

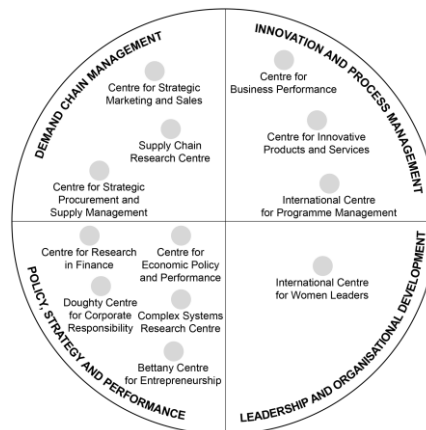
Institution: 10007822

Unit of Assessment: 19

a. Overview

Cranfield is a specialist university leading postgraduate education and translational research in applied science, engineering and management to support business, government and wider society. It aims to create and transform knowledge to solve real-world problems. Supporting that mission the academic staff in the submission to UoA19 are drawn from the triple accredited (AMBA, EQUIS, AACSB) Cranfield School of Management (SOM).

Cranfield School of Management is structured into 4 academic communities (see figure) which bring together cognate sub-fields of work. These provide the line-management structure for individual faculty members, with Directors of Community reporting to the Head of School and sitting on the School’s Executive Committee. Research delivering a mixture of thematic and issue-based research outputs is conducted independently by researchers in each community (e.g. Baines, Bowman, Ladkin and Peppard) and collaboratively most often by researchers in 12 enduring research centres dispersed across the 4 communities (see figure). Research centres significantly influence policy and practice through research clubs (e.g. KAM Club in Centre for Strategic Marketing and Sales) and through benchmarking exercises (e.g. International Centre for Women Leaders) and have an international profile (e.g. Centre for Business Performance).



Our specialist Masters degrees, which include the top ranked MSc in Finance and Management, complement our internationally recognised ft and pt MBA degrees. These are underpinned by Cranfield research. Our varied programme of open executive education (52 different offerings generating £5.8m p.a. on average) is based on our research. The Centre for Customised Executive Development, our in-company management development activity, continues to turnover £10.8m p.a. on average by tightly coupling knowledge generation and utilization.

b. Research strategy

Aligned with Cranfield’s institutional strategy to blend fundamental research with the co-creation of new knowledge through deep engagement with our business partners, our overall intent is simultaneously to achieve the highest possible academic standards and to deliver business engagement with impact. This research ambition to achieve impact through excellence provides a clear and enduring shared purpose for faculty.

At RAE 2008 we challenged ourselves with several stretch targets for the REF2014 period to build on our considerable successes in the period from 2001. We are well placed to extend further our reputation for delivering immediate and enduring impact on the policies, practice and performance of organisations, while producing internationally recognised high quality research outputs. Our research strategy focuses on **publications, impact, capacity** and **income**.

Publications: We have further improved the quality threshold of our research output since 2008 with all of our submitted work being internationally excellent in terms of originality, significance and rigour, or better. Realising one of our key strategic objectives in this REF period, we have

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developed a number of publications in journals with high impact on managers (see Macdonald, Maklan, Peppard, Wilson in ref2), and contributed to their blogs and on-line offerings (Peppard, Ryals). Our future aims are to:

- increase the proportion of our faculty returnable to future REF submissions, while maintaining the proportion of output produced at international standard by targeting FT-listed journals, aiming for 15% of our output to be in 4* rated journals, and >20% to be co-authored with international collaborators;
- expand our contributions to journals with high impact on managers with a steadily increasing stream of output in Harvard Business Review, Sloan Management Review and California Management Review.

Impact: With the ambition to be the first place that managers come for relevant, high quality research that enables them to improve the practice of management and the performance of their organisations our aims are to:

- further develop and embed processes and methods for collating and evaluating the impact of our research and produce a stream of impact case studies as a matter of routine;
- extend existing research dissemination routes such as 'research clubs', 'discovery days' and 'networked learning';
- restructure and reorient our DBA programme to capture directly the impact of rigorous research on organisational performance;
- increase visibility and accessibility of our research by establishing topical management themes on our website, aiming for year-on-year increases in non-academic traffic to our website;
- leverage social media to disseminate research and engage with policy and practice.

Capacity: Since 2001 we have tried to expand the size and capacity of the active research base amongst faculty. Our aims in the next period are to:

- extend our faculty coaching and mentoring scheme and the successful research incubator initiative in our Leadership and Organisation Development community to provide research support to early and mid-career faculty;
- build and nurture research collaborations internally in SOM, within the University and beyond Cranfield;
- engage with world-class researchers inside and outside the UK through invited seminars and workshop;
- continue to support faculty to present their work at management conferences, both nationally and internationally;
- leverage the new modularized research methods training programme for doctoral students to capture an international market of part-time students from leading business schools globally;
- increase the number of doctoral graduates placed in top business schools.

Income: Our research project income increased by 31% p.a. from 2001 to 2008. In this REF period we have maintained this despite the global economic crisis, achieving our targets of 50-55% research income from UK industry and commerce, and exceeding our target of 20% from research councils. Our future aims are to:

- sustain a high level of research project income at £2.0m p.a., with more than 60% coming from policy and practice by building on our excellent and enduring relations and networks with practitioners to increase the volume of research funding from corporate partners in a sustainable manner;
- secure research council income at 10-15% of total;
- increase the volume of cross-university funded research projects, and develop cross-institutional grant applications;
- explore and leverage peer-reviewed funding from non-traditional areas (e.g. Institute of Occupational Safety and Health – Pilbeam PI).

These School level programmatic and policy objectives complement strategic thematic research initiatives at the Community level. Building on its origins in marketing and logistics, **Demand Chain Management (DCM) Community** refocused its research activities early in the REF2014 period identifying four major areas of research interest. Developing from earlier expertise in customer-relationship marketing (CRM) a strong research base in sales and key account management has been developed through a research club in collaboration with global commercial partners (e.g. BP, HP, International Nuclear Services, Rolls Royce, Astra Zeneca) led by Ryals. Also developing from

CRM, and adhering to Cranfield's traditional focus on b2b relationships, has been the emergence of a more "scientific approach" to marketing where advances in social media permitting the capture of real-time data coupled with developments in experimental methods allow the quantitative analysis of large numerical data-sets (Wilson & Macdonald) and the investigation of the individual customer experience. The Supply Chain Research Centre has two key research themes: sustainability and risk, focusing respectively on the amelioration of the negative environmental impacts of supply chains (Mena), and on collaboration within the supply chain to minimize risk (Wilding & Yates). It is envisaged that these four areas will become increasingly prominent securing significant research funding and delivering high quality outputs in the next five years.

Innovation and Process Management (IPM) Community incorporates the sub-fields of innovation, operations, manufacturing, project management, information systems and performance management and hosts three established research centres. The Centre for Innovative Products and Services (CIPS) aims to enhance innovation capability in companies. In collaboration with leading organisations such as Bosch, Goffin and Szejczewski have explored the tacit knowledge available in the new product development process. Similar industrially-sponsored collaboration with McAfee and Reckitt Benckiser is investigating the emergent area of 'hidden needs'. This will continue. The Centre for Business Performance (Bourne & Martinez) specializes in the design implementation, use and maintenance of performance measurement and management systems. The International Centre for Project Management (Maylor) established by EDS and continued by HP in 2008 as a unique university-industry collaboration in programme management, focuses on two major streams of research: how a supplier can create and leverage the capability to deliver programmes as services for clients, and how organisational strategy can be delivered through internal programmes. Within the **Leadership and Organisational Development (LOD) Community**, recent promotions (Denyer, Ladkin, Kelliher, Parry) have spearheaded new avenues of research around organisational change especially in extreme contexts, leadership and ethics and work and organisations. These will produce high quality outcomes for both academic and practitioner audiences in the next five years. Moreover, they provide continuity to existing internationally recognised research on International HRM (Dickmann) and Global Careers (Doherty). **Policy, Strategy and Performance (PSP) Community** undertakes research in finance, economics, strategic management (including complexity), and entrepreneurship. The Centre for Research in Finance (CRF) specialises in empirical research on a range of issues including asset pricing and stock price anomalies (Agarwal & Poshakwale), international portfolio investments (Thapa & Poshakwale), initial public offerings (Neupane & Poshakwale), bankruptcy prediction models (Agarwal & Taffler), options listed stocks (Agyei-Ampomah), mergers and takeovers (Zhao), and ownership, corporate governance and firm value (Belghitar). The centre hosted international research fellows from leading financial institutions contributing to production of high quality policy research on banking sector efficiency and growth in emerging economies (Poshakwale & Qian) and international shocks and economic growth in emerging markets (Ganguly and Poshakwale). The Complex Systems Research Centre (CSRC) led by Varga has focussed on the application of complexity science to management research with substantial funding from EPSRC towards the end of this REF period. The Bettany Centre for Entrepreneurship (Burke) funded through an endowment from an alumnus prioritises practitioner links and has extensive impact on small business development. We anticipate international recognition and an increasing volume of high quality research outputs from these three centres in the next five years.

c. People, including:

i. Staffing strategy and staff development

The focus of Cranfield's institutional research strategy requires distinctive staff. Our emphasis on impact through excellence and our unique institutional position of engaging solely with post-graduate and post-experience students and senior executives combine to place uncommon demands on our faculty. They must conduct high quality research, generate research income, communicate and engage effectively with managers and senior executives and demonstrate research impact. These demands have implications for **staffing policy, researcher development and faculty management**.

Our **staffing policy** involves "developing research potential from within" and to augment this practice through external recruitment. Three ECRs in RAE2008 have been promoted respectively to Chair (Wilson), Reader (Maklan) and Principal Research Fellow (Martinez). In addition, a

number of staff at an early stage of their careers in our RAE2008 submission have been promoted to Chair (Denyer), or to Reader (Parry, Agarwal, Mena). Franco-Santos who completed her PhD at Cranfield at the beginning of this REF2014 period complements 3 ECRs (Fichtinger, Tobias, Turner) returned in this submission. A number of junior faculty and recent doctoral graduates eligible for inclusion for the first time have secured more senior appointments elsewhere (Godsell, Johnson, Micheli at Warwick, Sealy at City, Doldor at Queen Mary, Bastl at Marquette, USA).

Balancing this emphasis on “developing research potential from within” is the continuity provided by experienced researchers submitted in 2008 (e.g. Buchanan, Burke, Goffin, Jenkins, Peppard, Poshakwale, Ryals) despite the loss in the assessment period of 28 Professors or Senior Lecturers predominantly to retirement (e.g. Kakabadse, Parker, Sudarsanam, Tranfield, Ward). Two of the departing senior lecturers gained chairs at Monash via Cardiff (Ambrosini) and Brunel (Braganza), and three professors moved institutions: Neely (Cambridge), Bonache (Esade) and Lawton (Open University). The effect of these movements of senior faculty has been mitigated by the internal promotion of Baines, Denyer, Dickmann, Kelliher, Ladkin and Wilson to Chair. External recruitment aims to (i) strengthen our research base, (ii) provide functional and disciplinary skills for teaching and engagement with executives, (iii) develop a mixture of early career researchers (ECRs) and experienced staff, and (iv) diversify our staff. Recruits to Chair within the period include Bourlakis, Bowman, Horwitz and Zhao, with Agyei-Ampomah and Smart to Readerships. We recruited 2 FME fellows (Anderson and Chapman) reflecting our commitment to engaging effectively with managers. Both completed PhDs in the period. We have also recruited junior faculty with international prize winning doctorates (Turner and Macdonald) and a capacity to conduct high quality research. Our staffing policy has resulted in a faculty profile in this submission that comprises 38% aged under 45, 45% aged between 45-55, and 17% aged over 55. Continued development of junior faculty is vital to our future success and consequently we anticipate the inclusion of an additional 10 current ECRs in our next REF submission.

Cranfield University complies with the responsibilities outlined in the Researcher Concordat, and has an extensive academic and **researcher development** programme based on the Vitae framework, and managed by the Learning and Development Team. The programme has been oriented to support our institutional research strategy, emphasizing skills of business engagement. All faculty with a teaching portfolio are required to be fellows of the HEA, and this is regularly achieved by the PGCert in Academic Practice. Additionally we provide other development opportunities. A small number of junior faculty annually participate in the International Teachers Programme (a faculty development programme established by the International Schools of Business Management); 11 have completed the programme in this REF period. Financial support (£3k each p.a.) is provided for all faculty to attend professional developmental training courses organized externally by EIASM, BAM, AIM and ESRC through NCRM and RDI or to present research papers at general management and more specialist conference both nationally and internationally. We have presented >600 conference papers in this REF period. Internally, an on-going Researcher Development Programme (RDP) underpinned originally by “Roberts funding”, supports the development of doctoral students and ECRs, with some offerings aimed at developing further the research skills of mid-career researchers. The RDP focuses on developing academic skills including writing and funding applications. The school runs a regular series of lunchtime research seminars given by invited speakers from leading UK and international institutions allowing all faculty and doctoral students to engage with leading-edge thinking. In this REF period we have held >80 research seminars. Approximately 40% have been delivered by non-UK presenters including from the USA (Choi, Ellram, Hitt, Scholz, Sheth, Suddaby), EU (Alvesson, Karlsson, van Aken, Verhoff), Oceania (Jackson, Singh, Wilkinson). UK presenters have included Ansari, Boyne, Currie, Delbridge, Goh, Moutinho, Pidd and Sims.

Three staff development practices merit extra comment. First, periods of up to three months study leave may be negotiated with the relevant Director of Community enabling any faculty to devote uninterrupted time to research. Some have used this to write (e.g. Kelliher and Parry in ref2) while others have used it to develop research collaborations internationally (e.g. Dickmann’s work with Prof Mayrhofer at Vienna University of Economics and Business resulted in an invitation to participate in the 5C Network, a 39 country study of contemporary careers). Second, QR funding

from HEFCE has been used to support peer-reviewed applications for research activities especially from ECRs. These funds may be used for three purposes: (i) as “seed-corn” to support exploratory research projects leading to funding applications to other bodies, (ii) to host visiting international fellows, and (iii) to develop networks and research clubs. Funding to support investigative empirical research amounts to £137k in the period, and this has generated a further £605.4k, notably an NIHR-SDO grant (Buchanan) and an ESRC-AIM Management Practice Fellowship (Denyer). These projects have generated more than 35 academic journal articles, papers at international conferences (including Academy of Management, EurOMA, Academy of Marketing Science and EURAM) and book chapters. International Fellows include Profs. Sinha, Suddaby and Tallmann and Drs. Gupta, Koulikoff-Souviron and Qian. Third, an innovative and distinctive approach to faculty development using a “personal coach” as a development aid is coordinated by the Director of Faculty Development. Individual faculty request a personal coach for a fixed period to service a specific and clearly defined development need. The process is totally confidential, completely independent of the faculty performance management system and is extremely popular (more than 25 coachees). There are specific developmental measures for ECRs. Recent doctoral graduates are encouraged into dedicated research posts in Research Centres (e.g. Macdonald to the Centre for Strategic Marketing and Sales) to gain benefit and support from experienced colleagues, obtain administrative help and identify with a local research culture (the twin structures of academic communities populated with research centres has been particularly valuable for this purpose). ECRs are always mentored and expected to develop research, teaching and dissemination skills by undertaking a variety of development programmes (indicated above). Our internal journal listing emphasizing high quality academic journals and leading practitioner journals is used as a guide to ECR publication strategies.

Denyer secured a prestigious ESRC-AIM Management Practice Fellowship in 2009. This provided a platform to establish an on-going programme of research, incorporating a number of doctoral students, focused on change management and leadership in high risk contexts. This lent coherence to the work of Buchanan and Kelliher on managing change in extreme contexts in the NHS, and connects to the safety leadership work of Pilbeam. He has established a Research Incubator for up to 10 junior members of the LOD community including ECRs and PhDs. Meeting monthly this forum through review and discussion develops critical research skills and provides a critical yet supportive audience for developing research proposals and papers, and acts as a focus group for career development. Discussions here have contributed directly to the re-design of the curricula of both doctoral programmes.

Faculty are subject to a **faculty management** workload system that encompasses teaching, income generation, research output and citizenship, tailored appropriately in discussion with the Director of Community to reflect career stage, employment contract and interest. An experienced full time faculty member is required to achieve at least 10 points p.a. from points accrued through a combination of activities across the 4 domains, with research-related activities typically comprising 40% of the workload.

All faculty are employed on ‘open-ended contracts’ after a 3-year probationary period, unless employed on a “fixed-term” contract linked to a specific research project. A small number of faculty (including Doherty, Varga, Yates) have had part-time contracts for all or part of the REF period.

Together with teaching and executive development, research is a standing item on the agenda of the monthly School Executive meetings and led by the Director of Research (DoR). Research strategy development is driven through the Research Development Group (RDG), which is a subcommittee of the School Executive, chaired by the DoR. It is composed of senior professors from each community, the Director of Faculty Development, the Directors of the DBA and PhD programmes and the Finance Director. RDG meets monthly and deals with important operational issues such as staffing and resourcing. It evaluates applications for “seed-corn” funding and then monitors outputs against specified deliverables. It is represented on recruitment panels to ensure research is prioritized in staff selection. Also, it decides on the allocation of PhD bursaries, considering quality of application, the strategic fit of the research and the developmental prospects for the supervisor.

The main forum for policy debate and formulation is the Research Committee which is broadly constituted including senior research professors and ECRs and doctoral students, to ensure wide cross-school representation. The discussions at these quarterly meetings are fed into RDG.

A research ethics committee established in 2005 and reporting to the Deputy Vice Chancellor is chaired by an emeritus professor, and has representation from members of each community and the doctoral programmes. All research projects require ethical approval, and an on-line system has been developed to support this approval process.

ii. Research students

We offer two doctoral programmes, the PhD (ft and pt) and the pt International Executive Doctorate (DBA) providing a vibrant international research student community exceeding 120 students from 40 different countries, c. 65 PhD (incl. MRes) and c. 60 DBA, which enriches the intellectual life of our four communities. There are typically 12 recruits p.a. to both programmes. Both programmes offer a rigorous research methodology training and well-developed, highly supportive infrastructure. The research student experience is strongly influenced by direct engagement with business. The PhD programme received 8 quota studentships from ESRC in 2008-10, placing it among the top 5 UK providers. During that period the School provided a further 17 bursaries. Since 2011 the School has provided 6 bursaries p.a. for ft PhD students (fees and stipend). With the inclusion of the DBA in the doctoral portfolio emphasizing our commitment to 'close to practice' research, the greatest numbers of new studentships p.a. are from industry and commerce. A proportion of the PhD students (35% overall) continue to self-fund. There has been a reduction in annual average completions from 15 (RAE2008) to 12 (see table), largely due to our DBA completion rates, following sector norms, being lower than the completion rates on either the ft (>90%) or pt (>75%) PhD programmes.

Appointments of new programme directors (Denyer – PhD in 2011; Parry - DBA in 2012) have enabled a comprehensive review of the doctoral programme offerings in 2012 and 2013. This has provided: (i) increased clarity of programme purpose and greater differentiation. The purpose of the PhD is to train researchers to become excellent academic scholars. The DBA provides equivalent research training to executives wishing to become senior practitioners, or policy makers. Subscribing to evidence-based management it aims also to make clear and discernible impact on practice following the tenets of 'mode 2' upon which the programme was originally based; (ii) a redesigned and extended curricula based on Researcher Development Framework (Vitae – RCUK) guidelines embracing a core of Subject Knowledge, Research methodology and methods and Governance and Organisation, and tailoring appropriately Engagement, Influence and Impact, Learning and Teaching and Personal and professional development for the respective programmes; (iii) potential to deliver on a modular basis, enabling cost efficiencies; and (iv) clearer identification of target markets. These changes will increase academic outputs from our faculty through co-publication amongst teams of supervisors, panel members and students, and will stimulate demonstrable cases of organisational impact on a significant scale in the period beyond 2013. They will help to improve the completion rates of DBA students.

A dedicated team of 3.63 FTE administrative staff in our Research Office financed from QR funding support the doctoral programmes. They manage a rigorous student recruitment process comprising five elements (a research proposal, a panel interview and three tests). All students engage with a potential supervisor prior to entry to develop their research proposal. Supervision is ratified on acceptance, and augmented by a panel of at least 2 other academics with complementary knowledge of subject or methods. All ft students receive fortnightly supervision (*pro rata* for pt students) either f-2-f or by telephone/skype. They have access to resources that conform to standards beyond those stipulated by the RCUK, e.g. allocated desk space either in a large open plan office or in close proximity to academic colleagues in the relevant research centre, where appropriate. Following QAA Code of Practice Guidelines, PhD student progress is formally reviewed three times through a 10k word paper, presentation and discussion by a panel of at least three academic staff. The 3 reviews cover: (i) the literature review and development of a research question; (ii) methodology and methods including research design and results of a pilot; and (iii)

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contribution to knowledge. The monitoring is more frequent on the DBA programme due to its current structure of 3 projects plus a linking document. Each project is reviewed twice. Recordings and minutes of these reviews are digitised and made available to the student to enhance learning. All students are required to obtain feedback on their work, both internally through bi-monthly doctoral colloquia (which are broadcast online using Adobe-Connect to allow participation by international and pt students) and externally at national or international conferences for which financial support from QR funding (£2k per student) is available. Student-supervisor publication is expected according to a documented code of practice (e.g. see Kelliher’s Human Relations paper with Anderson in ref2). An online handbook provides guidelines on all policy matters and is distributed to students and supervisors.

All doctoral students are offered a personal development programme that complements training in research and offers other transferable skills specified by RCUK and Vitae. Mandatory skills’ training for all supervisors is provided annually by SOM and by the University in accordance with the QAA Code of Practice. This is augmented by a mentoring programme whereby experienced supervisors with more than 3 successful completions mentor those who are supervising their first student. Inexperienced supervisors, including ECRs, have to complete a programme of CPD before they can supervise a doctoral student. 70 different faculty are involved currently in the process of doctoral education across both programmes as supervisors and/or review panel members. Approximately 30% perform both activities.

Research Affairs Sub-Committee chaired by the DoR monitors progress of research students, supervisory workloads, appointment of examiners and agrees alterations to the doctoral programmes proposed by the respective programme directors. Outcomes of student progress reviews and proposed changes to the doctoral programmes are reported to the School’s faculty board for comment, discussion and final approval. Students are prepared for viva in the areas of scholarship, methodology and contribution (defined as a combination of replication, theory development and new theory). Examiners are formally encouraged to assess students in each of these areas. All doctoral *Viva voce* examinations are chaired by an independent faculty member.

	2008-09	2009-10	2010-11	2011-12	2012-13	Total
<i>Total DBA Completions</i>	3	2	4	3	4	16
<i>Total PhD Completions</i>	12	7	8	8	12	47
<i>Total Doctoral Completions</i>	15	9	12	11	16	63

d. Income, infrastructure and facilities

Funding. Research income has been sustained at a high level totalling c.£12m in the REF period, averaging approximately £2.32m p.a., sustaining the average annual income reported in RAE2008. There is a mix of funding sources but Research Councils and UK Industry and Commerce are particularly significant, and both led to high quality research outputs; rigour is not compromised by relevance. Consistent with our targets total income from Research Councils was £3.1m exceeding our 20% p.a. target, while income from UK industry and commerce amounted to c.£6m, meeting our explicit 50-55% target.

The greater proportion of our research income from peer-reviewed sources has come from Research Councils, particularly EPSRC. A total of £931k has been funded by an EPSRC-IMRC awarded to Cranfield University focused on servitization – the bundling of products and services into a single offering. Much of this work was conducted collaboratively with the School of Applied Sciences by faculty from 3 of our communities (DCM, IPM and LOD) and has led to high quality publications by Peppard and Martinez (see ref2). Varga (PSP-our fourth community) has secured EPSRC funding (>£760k) for her collaborative work with Leeds and De Montfort Universities. Publications from this will appear in the next REF cycle. Denyer was awarded a prestigious ESRC-AIM Management Practice Fellowship. Competitive peer-review funding from UK Government has supported research on the role of middle managers in the NHS (Buchanan - £462k) and age-

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related issues in the armed forces (Parry - >£200k). Pilbeam secured significant peer-reviewed funding from IOSH in 2013 (£225k) to investigate safety leadership in low hazard environments. Mena has attracted substantial funding (>£750k) from a variety of competitive sources including the EU through the SCALE (Step Change in Agri-food Logistics Ecosystems) project in collaboration with Wageningen University, Université d'Artois, DHL and The European Food and Farming Partnership and DEFRA for work on the sustainability of supply chains.

Commensurate with our emphasis on co-producing knowledge with practitioners and policy makers, research funding from UK Industry and Commerce has been secured by 3 distinct routes: bespoke projects designed to address specific organisational problems; research clubs where, facilitated by a Cranfield academic, a consortium of organisations collectively develop and sponsor for a period of years a mutually agreed research project, contributing iteratively to its development as it progresses; Knowledge Transfer Partnerships (KTPs). High quality outputs have been derived from each (see table below).

Routes	Total income from route for REF period (£million)	Illustrative exemplar of route	Company Sponsor(s) for exemplar	Investigators for exemplar	Associated research outputs (for eggs see authors in REF2)
Bespoke Projects	3.6	Programme Management	HP	Maylor/ Turner	IJOPM, IJMR
Research Clubs	>1.7	Global Manufacturing Roundtable	Arla, Kerry Ingredients, The Royal Mint, TATA Global Beverages, GSK	Goffin / Szejczewski	JPIM, IJOPM
KTPs	>1.4	Marketing analytics	Mesh Planning Tools	Wilson / Macdonald	IMM, HBR

Following our strategic intention of conducting high quality research that makes a difference to practice and policy, we will continue to secure research funding by:

- Conducting bespoke research funded through a mix of research councils and industry sources;
- Making applications for KTPs, building on our recent successes;
- Adding to our portfolio of research clubs, broadening their coverage, and expanding the client base of existing ones;
- Deepening our collaborative links with other researchers, in order to compete for funding that increasingly favours large scale collaborative projects spanning disciplines and crossing institutional boundaries.

Infrastructure – Facilities: High quality facilities fully support the complete spectrum of research related activities from initial information search to final dissemination.

The university library subscribes to more than 22,000 journals and through its on-line collections provides access to approximately 7000 business and management journals from the major publishers including SAGE, Taylor & Francis, Springer, Emerald, Wiley and Elsevier on a 24/7 basis. The School in its Management Information Research Centre also provides access to a number of on-line databases that cover current (e.g. Bloomberg) and historical financial and company research (e.g. Datastream and FAME), economic information (e.g. Global Insight) and market research (e.g. Mintel). Some are key to the research activities of faculty members especially in the PSP community (e.g. Agarwal, Poshakwale, Zhao). The Library Staff also facilitate the depositing of research outputs into CERES (Cranfield’s digital repository of research output) and SSRN to ensure the widest possible dissemination to practitioners and policy makers.

Administratively research funding applications are supported by School and University Finance Departments and Contracts Offices. A Research Office (5.13 FTE) wholly supported by QR funding and led by the DoR provides administrative support for our doctoral programmes (noted above) and additionally supports faculty research activity, providing a variety of monthly reports that facilitate research management. These include research student recruitment, progress and completion rates, research income, publications, practitioner engagement and media coverage. It

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oversees the regular updating of our own journal listing with quality ratings to guide individual faculty publication strategies for both academic and practitioner audiences. This provides the basis for the monthly faculty publication report circulated to DoR, Directors of Communities and RDG.

The Business Technology Group (11.8 FTE) provides IT support for faculty and students. In addition, it maintains and monitors the School website, supports the distribution of research surveys, helps researchers exploit social media for data collections and research dissemination (e.g. e-publications), and provides analytics of the effectiveness of our web and social media presence. A dedicated Print Room (4 FTE) supports the publication of research reports, including for example our annual benchmarking report on manufacturing practices through our Best Factory Awards organized by Szejczewski.

A dedicated recording studio supported by 4 AV technicians permits wider broadcasting of key research outputs and timely engagement with live debates (e.g. Baines commentary on voting patterns in the US Presidential election 2012). They also support the development of podcasts and a series of provocative research-based 1 minute videos (e.g. Rajwani "Develop a Strategy") available on the School website. Similarly, a Press Office (2.8 FTE) supports engagement with journalists and media to ensure rapid and extensive dissemination of research outputs of regional, national and international interest (e.g. Female FTSE report published by the International Centre for Women Leaders, achieving 116 press items in April 2013 immediately following its launch).

Developed in 2006 the Knowledge Interchange, both physically and on-line, provides delegates from executive development programmes with access to current Cranfield thinking pertaining to key areas of management interest (e.g. leadership, innovation management, entrepreneurial performance, project management, branding and corporate responsibility & sustainability).

e. Collaboration and contribution to the discipline or research base

Research collaborations

A focus on thematic and issue based inter-disciplinary research encourages us to collaborate with a wide range of other academics **locally, nationally** and **internationally**, with **research users** and with **external bodies**.

Locally, we have engaged with engineering scientists at Cranfield, through EPSRC-IMRC projects investigating the design, deployment and delivery of product service systems (Martinez, Peppard, Smart and Wilson), food scientists, with funding from DEFRA (Mena), and water scientists, with funding from EPSRC (Varga). **Nationally**, Varga, through her complexity research, has enduring collaborations with economists and material scientists based at Leeds, De Montfort and UCL. Smart collaborates with engineers at Cambridge, and Bourlakis collaborates with engineers at Manchester, Birmingham and Brunel. **Internationally**, we engage with international networks of management scholars. For example, Dickmann and Parry spearhead the Cranfield Network on International Human Resource Management (CRANET). Launched in 1989 this international research collaboration amongst 40 universities worldwide provides authoritative outputs on a continuing basis. Parry and Dickmann are also the UK partners in 5C a collaboration amongst academics from US, Austria, Spain, China, Mexico and Russia, investigating indicators and influencing factors for career success and triggers and outcomes for career transitions across countries, cultures and generations. Denyer is a founding member of the Evidence-based Management Collaborative alongside a series of international leaders in the field: Profs. Rousseau (Carnegie Mellon), Latham (Rotman), Rynes (Iowa), Sitkin (Duke), Bansal (Western Ontario), Mahoney (Illinois) and Bartunek (Boston). Other faculty also collaborate with management scholars globally; many holding visiting scholar or professorial positions in the US, Australia, Europe and UK. More than 20% of our published output was co-authored with non-UK based academics.

Complementing our academic partnerships we collaborate with **research users** particularly through our 8 research clubs, which have engaged with >150 organisations since 2008. These are a significant feature of our research environment which permits close engagement with industry, commerce and the third sector. This co-production of knowledge not only ensures relevance and impact, but also delivers high quality academic outputs thereby meeting two of our strategic objectives. We have conducted research with >250 public, private and third sector organisations including Rolls Royce, HP, GSK, BT, RBS, NHS Hospital Trusts, government departments and

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Oxfam GB and Barnardos. Numerous research projects have been conducted in collaboration with **external bodies** such as NHS NIHR-SDO (Buchanan) and MoD (Parry). The collaboration with Addenbrooke's Hospital (Buchanan) resulted in a successful application for funding for a National Institute for Health Research Management Fellow, enabling an Operations Manager to work on the research project for 10 months and permitting rapid uptake of findings.

Contributions to the discipline and research base

Cranfield School of Management is committed to help expand the UK management research base and to raise its scientific quality and international standing through participation in the **peer review process, doctoral examinations, journal editorships** and **capacity building workshops** and **contributions at major conferences** in the REF period. The research contribution of our faculty has received significant **external recognition**.

Participation in the **peer-review process** has been extensive with 6 members of faculty being active members of the ESRC peer-review college. Others have acted as reviewers for 7 other international and national research grant awarding bodies including British Academy, Leverhulme Trust, European Union and Netherlands Organization for Scientific Research. Faculty have reviewed articles submitted to almost 200 different journals including the world leading Organ. Stud., Strateg. Manage. J., Acad. Manage. Rev., Acad. Manage. J., MIS Q., Leadersh. Q., J. Occup. Organ. Psychol., Hum. Relat., Hum. Resour. Manage., J. Oper. Manag.. Faculty have conducted more than 80 **doctoral examinations** in Australia (Edith Cowan, MacQuarrie), South Africa (Johannesburg, Stellenbosch), New Zealand (Waiarato), Scandinavia (Aalto, Copenhagen Business School, Stockholm School of Economics, University of Tampere) and the UK (Bath, Cardiff, Durham, Edinburgh, Imperial, Judge, Lancaster, Leeds, LSE, Manchester, UCL, Warwick). **Journal editorships** include the Editor-in-Chief for International Journal of Human Resource Management (Dickmann) and International Journal of Logistics: Research and Application (Bourlakis). Faculty have acted as Associate Editors for 5 journals including International Journal of Management Reviews. They have edited special issues in 14 journals, including: J. Oper. Manag., J. Strateg. Inf. Syst., Manage. Account. Res., J. Mark. Manage. & Supply Chain Manag. They sat on the Editorial Boards of 18 different journals including J. Manage. Stud., Brit. J. Manage., Manage. Learn., Long Range Plan. & Thunderbird Int. Bus. Rev. **Capacity building workshops** designed and delivered by the faculty enabled support for early career researchers to develop their writing and literature reviewing skills at the BAM Doctoral Symposium (x6 yrs), AoM Conference (x3 yrs), (Denyer and Pilbeam) benefitting over 300 doctoral students and early career academics. Faculty have organised 21 PDWs or Symposia and facilitated or chaired a further 21 sessions at AoM in the REF period. PDWs on change management in extreme contexts at AoM attracted over 100 participants and helped to develop a research agenda and establish an international network of active researchers, including Profs Carroll (MIT), Gephart Jr (Alberta), Kuo-Hui (City University of Hong Kong), Antonacopoulou (Liverpool/AIM Fellow), Elliot (Liverpool), MacPherson (Wisconsin), Linnenluecke, (Queensland), Fliaster (Bundeswehr), Paroutis, (Warwick) and Lalonde (University Laval). Contributors to the workshops have committed to an edited book publication. Faculty have **contributed to major conferences** at conferences. Six have organised international conferences, e.g. the International Product Development Conference (Goffin), Performance Management Association (Bourne), Global Finance Conference (Poshakwale). 17 faculty have acted as track chairs in Australia (ANZAM – Baines, Macdonald), Europe (EURAM – Mena, Parry; EurOMA –Szejcowski) and UK (Academy of Marketing – Baines, BAM – Pilbeam), as sub-theme convenors (EGOS – Kelliher, Parry), as co-chairs of study group at ILREA Conference (Kelliher), and as Associate Editor for both International and European Conference on IS (Peppard).

External recognition for our contribution has been significant. Denyer is an Advanced Institute of Management Fellow and BAM Council Member and Kwiatkowski is Vice Chair of the Ethics Committee for the British Psychology Society. These and other contributions to the wider discipline have been recognised: Wilding was awarded an OBE in 2013 New Year Honours list for services to business; Peppard was awarded the Stafford Beer Medal in 2009 by The Operational Research Society; Vinnicombe was made a BAM Fellow in 2013.