

Open Research, and Professional and Technical Support Staff



Report of a workshop and roundtable, February 2023

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Introduction

This short report summarises some reflections of professional and technical support staff¹ on their perspectives on open research. The reflections are based on input to, and discussions at, a community workshop and roundtable event co-convened by UKRN and Jisc on 20th February 2023. The report is intended to inform discussions within groups of staff in similar roles, across different professional and academic groupings in institutions, and with other stakeholders such as funders.

Background and rationale

[UKRI note](#) that “open research, also widely referred to as open science, relates to how research is performed and how knowledge is shared based on the principle that research should be as open as possible”. It includes open access to publications, but it is much broader. It encompasses a range of practices that make research processes and outputs transparent and open to engagement with other researchers and those outside academic research.

Openness and transparency promote the trustworthiness, rigour and reuse of research. It is a core principle of the UK Concordat to Support Research Integrity and the Open Research Data Concordat, is increasingly required by research funders, recognised in the Research Excellence Framework, and features in many institutional research strategies.

However, openness and transparency in research are not easy. They are not tightly specified and the most worthwhile changes to make will look different in different research fields and settings. It can call for new ways to plan, manage and conduct research, new approaches to funding and scholarly communication, the right skills, staff, teams, infrastructure, policies and incentives. In some situations, it can seem to be in tension with ethical or regulatory considerations, with support for commercialisation, or with academic freedom.

Many types of professional staff across the research sector influence how open and transparent research is, for example by developing strategy, policies, priorities, managing change, supporting the conduct of research, communications, engagement or open

¹ During the preparations for the event, and on the day, the phrase “professional and technical support / services (PTS) staff” was used to designate the range of staff who were involved, and being as inclusive as possible. There are blurred boundaries, of course, including between professional, technical and academic staff. “Professional and technical support / services staff” is too cumbersome a phrase to use in this report, and so the term “professional staff” is used throughout. It is intended to be capacious, including for example research software engineers, finance professionals and senior institutional managers. The success of the event suggested that such a broad grouping was, in fact, helpful for those involved, regardless of what we call it.

publication. Roles vary from operational support to some of the most senior roles in an institution, and sometimes overlap with academic activities. Relevant aspects of these roles are set out in a little detail in Annex 4.

The summary below is thematic and strategic. More detailed materials related to the event on 20th February 2023 are in the Annexes.

Strategic challenges and opportunities

The following strategic challenges and opportunities draw from our own experience as professional staff, and from sharing that experience to explore several scenarios and dilemmas relevant to open research. They are not necessarily in priority order.

Communication between staff

Neither professional staff nor academics necessarily know what contributions are made by different professional staff to open research. This could be for several reasons, for example:

- there is not a broad and shared understanding of open research, beyond open access;
- the contributions of professional staff may be indirect (but significant);
- the names, responsibilities and organisational homes of professional individuals and teams are unclear.

These challenges are multiplied across the sector, as each institution names and organises these activities and roles differently, so that institutions are not only autonomous (which is essential) but also inconsistent (which is not).

The requirements of open research spur these activities and roles to evolve, often challenging traditional distinctions between professional and academic staff. Institutions individually and the sector as a whole need to find new ways to both avoid inefficiencies caused by siloed perspectives and make the most of the talent available, wherever it sits.

Funding

There can be mismatches between research funding (quantity, duration, conditions, etc) and the operational work needed from professional staff to make research meaningfully open. Examples include data curation and statistical expertise. Formal guidance used by institutional finance managers on what should be considered and costed in research may impact on what resources end up being available for open research. Such guidance is informed by research funders, for example in their terms and conditions.

Expectations, risks, principles

The expectations of funders, regulators and institutional senior management, as they impact on open research, are not always clear or aligned. Policies and other frameworks governing openness and transparency, commercialisation, institutional risk and security tend to be developed independently of each other. This means that professional staff whose activities impact on open research face dilemmas, risks and uncertainties in developing strategy, making judgements, providing support or formulating advice.

Open research and rigorous research

Professional staff are usually instrumental in making research meaningfully open, as opposed to just open (e.g. merely putting an output on a website). Making research meaningfully open, to enable genuine engagement and reuse, could require activities such as data curation or science communications, and adequate financing to provide resource for this work. In some senses, meaningful openness simply follows from research that is planned, undertaken and reported well. Planning for openness may be seen, therefore, as simply a way to drive better research, and the business case for professional staff to enable openness is, in some ways,

the same as that to support rigorous, engaged and high quality research. In other ways, such as some licensing or public participation activities, openness may require professional support over and above that needed for research rigour.

Recognition

Some initiatives exist, such as the Technician Commitment, to promote recognition of some professional staff, including recognition for their contribution to open research. There are also initiatives such as the Open Research Competences Coalition, that promote the skills needed by some professional staff. These have begun to make a difference for professional staff with roles most directly affecting open research, such as research software engineers, data stewards and open scholarship librarians. However:

- current initiatives appear to be islands that would benefit from some coordination or cooperation;
- additional work is needed to clarify how other professional roles (such as administration, finance or technology transfer) contribute to rigorous and open research significantly, albeit less directly, so that these contributions can also be better supported and recognised.

Early involvement

Early in the development of research projects, support from professional staff can sometimes be important in factoring in the requirements of open research (and of EDI, ethics, sustainability, etc), but this does not always happen. Even where it does, circumstances change over the life of a project, and many things cannot be anticipated (this is research, after all). Nevertheless, some issues with implications for professional support for open research can be expected and planned for early, such as the likelihood of precariously-employed staff leaving before the end of the project, and the need for some levels of curation before research can be made open.

Business case

Without a business case, levels of professional support for open research are unlikely to be adequate. Such business cases have sometimes been weak, and several factors may account for this such as:

- The extreme variety of activities needed for open research in different contexts, and the difficulty of defining how much is enough in each context and case, challenges the development of systematic evidence and convincing business cases.
- Evidence to support such cases may include metrics of various kinds, which are likely to be managed by professional staff. However, if badly used, these metrics may drive compliance-oriented behaviours rather than improving practice. It is possible that a fear of such effects has led to a dearth of relevant evidence and hence weak business cases.

Culture

Professional staff want to enable rigorous and open research but are often seen simply as managing compliance with disparate sets of requirements. Such compliance is necessary and may be an extrinsic motivator for research practice. However, professional activities that promote a positive research culture aligned with researchers' intrinsic motivations, and that emphasise support for research, may be both effective in promoting open research and more rewarding for professional staff – albeit in the context of a highly competitive research system. It is, though, harder to build a business case for promoting a positive culture as compared with ensuring policy or regulatory compliance. External signals, for example from funders, can help change this.

Conclusions: strategic challenges and opportunities

General environment

The national and institutional environment in which professional staff are working can make it difficult for them to support open research well. Aspects of that environment have been well-documented elsewhere². From a professional perspective the environment results in decision-making within institutions and across the sector that is creaking under the strain of expectations and procedures that are often unclear, incompatible and not strategic.

Open research: challenges and opportunities

Assuming that the environment will take time to change, one key to professional practice that is more efficient and effective in supporting open research is to enable more and better collaboration between professions and institutions in the meantime. This will promote common understandings of open research and how professional staff support it, enable the sharing of good practice and lessons learned, and help professional staff develop stronger cases for the work they do supporting open research. While collaboration is not free of costs or risks, it may be the sector's best strategy to enable highly skilled professional staff to support more rigorous and open research.

² Examples of recent review reports on the research environment include the [Concordats and agreements review \(universitiesuk.ac.uk\)](https://www.universitiesuk.ac.uk/concordats-and-agreements-review) and the [ARMA Research Culture Survey Report – ARMA](#)

Concrete suggestions

Professional staff see collaboration as a key to tackling the challenges outlined above. The table below highlights some specific challenges and proposals that arose during the event on 20th February. These are not validated recommendations, and so are not directed at any specific body. They are invitations to professional bodies and/or bodies and initiatives such as UKRN, Jisc and others, to scope and lead activities where they align with existing missions.

#	Challenge	Proposal
1	Lack of a shared and broad understanding of open research	Draft and share a very short briefing suitable for all professional staff, to be circulated and used by professional staff and community bodies.
2	Unclear expectations with respect to when, how and how much research should be open	Convene system-wide discussions to interpret with a little more precision, in different research areas, the meaning of “as open as possible, as closed as necessary”. One output from this might be that professional and academic staff develop a common framework for decisions about licensing academic research, respecting diverse fields, methods, institutions, etc
3	Weak evidence for business cases for more resource for professional staff to support rigorous and open research	Hold workshops with professional and academic staff, based on tangible topics or case studies, to elicit stronger accounts of the activities (time/cost) and contributions (impact) of professional staff in supporting rigorous and open research
4	Lack of recognition for professional contributions to rigorous and open research	Share information about initiatives such as the Technician Commitment, that articulate how some professional staff should be recognised. Also, use the outcomes of the workshops (3) to develop new initiatives that articulate how other professional staff could be recognised for their contributions to open and rigorous research.
5	Need to make it easier and more rewarded for professional staff to support rigorous and transparent research	Representatives of professional staff cooperate to co-develop their professional development frameworks to highlight training, recognition and reward for supporting open and transparent research.

#	Challenge	Proposal
6	Isolation of professional staff in professional siloes	Use workshops as above to elicit stronger mutual understanding of professional contributions to open research. The output from these workshops may be project management protocols / approaches that articulate how / when the different kinds of expertise are required and that encourage a more collaborative team-based approach to open research. Near term, establish an email list for interested workshop participants.
7	Risk management focused on compliance rather than also on opportunities of open research	Use workshops as above to promote a broader view of the risks and opportunities in open research, and to inform future institutional and project risk assessments.
8	Isolation of professional staff in institutional siloes	Provide opportunities for sharing insights, resources, materials and even people: mutual invitations to professional body conferences and dedicated sessions; secondments and placements; shadowing, shared folders (etc) for sharing materials.
9	Need to enable professional staff to plan support for open research in the context of wider sector change, eg on research culture	Form five inclusive working groups, each based on one of the five 'levels' of the COS change model of making behaviours possible, easy, normative, rewarded and required (see slides in Annex). Use this framework to bring together discussions on open research, EDI, sustainability, external engagement, etc
10	Need for different kinds of strategic and project leadership to enable and promote open research	Work with agencies and other entities involved in leadership development to influence how future professional leaders are cultivated
11	Need for more ideas and inspiration	Review and learn from the experiences of professional staff in other sectors (industry, conservation), countries and agendas (eg impact) as change programmes were pursued
12	Need to prioritise ideas and actions	Enable professional staff to develop an inclusive cross-profession forum, for example focused on open research

Annexes

Annex 1: Contributors

Name	Representing
Hannah Fromageau	AdvanceHE
Alison Evans	Association of Heads of University Administration
Valerie McCutcheon	Association of Research Managers and Administrators
Catherine Borwick	Association of Research Managers and Administrators
Loretta Gibson	Association of University Administrators
Rachel Paterson	Association of University Legal Practitioners
Joni Rhodes	British Universities Finance Directors Group
Siân Harris	Science Communications
Liam O'Shea	External Relations
Victoria Talbot	Harper Adams University and University Bioscience Managers Association
Henry Gonnet	GuildHE institution
Paul Manners	NCCPE community
Ed Cole	Knowledge Exchange profession
Declan Mulkeen	Research Strategy / Research Development
Jacqueline Edge	Professional Research Investment and Strategy Managers
Kirsty Wallis	Research Libraries UK and UCL
Greg Anderson	For RUGIT
Ross Espinoza	Staff Development Forum
Clare Stevenson	Technician Commitment
Matt Williams	Society of Research Software Engineering
Dean Roe	UCISA
Liz Elvidge	University HR
Karen Veitch	United Kingdom Council of Open Research and Repositories
Toby Hanning	UUK institution
Rachael Mckittrick	UUK institution
Astrid Wissenburg	CRAC/Vitae

Annex 2: Sliddeck used at the event on 20 February

[The sliddeck is available as a PDF file](#)

Annex 3: Feedback from participants following the 20 February event

The following was elicited in the few weeks following the event, via a shared online notepad.

Take-aways from the event

1. Open research is much, much more than open access; this is not widely understood in the sector
2. Both more commonality in professional experiences and more diversity in (open) research practices than might be expected
3. Relatively few opportunities to discuss research support across professional boundaries, which is a problem given the range of specialist skills needed. There may be opportunities to work together at the system level to create a more joined up approach, and at the community level to foster knowledge sharing among staff with varying levels of experience
4. If no single entity 'owns' open research, then no one is accountable for making it happen, so it may not be prioritised

Actions for me / my network

1. Use the contacts made at this event
2. Opportunities to coordinate with specific initiatives such as those around the sector concordats
3. Consider adapting event materials to inform development of network resources
4. Engage with local and national professional networks, to share insights
5. Consider the meaning of "as open as possible as closed as necessary" in different contexts, and its relation to risk assessment and appetite among researchers and institutions

Collective action

1. More events such as this one, to improve mutual understanding
2. Convene follow-up discussions (thematic working groups?) on how best to support and lead research practices, as the event was only able to scratch the surface
3. Develop the proposed actions into a roadmap on which we update regularly

Actions for the organisers (UKRN/Jisc)

1. Develop the proposals into an action plan, with shared ownership
2. Review the original goals to ensure they are still correct
3. Engage with funding bodies on these issues
4. Engage with other bodies (eg UKCORI) on aspects of these issues

Annex 4: Summary of Professional roles in support of open research

Introduction

This annex compiles information from the UKRN event briefing, the feedback from participants prior to the event, and the discussion and exercises during the event. It summarises some activities, issues, challenges and opportunities for specific professional roles in enabling open research. One of the findings from the event was that the definition, scope and name of some of these roles varies between institutions. We have tried to be as accommodating as possible to this diversity while keeping the amount of duplicated information to a minimum.

Staff development

Some open research practices require fairly generic skills, but others also require skills very specific to particular research fields, settings or disciplines. Some of this is covered through doctoral training and support for doctoral supervisors, some in training for researchers throughout their career, and some in other ways. In many fields, professional staff may be involved in staff development relating to judgements in ethics, integrity and risk management, which will include dilemmas related to openness in research. In some cases, industry could have a major role in both defining and developing open research skills, which might be explored when collaborations are negotiated with commercial research partners.

Many staff also need to be able effectively to help students understand and adopt open research skills and practices, and professional staff may have roles here too. As funders begin to accept new models for staffing research projects, then professional staff may have development needs, for example to take on PI or similar roles. Professional staff may also be involved in developing training materials and resources, and in advocating for arrangements to make those open.

Human resources / staff career support

Open research practices, and the skills development that enable them, could perhaps be better resourced, recognised and rewarded in recruitment, appraisal and promotion policies, in procedures, and in relevant cultures and traditions. This applies not just to academic researchers, but to technicians and others vital to open research. There will be diversity in how these roles support open research, and in their working arrangements and career pathways, which will affect what kinds of recognition and reward are best suited.

Resource, recognition, reward and career development pathways for professional staff become even more salient as funders enable such staff to take on a wider range of roles, including PI and similar roles, in grant applications. HR staff may advocate for such changes in role expectations, for example exploring convener-led research and senior coordinator roles in research projects, as those changes may contribute to a healthier research culture and open and rigorous research in various ways.

There will always be staff turnover, and this can affect open research, for example by raising risks related to process knowledge and continuity in data or software stewardship. Excessive precarity in both research and professional staff does not help this and HR will have roles both in tackling that precarity (as far as possible) and in supporting research teams as they plan for staff inevitably leaving the project early. HR staff will also enable and support exit interviews, which may be important both to capture tacit knowledge of the project and to gain insight into the reasons for any excessive staff turnover.

Different open practices, and the required skills, are likely to be different at different stages of a research project, with implications for how projects should be staffed. Those implications may impact on both individual and organisational development goals.

Where HR see staffing challenges in enabling open and rigorous research, they may advocate for solutions both within the institution and sector wide, for example enabling expertise to be shared between institutions (and the related financial and other arrangements).

HR staff play a leading role in promoting a positive research culture across an institution, which includes openness and transparency in research, and factors affecting that such as equity and respect within research teams, which enable various roles to contribute effectively. As a part of this, HR will likely keep track of staff sentiment with respect to aspects of research culture, including openness and transparency; insights here will be important for organisational development.

Finance and procurement

Open research practices can involve different kinds of funding, projects profiled in new ways, new staffing arrangements, etc. Finance staff are key in enabling grant proposals that support open research to be presented in the best possible ways. New forms of pooled financial arrangement might be needed to enable open research collaborations. Procurement rules may need to be reviewed to ensure they do not discriminate against open solutions, and put the right value on research benefits.

Internal business cases, for example related to staff or organisational development, need to be based on sound financial evidence of resourcing requirements and pay-off, that takes a rounded view of what counts as value, including the value of rigour, openness and transparency in research.

Pre-award - where bidding for grant funding, finance staff may both shape and use guidance on how professional staff are included in applications, including how their changing roles in a project over time should be reflected in costings. Where particular classes of professional staff, such as software engineers, may be needed across many projects, then finance staff will advise on how the institution might best enable that financially.

Post-award- where working with existing projects, finance staff will advise on how project funds may be used to support open research, for example in supporting collaborative open research practices, or in hosting and documenting software.

Insights from their work will enable finance staff to inform both institutional and sector wide discussions of how best financially to support practices that promote open and rigorous research, and of the implications of particular funding models and arrangements with both grant funders and commercial partners.

Legal and risk

Sharing research more openly brings a range of questions related to law and risk, from IP management to complying with export control regulations, to managing privacy in sensitive data.

Collaboration agreements may need to set out expectations that support researchers wishing to practice more open research. Legal and risk professionals will need to ensure that due diligence is observed relating to potential collaborators and aspects of a project such as the ownership, location and access arrangements for data, and will advise researchers and other professional staff on this.

Wherever legal or regulatory frameworks are relevant to open research, then legal and risk professionals will advise on which frameworks apply with respect to:

- Geography, for example, how best to handle different US and UK export control rules

- History, for example, deciding which laws cover the project at different points in its life, as both the project and the legal environment changes
- Contract, for example managing conflicts between the terms of a collaboration agreement and those of one or more funder

Where risks may turn into issues, then legal professionals may be involved in high stakes negotiations, for example where questions of open research cause unexpected risks in an international collaboration, or where legal or regulatory frameworks change during a project. Professional staff will work together to handle any escalation and dispute resolution.

Seemingly unrelated frameworks and requirements, such as those related to EDI, may in fact affect the openness of research.

Library and information management

Libraries have been central to several open research practices, such as open access and open research data. With a wider range of research outputs and practices now being more transparent, and significant innovation in open scholarly communication, their role will likely deepen.

Library staff typically manage the institutional repository and relations with other repositories and other open research services and infrastructure. They will also provide advocacy, guidance, information and training, for example on the (sometimes conflicting) expectations and requirements of funders and publishers, and on good practice beyond compliance.

Library staff will support the planning and management of aspects open research, for example data management plans. They may work with other professional staff to ensure that these plans outline activities that are realistic, ethical, and legal. They will advise researchers on open research options used elsewhere that might be useful for the research at hand, for example models such as OpenSafely and, with other professionals, may appraise those options.

Strategically, with other professional staff, senior library staff will inform institutional direction with respect to open research, and advise on the local implications of that.

Research administration and management

Research managers, including for example leads for compliance and research integrity, can influence the nature and extent of transparency that researchers feel is possible in their project. In addition, research information has become a key strategic resource for institutions and others, and an increasing amount is open through services such as ORCID. This enables more transparent research evaluation, providing that is done responsibly.

Research managers have both strategic and operational responsibilities relevant to open research. Strategically, with other professional staff they will inform institutional direction with respect to open and rigorous research, and advise on the local implications of that.

Operationally, research managers may develop and support integrity and ethics procedures, data management arrangements, procedures for managing conflicts of interest, etc, all of which are relevant to openness in research. To support this, research managers will advise or lead on drafting partner and funding agreements of various kinds, inform data management plans, and may offer guidance, advice and training. This will reflect the expectations and requirements of the institution, the funder, the partners and the research team, in the context of legal and regulatory frameworks.

Where issues arise relating to open research, research managers may be part of escalation and dispute resolution procedures, for example to advise on relevant frameworks and precedents, and may support 'lessons learned' exercises following difficult situations.

IT Services

The vast majority of research depends on digital tools and infrastructure, and its design and deployment will profoundly influence how easy it is for research to be open. For example, it is far harder to be transparent when reporting analysis done with 'point and click' GUI tools than analysis done with scripts and code. Some instruments and infrastructure encode data in proprietary formats that are difficult to make accessible and interoperable. While open source code is central to much open research, it brings its own issues.

IT staff will lead on understanding requirements, defining, making the case for, planning, implementing / procuring, promoting and supporting digital infrastructure at the institution that enables open research, working with other professional staff. In some cases, that will include working with research and professional staff bidding for external funds, and may involve advising on the attributes and risks of particular software, or on relevant legal frameworks, as they are relevant to open research. In some cases, IT staff may assess standard operating procedures or practices that might derive from practice in industry (for example, for specific research workflows or containerisation for preservation), and will advise on their IT and related staffing implications for the institution.

Research software engineers (RSEs) are increasingly central to open and rigorous research in a wide range of disciplines and may be employed in, supported by or otherwise engaged with IT Services, even informally. Their roles may include designing, building, testing and maintaining research software, and cover practices such as version control, dependency management. In some cases they will train and support other professional and research staff in these practices, and will inform data management planning. In some cases, central IT Services may need to support RSEs embedded in research teams, where dilemmas arise with respect to software.

IT Services are likely to be involved in decisions on whether, when and how to make locally written software open source, depending on the business case for doing so. This case may be quite broad, and so IT staff may work with, for example, commercialisation or public engagement professionals on this.

Laboratory and facility management

The physical and digital environment in which research often takes place makes a real difference to the ease with which that research can be made meaningfully open. For example, it will affect how easy it is to document equipment setup and configuration, which may be important details for others to understand how to reproduce the research.

A key role for laboratory and facility managers is in defining and managing standard operating procedures for research, drawing from good practice and regulatory frameworks. These may support open research, or may not; assessing these implications of SOPs is important in ensuring the lab / facility meets the wider goals of any host institution or funder. All SOPs and related protocols and risk assessments should improve quality control and hence research rigour.

To support meaningful open research, the lab / facility needs to enable a research team accurately to document the equipment, configuration and methods used to generate and process data and software. A key development here is the use of persistent identifiers for physical and digital infrastructure, including specific configurations and builds of software or analysis pipelines, to track contributions to outputs and provide data transparency. The

technical information about the physical and digital environment in which the research took place itself needs to be made meaningfully open (SOPs, lab manuals, etc).

Lab and facility managers may also provide independent expertise in data analysis.

Marketing / communications and press teams

The degree to which researchers feel comfortable being open and transparent in their research can be deeply affected by their understanding of how it may be received outside academia, for example in the press, by policy makers, or on social media. Therefore, those supporting professional communication of research, engagement with the press and public relations are potentially critical in helping researchers be as open as they can be.

Communication professionals are perhaps especially critical in managing risks around open research, for example where there may be related ethical dilemmas or difficult relationships within a research collaboration. These often call for proactive and effective communications strategies.

In some circumstances, it is important for research to be presented as a compelling, evidence-based narrative, which will draw from marketing and communications expertise. An example could be impact case studies featuring open research used in the REF. Press releases around major research findings may be another example, and are perhaps stronger when the research evidence is openly available.

Open research may offer opportunities to those who might not typically have a high profile outside academia, or who are developing their communication skills, and marketing and communication professionals may be able to assist.

Strategically, an institution's approach to open research may be used as a selling point by marketing and communication professionals.

Technology transfer / Commercialisation

There is a long-standing debate over whether open research practices are, or can be, in tension with efforts to enable the application of research, for example through commercialisation. There are certainly some examples, such as the Structural Genomics Consortium, that demonstrate that any tension can, at least, be managed.

Knowledge exchange and technology transfer professionals can influence the approach taken by researchers to openness, for example by informing and guiding negotiations and trade-offs with potential partners that might affect IP and openness. The insight that KE professionals have into relative bargaining power is important here. The terms of any negotiations may have a disproportionate effect on how doctoral students and early career researchers feel able to practice open research, though they are not likely to be influential (or even present) in those negotiations.

Later in a project, KE staff will be involved in developing any business case for the exploitation of research outputs, helping a research team come to consensus on this and, again, the value of open research may be a factor. KE professionals may also work with others to develop impact case studies that, by highlighting the positive role played by open research, may encourage other researchers to consider this.

More strategically, KE professionals inform the institution's overall IP and commercialisation stance, and may work with other professional staff and senior leadership to articulate how this sits with support for open research, in the context of the institutional mission and external factors. The impact of this stance on local research culture may be one factor here.

Public engagement

Open research can enable greater public engagement, with some models of citizen science being perhaps the most obvious example. However, it can be challenging, for example where minoritized or otherwise vulnerable populations are involved. Here, both public engagement and ethics professional staff may be able to offer support to the research.

More generally, public engagement staff may advise research teams on the ways in which various publics are likely interested in, concerned by, and want to engage with their research. This may inform strategies/tactics to build positive engagement that supports openness, for example by exploring a range of possible roles for communities, including simply providing data, various co-creation models, owning the research in some senses, and/or being users of the outputs. Public engagement staff may be well placed to advise on exploitation routes for research outputs, for example on building communities around open source software. Such approaches may be the basis for persuasive impact case studies, drafted with input from professional staff.

Strategically, public engagement professional staff will inform the institutional stance with respect to engaging citizens and communities with research, in the context of institutional strategies and funder policies on, for example, IP.

Leadership / strategy and policy

All of the above are themselves influenced by the tone and strategy set by institutional leadership, and by the policy framework in place at the institution. These will be driven by a wide range of factors but, unless enthusiasm for open research is among them, then it is unlikely to be high on the agenda of either researchers or professional and technical staff.

Institutional leaders need to be aware of the wide range of ways in which professional staff enable open and rigorous research, and of the implications of promoting more or less open research as an institutional priority. These implications relate to resource (amount, nature), to how the institution manages and tolerates risk, and to how it makes investment decisions – what it values and how it counts that. Professional staff are themselves well-placed to inform leaders on these questions, as is the academic research community of course.

Once an institutional stance has been agreed, then leaders may need to (and be seen to) defend that in the context of external drivers such as funder policies, international rankings, or commercial pressures. All the signals point to rigour, openness and transparency being central to research policy for some time to come.

Annex 5: Thematic briefing for the event, based on input from participants

Range of roles for professional and technical services staff in supporting open research

- Professional staff often take the lead in developing open research strategies and policies
- Play a major role in developing and managing the physical and digital infrastructure
- Provide open research expertise as part of research teams or dedicated expert / central services
- Increasingly active as co-producers of research
- Some professional staff did not see a direct relation to their roles
- There were many examples given of existing activities and potential activities that we will incorporate into our final report from the roundtable

Awareness and communication

- There was a mix of awareness among roles around open science, for example not being discussed in some disciplines (more in sciences, less in arts, humanities, social sciences) and in more educational-facing roles, but very familiar to research software engineers and library staff.
- Relating to awareness, there were comments around the clarity of messaging around open research, with a need for clear definitions and discussion on boundaries. Communication activities were thought to focus mainly on science disciplines.
- The responses themselves indicated different understandings of what open research is
- Several contributors identified the link between openness and quality / reproducibility. The huge pressure to publish can sometimes be at the detriment of quality.

Boundaries of openness

- Examples of openness from various contexts were given, with different motivations for being open.
- A need to recognise that open knowledge exchange may not just be achieved through traditional academic outputs. Need to recognise, value and apply quality and accuracy expectations around outputs such as policy briefs, press releases, videos and outreach activities.
- Communications can be too detailed, with many stakeholders, web pages etc. The management and medium of communications about research are key and need to be part of a wider strategy.
- Methods sections of publications should be more descriptive of the actual approach taken to produce the research. Pre-registration of methods is a good idea.
- Open access to methods and technical information is just as important as open access to the publication. Sometimes sharing of failure is just as important.
- Standardised protocols and risk assessments are available for lab procedures and activities are available. This is not done with openness in mind but to ensure safety and efficiency of resources; nevertheless, these things can help make research meaningfully open.
- Open educational resources (OERs) have been part of the HE landscape for over two decades

- Open sharing of practice and research has become more prominent since the pandemic

Lack of resource

- Laments about tortuous processes for data access
- Professional, technical and research staff are swamped, this needs to be borne in mind
- Time allowed for open research practices remains a challenge
- The facility to make research open and accessible varies vastly between institutions and organisations, particularly as smaller institutions have more limited capacity
- Resourcing levels and models for providing open research expertise can differ and partly depends on how well cost recovery through grants is steered

Ownership and organisational structure

- There is a lot of confusion around who is ultimately responsible for open research and actually, it's much more of a joint effort.
- There may be a case for a more holistic approach which could also feed into the decolonization and increased impact agendas
- Technical and professional staff are often not in control but may be able to influence support enhancements
- A fragmentation of responsibilities across different departments can lead to lack of coordination.
- Core facilities should be run by experts but the 'customers' (researchers) aren't often experts - analysis and interpretation are often part of a core facility's function and inclusion of facility staff
- Hurling towards team science future which will only benefit the adoption of open research, but the funding landscape is not set up to accommodate it - grants must name the same 2, 3, 4 people for the entire lifecycle of the grant, which does not match the changing needs of projects over their lifetimes
- Research administration and management could fall into two categories with regard to open research - pre-award and post-award- as the influence of professional staff in these spaces will look quite different

Culture and tensions

- There are different practices and expectations across disciplines, some are more open than others
- Some staff, in particular technical/methodological staff, have asked not to be included in credits as they disagree with the analysis, egos can often get in the way
- Sometimes the contributions of technical specialists are not respected or valued, even though they are the expert in a particular methodology
- Poor ethics processes can later lead to barriers to sharing
- Debate about whether open research practices are, or can be, in tension with efforts to enable the application of research, for example through commercialisation
- Professional services often lead institutional culture and practice change initiatives, yet academic buy-in and adoption is essential for successful embedding. Balancing the benefit to the individual and collective compliance requirements is difficult - best practice is often lost in a compliance checklist.

- How can open research be managed in a global context where sharing research may be detrimental to local researchers who feel that openness is detrimental to the subjects of their research?
- Despite the efforts to make English HE competitive through the introduction of fees and a regulator, in general the sector enhances and develops itself through collaboration.
- The persisting dichotomy between research and teaching obfuscates the relevance to all parties

Career progression, recognition & incentives

- Rewarding and recognising the work of professional and technical staff is important
- Career development should also feature here as the research is often part of a career pathway and this may be a key motivator or inhibitor for open research
- Linking openness with career pathways will play a role in successful adoption of open practices (this worked for data sharing as now data counts as a publication)
- Technicians don't receive sufficient acknowledgement for their intellectual input into experiment design
- It would be interesting if admin/management were acknowledged for their non-academic contributions, particularly driving forward open research.
- To be able to contribute to open research, it is essential that professional staff are equipped with the necessary knowledge and skills. This has had to be done 'on the job' and by professionals seizing the initiative advocating for the support of new roles.

Training and skills

- Access to training for those classified as technicians can be difficult. The barriers can be cultural as the PI doesn't see them as researchers and would rather spend the money on e.g. the lab.
- Standardised collaboration and open research agreements for the sector could be immensely beneficial. Legal services teams working in universities have a vast remit that is often not embedded in a research background, making culture change a challenge without defined and appropriate tools.
- There is arguably less training provision for mid- and later-career academics

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