University under</p>

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its current three year Business Plan. The new Business School will also have an important external, outward-facing remit that will support the University's key objectives in innovation and enterprise. To date this University strategic support has largely manifested itself in terms of increased staffing, but plans for a new building are currently being approved by UEG as part of the Business School Project.

Broadly speaking, the research strategy in SMS remains largely unchanged since 2008, although the new Centres of Excellence (CoEs), described in detail at the end of this section, reflect our overall growth strategy and directions of expansion. The CoEs are at different stages of maturity, ranging from areas of established international research excellence (management science, finance and risk) to new or emergent growth areas (innovation, leadership, digital marketing). SMS has set itself the ambitious target of achieving a top 5-10 position in the UK by 2019. The defining feature - the "mission statement" - of research in SMS is *rigour with relevance*: top-quality research (with a nod to its quantitative track record) which makes a genuine impact in the real world. Since 2008 the School has appointed four new chairs (**Baruch, Howells, Lowe, Reynolds**), seven mid-career academics (**Beullens, Erdogan, Kling, Nguyen** (returned in UoA 10), **Smith, Tamvada** and **Wainwright**) and 17 early career researchers including **Bijak, Dawson, Gatenby, Grinevich, Huang, Huber, Izady, Ma, Ramoglou, and So**. The senior appointments were part of our overall growth strategy and have enabled SMS to establish sustainable critical mass in new areas such as innovation, leadership and change management. The junior appointments have been more long-term in focus, to ensure we retain vitality in key areas. In addition, five people were internally promoted to chairs over the REF period: **Bektas, Bennell, Brailsford, Karatas-Ozkan, and Sung**.

As a result of our internationalization strategy, SMS academic and research staff now comprise 24 different nationalities, double the figure at the time of the RAE, and in summer 2013 we had PGR students from 28 different countries. Our approach in prioritising international research links has been to target those countries where we can make the greatest impact, but we have also pragmatically exploited personal connections where possible. For example SMS has established strong research links through funded projects with Pakistan (**Warren's** British Council funded INSPIRE project); Turkey (**Howells, Karatas-Ozkan** and **Bektas**, British Council); Hong Kong (**Wu, Sung**); China (**Wu**); Taiwan (**Howells**); Canada and the Netherlands (**Bektas, Brailsford**); Italy, Sweden, Sri Lanka and Singapore (**Brailsford**); Australia (**Holland**); the USA (**Lowe**); South Africa (**Smith**) and Normandy (Macbeth). Over the REF period, SMS staff have also successfully obtained grant funding from increasingly diverse sources: e.g. the EU, the British Council, the Chartered Institute of Personnel and Development, SEEDA, and many others (see section d).

Collaboration on multidisciplinary projects is a key part of the School's strategy and is aligned with the overall University research strategy, embodied in the University Strategic Research Groups (USRGs). SMS is actively engaged in all the USRGs and in particular the Maritime USRG, which has led to the establishment in 2012 of the Southampton Marine and Maritime Institute (SMMI) and the very strong links with Lloyds Register, whose head office is now based on the university campus. SMS has a leading role in the SMMI and this has led to a promising collaboration between **Bektas** and Gurses in the Law School on maritime transportation, initially supported by Faculty seedcorn funding and resulting in a major EPSRC grant application. SMS also has a leading role in the Digital Economy and Complexity USRGs, both of which have led to EPSRC-funded projects. The School has been an active partner in numerous multidisciplinary cross-Faculty grants; in addition to the Care Life Cycle project (EPSRC, £3.2m) involving Electronics and Computer Science (ECS) and Social Sciences, and the LANCS Initiative (EPSRC, £1.2m) involving Mathematics, SMS staff have collaborated with Engineering (e.g. **Bektas**, EPSRC-funded Occasion project), Health Sciences (e.g. **Brailsford**, SDO-funded end of life care project) Psychology (e.g. **Johnson** and **Sung**, EPSRC/GCHQ-funded centre of excellence in Cyber-security) Geography (e.g. **Lowe**, ESRC-funded award with Tesco) and ECS (**Kling** and **McGroarty**, EU FP7 Innovative IoT Labs; S Thomas, EPSRC-funded Digital Economy project on new economic models, with Microsoft).

Specific developments to the School's research strategy over the REF period have included an increased drive to lead on projects rather than collaborate as co-investigators. This, and other

aspects of the research strategy, has been encouraged and operationalized through creative use of the School's workload model (see section c) and has been very successful. For example, **Johnson** and **Sung**'s awards on gambling markets and their four separate KTP awards in this area with London Capital Group, Worldspreads and Star Financials; **Brailsford**'s £137k EPSRC HaCIRIC award on the use of simulation tools in the NHS; Macbeth's £240k KTP award with the RNLI, Baden's £80k ESRC award on sustainability and Warren's EPSRC Proboscis and Creator awards. The Centres of Excellence are described below.

Decision Analytics and Risk Research (**Baesens, Bektas, Bennell, Beullens, Bijak, Brailsford, Dawson, Erdogan, Huang, Izady, Jackson, Johnson, Ma, Mues, Nguyen, Smith, So, Sung, Thomas, Warren, Wu**) This CoE brings together SMS's two largest established and internationally recognised research centres and contains 50% of the School's REF-returned staff, as well as providing three of our four Impact Case Studies. CORMSIS covers the whole spectrum of current OR/MS/IS, from mathematical theory to problem structuring, and has internationally-renowned expertise in the specific areas of risk, optimisation, heuristics, simulation, data mining, knowledge management, finance, transportation, logistics, project management and healthcare modelling. CORMSIS has strong links to industry and employs two Industrial Liaison Officers. It runs over 50 MSc projects with industrial sponsors and also provides consultancy services to business, industry and public sector organisations. Research in the CRR has focused on improving individual and group's behavioural responses when faced by decisions involving risk, use of large-scale computer platforms to increase the effectiveness of real-time forecasting techniques, developing statistical models for enabling quantitative financial risk management, and identifying success factors for effective risk taking in speculative markets, as exemplified by their success in attracting KTP funding, developing effective procedures for project risk management, creating statistical models for analysing and managing credit risk analysis, creating awareness of the value of opportunity and uncertainty management.

Digital, Interactive and Data Driven Marketing (**Baesens, Bijak, Ma, Mues, Reynolds, So**) This CoE is relatively new and small in size. It is still developing its research and is targeted for significant growth over the next three years. Research is primarily focused on data analytics, data mining and digital marketing. A major study on the impact of technology on marketing practice resulted in the publication of a 'New DNA of Marketing' which has been presented at academic and practitioner conferences and has led to a strategic partnership between the University and the Institute of Practitioners in Advertising. Members of the group are active in the UK Academy of Marketing: two members are on the Executive Committee and one is chair of the Research Committee. The Group hosted the 2012 Academy of Marketing Annual conference and Doctoral Colloquium on the theme "Marketing - Catching the Technology Wave". The main conference, which was attended by 400 academics (30% from outside the UK), attracted 370 papers plus the keynote presentations.

Innovation and Enterprise (**Grinevich, Ramoglou, Howells, Huber, Karatas-Ozkan, Lowe, Tamvada, Wainwright, Warren**) The strategy group has benefited from major investment and reconstruction during the REF period with four high profile new appointments, and is the fastest growing CoE. Research areas include knowledge networks, technology transfer, small business growth, regional economic development, international entrepreneurship, social entrepreneurship, the role of gender and age in entrepreneurship, strategy in the retail sector, service innovation, green innovation, financial innovation, and business gaming simulation. Despite its rapid growth the CoE is still fairly small, and has positioned itself to offer world-leading capabilities in innovation practices, knowledge and innovation networks, knowledge-intensive service organizations, entrepreneurship and innovation, and innovation in the financial services sector. The group is closely integrated into the innovation research community: **Howells** is Editor-in-Chief of the leading journal R&D Management and **Karatas-Ozkan** is an editorial board member of the British Journal of Management. **Howells** has received ESRC funding for joint research on innovation networks with Norwich Business School and Cardiff. Overall, the group has published 14 ABS 4* and 11 ABS 3* articles during the REF period.

International Banking, Finance and Accounting (Abdul Wahab, **Choudhry**, Degl'Innocenti, **Holland**, **Kling**, **McGroarty**, Ntim, **Soobaroyen**, **Werner**, **Wolfe**, Wu) The CoE's research specialisms are organised around four areas of activity: (1) Financial markets, asset pricing and corporate finance, (2) Accounting, accountability and governance, (3) Banking, finance and sustainable development, and (4) Banking markets, bank funding for SMEs and securitisation. The finance group has long-established research strengths in empirical finance and international banking. Members are world leaders in research into banking crises and financial stability, asset allocation, market microstructure of exchange trade derivatives, forecasting of systematic risk using asset pricing models, empirical modelling of international financial markets and asset pricing models in a wide range of financial markets, together with related investment strategies. Work on the relationship between liquidity, real activity and asset prices, is considered world-leading, as is that on international trade and development issues. One exciting new area in the REF period is joint work with ECS on modelling of high-frequency data in the markets for derivative securities and has attracted FP7 funding. The group also collaborates with CORMSIS in the area of credit risk, particularly in the impact of the Basel New Accord on ways of modelling the credit risk of portfolios of loans in both the consumer and corporate sector. The accounting group focuses on issues of accountability and governance through its research centre CRAAG and has won grant funding to study the role of Audit Committees in universities.

Relational Leadership and Change (Ashleigh, Baden, **Baruch**, Clarke, **Gatenby**, **Higgs**, Nisar, **Vernon**) The group organizes itself around the themes of work organization, leadership, organizational change, teams, collaborative learning, workplace and organizational learning, performance management and corporate social responsibility. It is particularly strong in research on leadership and change (**Higgs**), global and strategic HRM (**Baruch**), emotional intelligence (**Higgs**, Clarke), and complexity in health (**Gatenby**). The CoE is developing an international comparative approach to organisation and management and the leadership of complex change.

c. People, including:

i. Staffing strategy and staff development

SMS' staffing strategy over the REF period has been one of expansion and internationalization. The School has had a deliberate strategy of aiming to recruit "rising stars" as well as established researchers and every subject group contains a significant proportion of early career research staff. ECRs form 30% of the Finance group, over 25% of the Management Science group and 50% of the Information Systems group. This has been with a longer-term vision to build towards future sustainability and to develop a thriving cohort of younger researchers. The School has been very successful in retaining some of its most outstanding PhD students as ECRs (e.g. **Bijak**; **Dawson**; **McGroarty**; **So**; **Sung**). **So**, for example, was appointed as CORMSIS Research Facilitator in 2011 on completion of her PhD, and this enabled her to publish two papers from her thesis before being appointed to a Lectureship in 2012.

To achieve this planned growth, the School has recruited internationally at all levels. The recruitment strategy has entailed balancing three requirements: a) to appoint top-quality researchers who will enable us to achieve critical mass in new areas; b) to maintain vitality in established areas of research strength; and c) to appoint staff for their teaching expertise and business experience in order to cover the wide range of topics required by a business school. Several outstanding research-led appointments have been made in fields where SMS did not previously have notable strength: for example **Huber**, **Lowe**, and **Wainwright** in strategy and innovation (this group has been further augmented by the appointment of **Howells** as Dean of Faculty), and **Baruch** and **Higgs** in HR/OB. **Huber** was Gates Scholar at the University of Cambridge from 2007-10, and ESRC Management and Business Development Fellow at Cambridge from 2010-11. **Lowe** is Deputy Director of the ESRC Retail Industry Business Engagement Network (RIBEN) – a cross-university, cross-disciplinary initiative involving the Universities of Southampton, Leeds and Oxford. Furthermore, as part of its strategy to increase engagement with the business community, since 2009 the School has appointed several people with substantial business experience. None of these "business-led" staff are returned in the REF, but they all contribute to a lively and outward-looking research culture.

SMS has enhanced its points-based workload allocation model (WAM) in order to enable staff to contribute in the way which best suits their capabilities and preferences. Highly productive researchers (in terms of top-quality publications and/or grant income) are rewarded by extra WAM research points. Staff are also given additional WAM allowance for supervision and line management of research staff. All new appointments and internal promotions are conducted using rigorous selection criteria. For appointments at Senior Lecturer or above these criteria include an international reputation (based on external references) and a track record of high-quality publications, grant income and PhD supervision. For junior appointments SMS has been principally concerned with “talent spotting” and identifying future potential.

Since the 2008 RAE the school has significantly raised its expectations of research-active staff while still remaining a supportive and friendly environment. For example, the school provides financial support to enable non-native-English-speaking staff to have their papers and grant proposals professionally proof-read before submission, if they so wish. ECRs are given a reduced workload for their probation period (30% reduction in year 1; 20% reduction in year 2; 10% reduction in year 3) and are provided with mentoring support by a senior colleague. They are also given additional WAM points for attending the University’s Postgraduate Certificate in Academic Practice course, which is mandatory for all staff with no previous teaching experience. All research-active staff are eligible to apply for a semester’s research leave every four years: during the REF period 25 people have taken study leave. All staff, from ECRs to professors, are proactively performance-managed via an annual appraisal process, and are provided with mentoring and additional support where appropriate, using the university’s comprehensive portfolio of staff development training courses.

Over the REF period a number of senior staff have of course retired or left. The Management Science group in particular was rather top-heavy in 2008 with a number of senior professors of roughly the same age. Succession planning for the replacement of Connell, Chapman, Macbeth, **Thomas, Johnson** and Ward, and the departure of Lamming and Williams (now at Hull), has been an issue over the REF period. However the group has been greatly enhanced by the four EPSRC-funded LANCS Initiative appointments (**Beullens, Izady, Smith** and **Nguyen** – the latter returned in UoA 10). With the exception of **Beullens**, these were all ECR appointments. The university has made all these posts permanent after the grant finished. Not only have these staff greatly enhanced the research profile of the school, but the grant itself is of strategic importance as it strengthens links with the three partner institutions (Cardiff, Lancaster and Nottingham).

The University of Southampton was a founding signatory of the Athena SWAN Charter in 2005, and has held a Bronze Athena SWAN Award since 2006. Within SMS, it is of note that two of the female staff promoted to Chairs in the REF period, **Bennell** and **Sung**, are among the School’s most prolific researchers, despite both having periods of maternity leave during the REF period and (in **Bennell**’s case) being only 0.7 FTE. SMS has an explicit strategy of mentoring and supporting women to apply for promotion. At the time of the 2008 RAE, the school had no female professors: it now has six, four of whom were internally promoted.

In January 2012, the University received the European Commission’s HR Excellence in Research award in recognition of our commitment to reviewing University level policies and practice, and devising a strategy for improving the professional development and employment experience of research staff. A Career Development of Researchers Working Group was established in October 2011 to oversee the implementation of the Concordat, comprising a ‘Concordat Champion’ from each of the University’s eight faculties, representatives from research staff, the University and College Union (UCU), Human Resources, the Professional Development Unit and the International Office. Equality of opportunity is effectively promoted and delivered through the university’s Equality Plan 2010-13, which establishes the equality and diversity requirements across the institution, including monitoring and accountability through data collection and publication. It provides training programmes to improve cultural, ethnic and religious awareness to meet the demands of our highly international staff and student body.

ii. Research students

SMS has a very successful PhD programme which continues to expand year on year. As of November 2013 SMS staff supervise a total of 153 PGR students (122 FTE). This is a growth of 62% over the numbers registered in January 2008. We also have 11 students enrolled on our DBA programme, which started in 2011. Naturally, as yet we have had no DBA completions but during the REF period SMS had 66.4 PhD completions. Several PhD studentships are offered each year to ensure that we attract outstanding applicants from the global pool: these awards are highly competitive. The School also hosts several RCUK funded students via the university's ESRC, Web Science and Complexity Doctoral Training Centres, the latter two involving cross-disciplinary research links with Computer Science. Additionally, PGR students are supported by many other funders such as the British Council, charities and overseas governments. All PGR students are associated with at least one research centre, and are expected to attend its seminar series; the School also organizes PhD colloquia where students present their research to each other. Academic staff are given a WAM allowance for PGR supervision, which recognizes the time commitment involved in providing top-quality supervision.

In terms of administrative infrastructure, the Faculty Graduate School (FGS) oversees doctoral research activity in all three Schools in the Faculty. This includes:

- Assuring recruitment of the best potential candidates through effective management of the studentship application processes.
- Overseeing the development and implementation of a research skills training programme which equips PGR students for an increasingly diverse global research environment.
- Monitoring the effectiveness of its activities, and identifying areas and issues where deliberate steps and actions need to be taken in order to improve the student experience.
- Promoting diversity and equality in all aspects of recruitment and student progression.
- Ensuring the implementation of the University's regulatory and quality assurance frameworks in order to attain appropriate academic standards.

The FGS is responsible for policy and quality assurance of doctoral education. The FGS Advisory Group has PGR representatives from each School. PGRs are also represented on a number of other Faculty committees, e.g. the Research and Enterprise Boards and the Equality and Diversity Committee. In addition to providing scholarships, the FGS provides financial support for every PGR for conference attendance (£700 in 2013-14). The FGS is part of the University's Researcher Development and Graduate Centre (RDGC) which co-ordinates PGR activities and doctoral training across all eight Faculties. The University is a signatory to the Concordat to Support the Career Development of Researchers and has been actively implementing the seven Principles of the Concordat since January 2009.

The RDGC implements and maintains the PGR Code of Practice which sets out the rights and responsibilities of Schools, supervisors and students themselves. Through the RDGC, PGRs have access to a range of experiential learning opportunities (e.g. demonstrating and teaching; internships; peer-coaching; outreach and public engagement through School/Faculty and University-level initiatives such as a Research Showcase, PGR conferences, and Doctoral Colloquia). The RDGC delivers both generic and transferable skills training. For example, PGRs involved in part-time teaching or demonstrating are supported by the RDGC's Postgraduate Introduction to Learning and Teaching programme. The RDGC works in partnership with the academic disciplines and other internal training providers (iSolutions, Library, Career Destinations) to ensure a relevant, flexible and high quality experience for all PGRs, including delivery of a core researcher development programme which aligns to the Researcher Development Framework. In 2012/13, the RDGC programme delivered more than 250 training sessions to over 4,300 attendees. Face-to-face programmes are complemented by a suite of on-line researcher development resources available via Blackboard. PGRs also have the opportunity to participate in intensive training and development activities, for example external summer schools such as Cumberland Lodge: Life Beyond the PhD, and the RENKEI Researcher Development Summer School. Provision for late-stage PGRs, particularly to support their transition to employment is being enhanced, including piloting a new Career & Leadership residential programme. Careers guidance for PGRs is provided through our careers service, Career Destinations - see <http://www.southampton.ac.uk/careers/pgr/>.

d. Income, infrastructure and facilities

The School's total grant income in the REF period exceeds £2.5m. Traditional areas of strength have continued to attract grant funding: for example the EPSRC LANCS Initiative is, at a total of just under £6m across all four partner institutions, the largest grant ever awarded worldwide in the field of Operational Research. The £3.2m EPSRC Care Life Cycle project is one of four major projects funded under EPSRC's cross-disciplinary "Complexity Science in the Real World" initiative. Nevertheless, SMS has successfully diversified its funding sources over the REF period: CORMSIS and CRR alone have jointly attracted grant funding from a wide range of sources including ESRC, BBSRC, DTI, EU FP7, Royal Society, British Council, Leverhulme, NIHR, the TSB and many commercial, public and third sector organisations, e.g. the RNLI, NATS, the NHS, Wintermute, London Capital Group, Ladbrokes, International Software Systems, and Star Financial Systems. Nevertheless EPSRC remains the School's major single funder.

The Faculty provides a flexible research support allowance (£1,700 in 2013-14), broader than just a conference attendance budget, which in addition to travel can be used for the purchase of books, hardware, software and datasets. The Faculty also runs a competitive Strategic Research Fund, annually worth £100,000 in total, offering large grants up to £30,000 and "pump-priming" grants up to £3,000 to support bid-writing. The University offers a competitive Adventures in Research scheme, where funding of up to £30,000 is targeted at ECRs for innovative projects. All this funding comes with the expectation that successful applicants will proceed to apply for external funding. These support structures provide opportunities for capacity building for ECRs within SMS, providing experience in application writing, peer-review, and research project management.

In addition to monitoring the performance of individuals, the Faculty also monitors the performance of its research centres. Highly productive centres are supported through seminar funding or even staff appointments: for example CORMSIS has a post-doctoral research facilitator whose time is split equally between their own research and discipline-specific research support for CORMSIS staff. All postgraduate teaching, which forms the majority of the School's teaching load, is in "block" mode which enables staff to concentrate their teaching into a relatively short period and free up longer continuous periods of time for research.

At Faculty level, support is provided by locally-based staff from Finance and the University's Research and Innovation Service (RIS), a specialist department with over 60 staff, who assist in identifying funding opportunities, costing bid proposals and assistance with submitting bids. At University level, RIS provide more advanced bid support, in particular advice on proposal guidelines, supporting pathways to impact and justification of resources for RCUK and EU applications. They also provide specialist advice on ethical aspects of research and supporting colleagues through the Ethics and Research Governance Online system; contract management, including drafting University template contracts, liaising with third parties; training and workshop sessions for ECRs. The University-wide iSolutions team provides computing and IT support to academics, administrative staff and research students across the School.

e. Collaboration or contribution to the discipline or research base

SMS has a dynamic research culture which draws not only on local expertise within the University of Southampton but also benefits from our many external links with academic institutions, public sector and commercial organizations, in the UK and overseas. Research centres hold frequent (in some cases weekly) seminar series with guest speakers, many shared with other schools or USRGs, which have raised our visibility nationally and internationally. Over the REF period we have hosted several hundred seminars. CORMSIS alone hosted 134 seminars of which 36 had international speakers. Many of our PGR students are co-supervised with other schools: this has proved a very fruitful mechanism to establish ongoing research relationships.

Our internationalization strategy has led to many overseas research partnerships. Those evidenced by co-funding, co-supervision of PhD students and joint publications, and not mentioned elsewhere, include: New York Stern School of Business; University of Chile; Tsinghua University, China; University of Lisbon; Middle East Technical University, Turkey; University of Porto; National

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Academy of Sciences of Ukraine; University of Valencia, Spain; Nanjing University of Finance and Economics, China; FIPECAFI, Brazil; Ozyegin University; LIPN, Université Paris 13; City University, Hong Kong; Ivey Business School, University of Western Ontario; Griffith University, Brisbane; Stavanger Centre for Innovation Research, Norway; Ryukoku University, Japan; Macao Polytechnic Institute; University of Melbourne; Texas A&M (USA); Nanjing Audit University, China; Radboud University Nijmegen; Indian Institute of Technology, Bombay; Arcada University, Finland; BNP Paribas, London; University of Murcia, Spain; National Taipei University of Technology; Edith Cowan University, Perth, Australia; Dalian University of Technology, China; University of Turku, Finland; Vietnam National University, Hanoi. Within the UK, SMS staff collaborate with most leading British universities, through joint grants (e.g. **Howells'** £485k ESRC-funded project with Cardiff and Norwich, **Lowe's** RIBEN links, the LANCS award with Cardiff, Lancaster and Nottingham, and **Brailsford's** EPSRC/HaCIRIC award with Imperial College) and other research collaborations too numerous to list individually.

In total, over the REF period SMS staff have published 30 books, 135 book chapters, and over 650 peer-reviewed articles. They have presented over 750 papers at academic conferences and over 100 papers at practitioner conferences. They have acted as external examiners on 102 doctoral theses, 41 of which were overseas. They have peer-reviewed 28 RCUK research proposals; 138 research proposals for other UK funding bodies; and 72 proposals for overseas funding bodies.

SMS staff are given WAM points for "citizenship" which encourages them to contribute to the wider disciplinary community in a range of ways. For example, staff in SMS are or have been Editors-in-Chief of the following journals: *Group & Organization Management* (**Baruch**, 2007-11); *OR Insight* (**Bektas**); *Health Systems* (**Brailsford**); *R&D Management* (**Howells**); Associate Editors for the following journals: *Research in International Business and Finance* (**McGroarty**); *Electronic Commerce Research and Applications* (**McGroarty**); *European J of Finance* (**Choudhry**); *J of Islamic Accounting and Business Research* (**Choudhry**); *Afro Asian J of Finance and Accounting* (**Choudhry**); *International J of Technology Transfer and Commercialisation*; *Technology Analysis and Strategic Management* (**Howells**); Editors of special issues in: *Human Resource Management*; *J of Economic Geography*; *J of Electronic Commerce Research and Applications*; *Tamara*; *J of Marketing Management*; *J of International Money and Finance*; *International Review of Financial Analysis*; *International J of Production Economics*; *J of the Operational Research Society*; *European J of Operational Research*; *Economics of Innovation and New Technology*; and are on the Editorial Boards of over 25 international journals.

Over the REF period SMS staff have given over 90 plenary lectures at major national and international conferences, and have been invited speakers at over 150 public events. **Baruch** gave the keynote lecture at CETL 2011; Brailsford was the plenary speaker at the Australian OR Society conference, 2009; **Sung** gave the keynote public lecture at the Gaming Teaching and Research Centre, Macao, China, 2011; **Thomas** was the plenary speaker at OR51, 2009, the first Australia Credit Research Society conference, 2011, and the first and tenth conferences of the Canadian Credit Research Centre. Staff have also chaired 39 major national and international conferences: for example, **Brailsford** co-chaired the 2008 UK OR Society anniversary conference OR50 and was on the organizing committee of the 2013 conference in Rome (over 3,000 participants); **Choudhry** chaired the Multinational Finance Conference 2012, Krakow; the World Finance Conference 2012, Rio de Janeiro; EBES 2011, Zagreb; EFMA 2011, Porto; SSEM Euro 2010, Milas, Turkey; Global Finance Conference 2010, Poznan. **Thomas** inaugurated and chaired the hugely successful Credit Scoring and Credit Control conferences in Edinburgh, 2007, 2009, 2011 (and was plenary speaker at the 2011 conference, which had over 500 delegates). **Johnson** chaired the 14th International Conference on Gambling & Risk Taking, 2009, Nevada, USA; and **Karatas-Ozkan** was co-chair of the 2013 EURAM conference, Istanbul, and co-chair of the 2012 Academy of Management Conference, Boston, Mass., USA. In addition, SMS has hosted over 20 one-day events and several major international conferences during the REF period. These include the Academy of Marketing Conference 2012 (400 delegates); ECOBATE 2011 (keynote speaker Lord Adair Turner, chair of the FSA, and ECOBATE 2013 (keynote speaker Vince Cable); VEROLOG 2013, EURO conference on Vehicle Routing Logistics, chaired by **Bektas**, 2013; and the International Conference on the Global Financial Crisis and European Markets and Institutions

(110 delegates and a special issue of *Journal of International Money and Finance*). SMS staff have obtained the following prizes, fellowships and honours: **Baruch**: 2008 Emerald Leading Editor award; **Erdoğan**: 2010 Kuhn Award by Naval Research Logistics, **Holland**: 2012 Atax fellowship, University of New South Wales, Sydney; **Howells**: International Association for the Management of Technology (IAMOT) award for contributions to research in 2009; **Huber**: Early Career Award 2009 from the Regional Studies Association; **Lowe**: Elected Academician of the Academy of Social Sciences, 2012; **Thomas**: 2008 Beale Medal (highest medal of the UK OR Society) for sustained contribution to OR, also 2011 Goodeve Medal (One of only two people to be awarded this OR Society medal twice - the other is **Brailsford**). In addition SMS staff held many visiting professorships during the REF period: **Bektas**, Open University of Catalonia, Barcelona, 2011; **Brailsford**, Università di Roma La Sapienza, 2011; **Holland**, Australian Business School, University of New South Wales, 2012; University of Pretoria 2013-; **Johnson**, University of Hamburg, 2008-12; University of Sydney, 2012; **Howells**, Lancaster University, 2009-11; **Kling**, Univ of Tokyo, September 2008; **Karatas-Ozkan**, Galatasaray University, Turkey, 2011; **Sung**, Univ of Hamburg, 2006-; Academia Sinica, Taiwan, 2008; **Thomas**, Naval Postgraduate School, Monterey, 2011. **Howells** was Executive Director of the ESRC Centre for Research in Innovation and Competition (CRIC), Policy Research in Engineering, Science and technology (PREST) and then Manchester Institute of Innovation Research (MIOIR) at Manchester, and Executive Director of the IDEAS Partnership (Lancaster, Liverpool and Manchester Business Schools), 2008-11; **Tamvada** won the Max Planck Society's Otto Hahn Medal in 2009.

SMS staff belong to numerous national and international professional bodies and learned societies and hold, or have held, key positions on many of these. **Baruch** is a member of the Council of BAM; **Bennell** is Chair of the EURO Working Group on Cutting & Packing (ESICUP); **Brailsford** is Chair of the UK Committee of Professors in OR; Vice President 1 of EURO (the Association of European OR Societies), and is chair of the EURO Working Group on OR Applied to Health Services (ORAHs). **Lowe** was Lead Innovation Fellow, EPSRC/ESRC Advanced Institute of Management Research (AIM), and Reynolds is chair of the Academy of Marketing Research Committee (2010- and serves on the Academy of Marketing Executive Committee (2010-); and **Smith** is Chair of the EURO Working Group on OR for Development (EWH-ORD).

A key strand of the school's research (and impact) strategy is engagement with non-academic end-users. The Faculty of Business & Law has an Advisory Board containing 13 practitioner members from business, industry, and the public and voluntary sectors. Over the REF period, SMS staff have provided consultancy services to about 40 different organizations outside academia, and have collaborated on a similar number of joint research projects with non-academic partners. For example **Brailsford** has received funding from numerous NHS bodies and other healthcare organizations in the UK and overseas (Australia, Canada, Singapore, Sweden, Netherlands) and is a founder member of the UK healthcare modelling networks MASHnet and the Cumberland Initiative. **Gatenby** contributed to the McLeod Review into Employee Engagement for BIS (2009). **Holland** has received funding from ACCA (the Association of Chartered Certified Accountants) and ICAEW (the Institute of Chartered Accountants in England and Wales); **Howells** has received research funding from the British Council, BP, ESRC, Nesta, NW Development Agency, WHEFC, HEFCE, Royal Society of Arts & Manufacturers, Santander Bank, and SHEFC; **Kling** has delivered executive education for McKinsey & Co (USA) in corporate finance and banking, consultancy with Euromoney (UK), and executive education for HMRC in econometric and statistical modelling. **Karatas-Ozkan** is a non-executive board member of Sequel Solutions, a local enterprise, advising the board on strategy development and new business creation; and she has engaged with other social enterprises through a SEEDA-funded project. **Lowe** (in partnership with Wrigley in Geography) has worked on several projects with Tesco, most recently a £300k co-funded (ESRC/Tesco) project on "The Future of the High Street". **Sung** has collaborated with International Software Services (USA and Hong Kong) 2008-2009; EV Analytics (Hong Kong) 2012; Wintermute Ltd (Malta) 2010-2012; **Thomas** presented to the Department of Business and Industry on introducing economic conditions into consumer lending risk assessment, 2011; led a workshop on methods of credit scoring for the FSA, 2007; gave evidence to BIS on the expansion of information held by credit bureaux; and works with Lloyds Banking group on their model building for portfolios of consumer loans.