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Research on Research Institute: Independent Review of Pilot Phase (2019-2021)

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RoRI RESEARCH ON RESEARCH INSTITUTE

http://researchonresearch.org

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Executive summary

1. The Research on Research Institute (RoRI) was established in 2019 by the Wellcome Trust, Digital Science and the Universities of Sheffield and Leiden with a mission to accelerate transformational and translational research on research systems, cultures and decision-making. Its objectives cover five elements, of research, translation, innovation, brokerage and facilitation.

2. RoRI is a consortium of 21 partners, drawn from 13 countries and regions. Its pilot phase ran over two years, from late 2019 to the end of 2021, and its second phase will run for five years, from 2022 to 2027. It has undertaken six projects during the pilot phase, producing a range of publications and working papers[1].

3. RoRI commissioned Carter Research Navigation to provide a rapid-yet-robust, independent review of RoRI's first, pilot, phase before it commences its second phase. The primary approach to the review has been through targeted stakeholder interviews, with some examination of documentary materials.

4. RoRI has demonstrated a strong overall performance, being well organised and producing some serious, well-designed studies; despite the pandemic restricting interactions. Interviewees were all positively engaged and constructive in the dialogue, supporting the importance of research on research. There was also a significant interest in wishing to see practical outcomes based on robust research. RoRI has a number of key features that are important characteristics of the initiative, reasons that participants engage, and essential to be protected:

    - An environment of trust
    - Strong co-creation and multiple other forms of co-working
    - Funders as partners, subjects and beneficiaries
    - Dialogue being as important as outputs
    - Enabling the translation of research into practice
    - The choice of topics that reflect interests across the partnership

    There are a range of challenges, reflective of the nature of collaborative research and of research on research. These include addressing:

    - Diversity
    - Communication and community engagement
    - The range of translational and innovation pathways
    - Partner engagement

[1] https://researchonresearch.org/reports

- Stakeholder groups
- Data sharing
- Organisational, intellectual and economic sustainability

5. RoRI is more than a set of research projects, and more than a team of researchers. The effort involves funders (and others) as partners and participants in ways that are more similar to collaborative industrial research consortia than to grant-funded mechanisms.

6. Beyond the immediate partners, community engagement will be important, although RoRI cannot serve all possible communities. There is a consensus that the focus should remain on funders, given the amount there is to do, but with engagement with other stakeholders, such as publishers and ROs.

7. The balance of activity across all five elements of the objectives and between and across the partners and with other collaborators and associates will necessarily vary, and should be actively managed throughout the next phase.

8. Organisationally, RoRI is at a natural point of evolution. The Prospectus for Phase 2 provides a viable model for the partnership, creating a business-like structural environment, offering an element of discipline and control without over-constraining. It reflects a typical stage of development after start-up moving into a period of relative stability and growth. Operational processes will mature alongside the revised structures, including spreading the responsibility across the leadership team for managing partner and community relationships, working closely with the core partner representatives.

9. The Prospectus provides a range of mechanisms for engagement, including core, project and in-kind funding, along with fellows, associates, nodes and a community of practice, enabling flexibility, diversity, and potentially the means to address capacity.

10. Associated with these mechanisms, future modes of funding under which RoRI might operate include a consortium-funded core programme, individual grant-funded projects, commissioned R&D work, club-funded community-focused projects, and some knowledge-based services. The core programme represents structurally-funded, strategic research, and is the means to support the organisational development of the partners and of the wider system.

11. This independent review has heard from 20 of RoRI's partners and stakeholders that research on research is an important, on-going subject of interest, that RoRI has begun

to deliver on its mission, and that a collaborative consortium model of organisation, funding and operation needs to be at the core of taking this agenda and RoRI's five objectives forward. RoRI has demonstrated a number of key features, and is set to be able to address the range of challenges and opportunities that exist in the research on research space.

"Practical findings are what will retain the enthusiasm of the stakeholders."

Main report

1. Introduction

The Research on Research Institute (RoRI) commissioned Carter Research Navigation to provide a rapid, independent review of RoRI's first, pilot, phase before it commences its second phase. Appendix 1 provides a summary of RoRI, which was established in late 2019 with a mission to accelerate transformational and translational research on research systems, cultures and decision-making. RoRI is a consortium of 21 partners, drawn from 13 countries and regions. The primary approach to the review has been through targeted stakeholder interviews, with some examination of documentary materials.

Stakeholders for interview were identified and prioritised with support from the RoRI core team, being a mix of partners, stakeholders and 'critical friends'. The core team played no other role, apart from being interviewees themselves. Interviews were conducted with 20 organisations (21 interviews) from nine countries. Two organisations that were contacted were not able to take part. Those organisations that were interviewed are listed in Appendix 2, and the topics that formed the basis for the discussions are provided in Appendix 3. Each interview followed a course determined by the nature of involvement with RoRI of the organisation and individuals being interviewed.

All of the interviewees engaged fully and openly with the process. All were constructive and supportive, and where they made critical comments they typically explicitly noted this was with RoRI's development and success in mind. Any errors or omissions in the report are those of the author.

This report provides an assimilation of the comments and opinions expressed during the interviews (Section 2). It also provides commentary building on the observations from the interviews (Section 3) drawing on the author's experience of research management. The report ends with some conclusions (Section 4).

2. Observations from the Interviews

Perceptions of overall performance

There was a very strong view amongst the interviewees of an impressive performance and of making good progress, recognising the challenges of bringing together a significant number of funders as partners, putting the foundations in place, and beginning to deliver individual

projects; and doing this in the context of the pandemic that took hold after the launch meeting. Balanced against this, some interviewees suggested that a self-assessment may not be as positive as an external perception.

Interviewees suggested that there was and is a need for research and development in the area of research on research (*"timely and important"*), and that this initiative *"needs to succeed"*. Equally, one interviewee observed that research on research is *"seen as a luxury by some, not being built into their [research managers'] headspace"*, partly because they *"have not got the bandwidth"*. Conversely, *"RoRI has catalysed funders to build their own capacity and include research on research in their strategies"*.

RoRI was described as *"ambitious", "really impressive", "better than originally expected"* and *"a huge endeavour"*. "*Pulling together the funders from around the world is a serious achievement"* and *"the international flavour has kept my interest; there is nowhere else one can do this"*. One interviewee commented that *"RoRI is my favourite project"* and another that *"RoRI was my lifeline … building R&D into the way we work"*.

Comments included that RoRI is *"well organised with good strategic thinking"*, and has undertaken some *"serious, well-defined studies with rapid publication"*. Whilst not all of the six projects have delivered to the same extent, "*one should not be surprised or disappointed by that"*, and that RoRI had *"imposed rigour on the questions and the data"*.

> *"The overall objectives were well thought through; there was a lot of agility in the day-to-day operations."*

It was noted that there is no exact equivalent, and multiple interviewees observed that the difference with RoRI is the nature of the collaborators and the level of co-creation: *"the community is what makes it special and useful"* and being *"excited to work with others who are [also] passionate about these things"*. Similarly, that individual partners *"would not have been able to do the larger things on our own"*, although there was a minority that felt they did have the capacity themselves.

Observations were made about the blend of perspectives involved and that RoRI is helping funders to think how to operate. Involvement has helped partners reflect and acted in some cases as an evaluation of an element of their operations.

The partnership is thought to have *"phenomenal potential"*, is transparent and collaborative, but is also stretched for resources. That new partners are wanting to join for phase two, and phase one funders to continue, was thought to be a good signal. There were some mixed

views about the legal structures involved, including a minority view questioning whether it is necessary to draw funders into such a close relationship.

Key features

In commenting on RoRI, across all of the interviews, a number of key features were repeatedly mentioned. These seem to be important characteristics of the initiative, reasons that participants engage, and essential to protect in moving to the second phase.

Trust. RoRI provides an environment in which trust can be built, which allows open and frank discussions. This has promoted understanding across the partners and of the needs of the stakeholders. One interviewee described a *"friendly mode of disagreement"* as being helpful. Other interviewees noted that it required some time and a number of explanations to help all parties to come to a common understanding; for example, for researchers to appreciate the way that funders need to operate. This dialogue would not have been possible without an environment of trust, and RoRI's core team were complimented on being good at active listening.

> *"One needs to ensure depersonalisation of the observations: practical, no blame, promoting change."*

Forms of Co-X. Co-creation was repeatedly cited as being very important and well embedded. However, it was also observed that there was "less co-creation where a project was driven too much by the academic perspective". In the conversations the term was used somewhat flexibly, and one might deduce that there are (or could be) a range of co-working activities, each of which contribute to the objectives of RoRI and the interests of its partners and stakeholders:

- Co-design, co-creation, co-production, co-experimentation
- Co-development, co-implementation, co-evaluation
- Co-communication, co-investment, co-ownership

One can envisage that the specific partners involved in each aspect will necessarily vary across this expanded set of co-X. For example, development and implementation is more likely to have funders as the lead and working together, being observed by the researchers, in comparison to the earlier stages of creation and investigation of a question leading to a potential solution where the researchers would be more likely to take the lead.

> *"There have been lots of studies on the fringes but not quite asking the right questions; the findings and recommendations could not be actioned by funders or publishers."*

Funders as partners, subjects and beneficiaries. RoRI is not a group of researchers, but the totality of the partners that are involved: 21 during the pilot phase drawn from 13 countries or regions. The funders are the subjects of the research, and the potential users and beneficiaries of the findings as much as they are funders in their normal mode of operation. This creates a different dynamic to standard modes of grant funding, but also brings with it responsibilities around engagement and delivery for all parties, be that recognition of the power dynamics or the need to allow freedom to operate. In some cases this may challenge an organisation that prefers to operate as an arm's length funder or whose legal team feels the need to control the arising outputs. There are strong similarities between RoRI and multi-party (industrial) research consortia.

> *"The evidence can be used in context for each organisation, reflecting the relevant constraints on decision-making."*

Dialogue is as important as outputs. The process of discussing the key questions to address, the projects to undertake, and the conversations within each project were noted as important in themselves: *"Hidden facets were revealed: some things taken for granted by some organisations that were not standard in other places"*. The dialogue not only improved the combined understanding of the parties and their interests, it also helped to explore the topics themselves. This stage is akin to the research development stage before a grant application is made, and illustrates the involvement of the funders as partners in formulating the research questions, not just in receiving them and mediating their review. Many interviewees observed this positively, saying that RoRI *"brought people together to discuss real challenges"*.

Research into practice. The engagement of funders in the research process also reflects the nature of RoRI as operating across the boundaries between academic enquiry and the practice of policy-making and funding. This was perceived as highly important by the funder interviewees, that the research should focus on *"practical questions supporting practical outcomes"*, in the context that *"funders are extremely practical people, so would be interested in making changes, if they will make a difference"*. Whilst wishing to see practical benefits, interviewees were also interested to ensure these are based on robust findings.

> *"We're eager to use existing knowledge to collaborate to do something practical; as well as conceptual approaches."*

Choice of topics. The choice of topics was said to be important, in seeking to reflect the interests of all partners, generally operating at the system level, spanning boundaries and stakeholder groups. The co-creation approach helped to achieve this, but agreeing topics amongst a diverse group of funders was noted as challenging and requiring time and effort.

"Go to where organisations are; i.e. reflect their interests in projects."

Challenges observed

Whilst making many positive comments about RoRI, the interviewees also noted areas that had been challenging during the first phase, and identified topics that would need to be addressed in the second and later phases for RoRI to fulfil its potential.

"Sometimes the momentum was slow, either because a partner didn't have the necessary mandate or due to the diversity among the project partners."

Diversity. The most common observation related to the diversity of RoRI. Interestingly, interviewees spoke about diversity along many different axes, not only relating to the protected characteristics of individuals. These included geographies, organisations and organisational types, disciplines, modes of research and definitions.

"Diversity is a challenge that will never be finished; it's like tending a garden. The challenge is how to create inclusiveness whilst being efficient organisationally."

Interviewees consistently thought that RoRI needs to address diversity intentionally and ensure it is designed into what it is, what it does and how it does it. The comments on diversity apply to and are the responsibility of all of the partners, not just RoRI's leadership or core team: RoRI reflects the diversity of its partners.

"Policy tends to be national / regional, and RoRI needs to avoid being focused in that way; but what it does do needs to reflect and understand the differing policy environments."

Communication. Communication within and from RoRI is thought to have improved during the first phase, in particular as a consequence of professional support. Whilst most of the internal interviewees felt that they generally knew what was going on, some felt that there could be better engagement across the boundaries of the projects. At the broader level, some distinctions were made between reporting the findings of individual projects against the presentation of RoRI and the delivery of its mission as a whole. Community engagement was also noted as being important, and this links to some of the points about diversity.

"We have broad involvement in [funder] – it is important to make sure people know about RoRI."

Translational and innovation pathways. RoRI's mission (translating ideas and evidence into practical, real world solutions) means it needs to operate *"on the frontier"* whilst also being realistic about practicalities; undertaking work that is both rigorous and that can be translated into practice. This requires an understanding of the range of translational and innovation pathways that might be possible or necessary, reflecting the topic and/or the organisation involved. It is *"not enough just to do the research, it needs to be mobilised"*, turning a position paper into a set of achievable actions, which has its own set of skills and resource requirements.

> *"The activity probably needs to support elements of the pathway, reflecting funder needs and capabilities."*

Partner engagement. The form and extent of engagement has naturally varied across the partners. Observations were made that where commitment was given at a leadership level, it provided a mandate and released resources, enabling that organisation's representatives to commit and engage. In other cases, interested and committed individuals were perceived not to have their organisation behind them. This led to some questions as to whether RoRI (the concept and the topic) has been understood and socialised to the same extent in all of the partners.

> *"It can be difficult to get people to sign up to give time."*

Partner transitions. During the pilot phase there were internal transitions in partners, most notably in the Wellcome Trust (one of the founding partners providing key infrastructure). Such transitions create perturbations, small or large, and need to some extent to be planned for in any on-going operation. Creating resilience in operational structures will be one way of achieving this.

Stakeholder groups. Many interviewees commented on the number of partners needed to be successful: enough to provide diversity and sufficient funding, but not too many to create operational difficulties. The first phase has naturally focused on funders, but interviewees discussed the prospects of widening membership to include other stakeholder groups.

> *"Engagement with policy as opposed to mechanisms has not yet started."*

There was general nervousness about engaging with publishers, unless there was good alignment of interests and values. Some interviewees noted the importance of listening to what publishers say whilst maintaining a critical distance. One or two interviewees pondered how to engage research performing organisations as an important stakeholder group. The consensus was to maintain a focus on funders, as there is still plenty to do with and for them.

"Work in partnership with non-profit community organisations who have an interest in research culture (e.g. DORA) and with the publishing industry (e.g. OASPA)."

Data sharing. A key example of infrastructure needed by RoRI is that of data sharing. Interviewees recognised the significant contribution made by the Wellcome Trust in supporting the development of the infrastructure, but also noted the difficulties, operational, cultural and legal, in making data sharing work. Some felt that it will always be necessary to have a data sharing agreement specific to an individual project ("what data for what purpose"), rather than being able to create a generic agreement. Others thought that an approach to federated data would be required and that approaches to controlled access may be possible drawing on practice in other sectors (e.g. health or government data).

Sustainability. RoRI is a medium- to long-term initiative, not just a collection of fixed-term projects. As an 'institute' it needs to have longevity, which means organisational, intellectual and economic sustainability. Quite a few interviewees noted that the team has been stretched, and not only because of the pandemic.

Equally, the nature of collaborative, consortium funding where the support comes from operational budget lines creates challenges in accessing or justifying the spend. This couples back to partner engagement at the leadership level, which does not guarantee resourcing, but does make it more possible. Some interviewees felt that a number of funders may prefer grant-funding mechanisms over the use of operational budgets. Others noted the potential overlap with other initiatives, with the need to avoid duplication on the one hand, and to lever off those initiatives on the other.

"There were complex internal structures to navigate."

Infrastructure. As just noted, RoRI needs to have organisational sustainability, which means appropriate operational infrastructure. Several interviewees noted and valued the Wellcome Trust's provision of the operational environment in the pilot phase, but also noticed the gap when the Trust went through its own transition. There were concerns that the first agreement took long enough to conclude and that a second prolonged period of legal process was not desirable. A small minority of interviewees felt that it is not necessary to draw funders into such a close relationship as involvement in the proposed community-interest company, but they also tended to focus on the value of individual projects rather than that of the whole.

On-going development. RoRI is moving from its first, pilot, phase into a more substantive second phase. However, as one interviewee observed, some aspects of the set-up work will need to be delivered on an on-going basis: *"Do not assume it is now all done"*. This will apply,

for example, in the context of bringing new partners on board, and in the process of identification and prioritisation of activities. Equally, in expectation management in relation to the potential timescales to deliver effects. There were also several calls to keep flexibility in the model, as the responsiveness of the engagement was felt to be highly important.

> *"RoRI could provide a service for sharing best practices, but this is not the same as isolating a few key questions and doing high quality work."*

The pandemic. The pandemic has, of course, affected RoRI, as it has any organisation or research project. With a number of funder partners being in the biomedical area, their attention and resource was also focused on addressing the pandemic directly. The collaborative nature of the activities have been affected, but there were many observations that RoRI had coped well. In some cases, virtual participation has allowed more engagement. Nonetheless, the pandemic has illustrated the need for multiple ways of working in order to be resilient. There have been less outwardly-oriented activities than might have been desired, which will have affected profile and engagement.

Ideas and suggestions

The interviewees made a number of suggestions for ways to operate, and these are reported briefly here, whether or not they are already under consideration.

- In the context of **diversity**, using complementary approaches and parallel interventions to investigate and test, drawing on a range of disciplinary expertise. This might involve enhancing the range of expertise of the core team and / or engaging with complementary teams (as is already happening). Rightly or wrongly, some interviewees had a perception that the core team is focused on science and technology studies expertise.

- Also relating to **diversity**, consider how to use a local lens, to enable partners to join in their own context. Some interviewees suggested learning from approaches to patient involvement.

- With respect to **communication** and to **engagement**, ensure one is using all of the available networks, of the individuals and the partner organisations. This will create greater reach, spread the load and result in a plurality of voices.

- In the realm of **engagement** and **sustainability**, consider whether to act as a think tank for funders (or for other stakeholder groups) as part of the portfolio, and to create a community of practice (addressing **diversity**).

- On **engagement** coupled with **research into practice**, consider a role in evidence-based advocacy. This might reflect *"funders needing to demonstrate people who do good research, publishing in good disciplinary journals, to redescribe the norm: good research done well"*.

- Also on **engagement**, now that pandemic restrictions are reducing, RoRI should offer bespoke workshops for partners, to enable dialogue, understanding, involvement and uptake.

- In holding partner meetings (**engagement**), it may on some occasions be better to have a longer, in-depth discussion of one project or topic, rather than having to touch on all the projects.

- On **Co-X** and **Choice of topics**, there were suggestions to use mechanisms such as priority-setting partnerships, and also not to lose those ideas that did not make it to the top of the priority list; perhaps offering them to the wider community as possibilities, for example for student projects, where feasible.

- Finally, on **engagement**, consider having at least one phase one partner in each of the next projects, to help newer partners avoid going over the same ground. Also having descriptions and details tuned for legal and financial officers of partners, with links available to their opposite numbers in existing partners. These suggestions speak to the notion of the capture and curation of RoRI's corporate knowledge.

Some topics for research were suggested, mainly from interviewees outside the main partners:

- Science publishing: "*there is scope for a major independent review, which would certainly get noticed"*.
- Evaluation: work with the INORMS evaluation working group on its SCOPE methodology.
- Early career researchers: *"on-going, important and difficult; perhaps a cohort study during phase two"*.
- International assessment of science advice: using the context of the pandemic as an example; and of science communication more broadly *"as it has been diverted into the public engagement element"*.
- Observational studies of grant panels: *"panels are more nuanced than the simplistic perception"*.
- Societal impact: *"an essential topic for RoRI"*, as many funders "*are considering it and how to measure it"*.

- Publishing environment: the effect of mergers and acquisitions on the publishing environment; e.g. *"Wiley's purchase of various OA-focused companies; will the latter change the original core?"*
- Evaluation: *"could RoRI offer something on evaluation (of big initiatives) that is not currently offered in this space?"*

3. Commentary

The following commentary builds on the observations made by the interviewees about both key features and the challenges, including the suggestions just presented. It also draws on the experiences of the author.

Who and what is RoRI?

RoRI is at an early stage of its development, and it should and will evolve. But there are some interesting questions about who and what RoRI is. RoRI is more than a set of research projects, and is more than the team of researchers. The effort involves funders (and others) as partners and participants in ways that are more similar to collaborative industrial research consortia than to grant-funded mechanisms. Managing and being involved in RoRI needs all the partners to recognise this mode of operating, with all that it entails; e.g. time, effort and resource as well as extracting the benefits.

One interviewee thought that *"the term 'institute' might be problematic; is it a community of practice with some funds to allocate?"* Whilst useful, a wholly community-based approach would reduce the structural integrity necessary to undertake programmes of research. Another interviewee commented that "*RoRI can be difficult to grasp other than through the people: in the end it is James and Sarah"*.

> *"Internal trust is crucial; external trust is also necessary, and is inherent because the leadership is known, but it needs constant work and reinforcement."*

Several interviewees commented on the nature of the team: *"It is quite academic, but this gives it credibility"*, *"It is quite an academic group; we need to adjust the balance of perception"*, and *"It is rigorous academically, which is powerful because they are on the line with policy-making"*. These illustrate the natural tensions between investigation and practice, and the importance of ensuring rigour. The evolution of the partnership, especially the development of research fellows in the core partners, will help to manage the balance and to make the most of it.

> *"There's a danger of a North American / European echo chamber."*

One funder felt that they had the internal ability to undertake research on research themselves, whereas the rest did not, even where they had significant analytical capacity. Even where a funder has capability and capacity, though, they would not be able to undertake comparative research outside their fields or geographies without collaboration.

RoRI is part of the research on research and metascience community, but could also function as a link to the wider research community for the improvement of research cultures and environments; and to the research user community to help them better use the results of research.

> *"Build on the existing relationships between funders and community organisations; avoid duplication; collaboration allows for amplification."*

The mission and objectives encompass five elements (research, translation, innovation, brokerage, facilitation). The partnership should consider what 'good' looks like for each, and hence what they will seek to achieve (qualitatively). Coupled to this framework is consideration of the balance of time and activity, across specific projects, internal dialogue, operations, external dialogue and advocacy.

These questions apply to the whole partnership, not just to the core team. Interviewees observed both the challenge in releasing time to RoRI, and the strong desirability of having an institutional mandate to do so (at either core or project level). At least four if not all five of the elements require active participation of funders and other stakeholders, not just the researchers.

> *"Funders might be too conservative to set the agenda. They should provide suggestions for direction rather than a shopping list. RoRI needs to have the confidence to challenge funders."*

The prospect of a five-year period for phase two means that some longer-term activities can be envisaged. But equally, there need to be shorter-term deliverables, too, across all of the five elements: *"plan with flexibility in mind, as priorities will change"*. Experimentation and operational implementation in smaller groups, or through bilateral mechanisms will provide greater flexibility and be sensitive to the organisational or community constraints that will affect the choice of pathway. It will also enable the demonstration of (and learning from) different ways of implementing the same principles derived from the research.

> *"Funders need to become more sophisticated in order to make use of the research."*

Comparisons were made to a number of collaborations and community groups, including: Center for Open Science; DORA; Initiative for Science in Europe (ISE); OASPA; ORCiD; the Science Philanthropy Alliance. Each can provide useful elements, whether organisational, governance or operations. However, these and other sector communities include a substantive element of voluntary contributions. This creates a powerful mechanism, but also introduces potential for fragility and overload. RoRI should seek to avoid that trap.

> *"We need to avoid being seen as reinforcing the status quo."*

Observations on the projects

The purposes of this review did not include the examination of the individual projects themselves. However, interviewees were invited to make comments about the operation and success of the projects in the wider context, which are captured here.

> *"RoRI provides a good platform for discussion with other funders and scientists."*

The need for agreed, focussed objectives was identified, as was the recognition that these took time to emerge in some cases: *"Where [the objectives] were not as refined, projects stalled a bit"*. It was also observed that *"projects need to have leadership, appropriately resourced"*. The support of individual projects by the RoRI core team was recognised, and contrasted to some other community projects that rely wholly on volunteer effort.
There was a view that *"project partners need to feel to be part of RoRI"*, reflecting the difference between the Founding and the project partners in the first phase. The move to a larger number of core partners will help to address this, but it will still apply to those organisations that are only involved at the project level.

> *"Non-core partners might only be interested in the output of an individual project; this reflects a different type of relationship."*

Interviewees had different opinions of the same project. For example, one view of the Excellence project was that it *"is very analytical and conceptual, and driven too much by the academic perspective"*, whereas another funder interviewee thought that it "*had great momentum, and is going to create a practical paper and toolkit"*.

The Pathways project on research careers illustrates the challenge of addressing some important topics: *"The careers project has made less progress because of the lack of data"*.

Leading to the thought that *"one should choose projects where there is potential for change, i.e. tools and data"*. However, another view was that *"topic-based discussion is okay (e.g. Careers), to develop understanding; it doesn't have to be a project, per se"*. This suggests the validity of a dialogue mechanism within the partnership, to enable exploration of 'hard' topics without or prior to committing to a full project.

> *"Peer Review: good project; nicely designed."*

For FAIRware, a funder interviewee said they *"would want researchers to be able to use it, which would require combined planning of utilisation with other funders"*. Conversely, their view of Randomisation was that it was *"more about sharing approaches; there could now be some experimentation"*.

Other interviewees also commented on Randomisation, that it was *"useful for the discussion we had back in our own organisations, so the main outcome was actually sharing experience in the discussion forum*." However, another said that: "*The goals of Randomisation were not properly defined at the beginning. After 18 months the aims and especially the outcomes were better defined. Then it was less of a problem in taking off."* This contrasts with another more positive view: *"Randomisation ran really well, with engagement externally, workshops and it was well managed. As the team matured it became easier, settling down after 6-8 months – the roles and responsibilities being clear, with respect for each other and a reflective last meeting."*

> *"The Criteria project was very practical: how to share the data; the analyses were not that difficult."*

Communication and engagement

Internal and external communication, coupled to engagement, unsurprisingly came up a lot in the interviews. As already noted, maximising the voices, networks and audiences is important and takes planned effort. Levering off existing networks and partners' communications offices would expand capacity and provide well-qualified introductions.

> *"Re-use and re-purpose what one already has in providing a nuanced approach to the message: different audiences, different points in time."*

There was support for and appreciation of the communication with partners, *"The emails from James are very rich, and provide a personal touch"*, but it was also recognised as time-consuming. However, there were gaps in communication around changes in project

leadership, the visibility of progress and in notice to partners of outputs being published (despite strong involvement in the drafting), so that they could take part and disseminate.
Aside from professional communications support, there needs to be a dedicated element of resource for communication within RoRI, able to operate in both B2B and B2C modes, and to run a *'change record'* approach as one might find in a project or policy management context. This would also help to support the accountability under which funders operate.

> *"RoRI has all the skills needed to investigate and then to enable and implement change (across the partners); collectively they are present. There's not yet been enough communication about this across the partnership."*

One interviewee also noted that *"Foundations like to be visible, also in relation to accountability issues"*. This draws attention to the difference between an academic publication, which will include recognition of source of funding and acknowledgement of contributions, and a working paper or a report that might also include the client's or partner's branding. RoRI should continue to address this in their self-published works, and in media releases and commentary pieces where they have control over presentation, and might wish to consider how else to represent or subsequently promote involvement in academic publications. Separately, an interviewee commented on there being some scope for having more visual reporting.

Community engagement was mentioned many times, with variations as to which community might be intended. This is a challenge, given the breadth of possible communities, but essential: *"If it is working for the community, then it needs to engage with the community more fully"*. However, it was also recognised that *"they are full-time academics, they need dedicated professional help"*.

> *"We want a broad church. Any ambitions for a community of practice will need diversity, including those who might have felt excluded during the first phase."*

One piece of advice was that "*this requires a clear sense of which communities one is serving; one cannot serve everyone with fixed resources"*. Equally, that *"findings have to percolate into the community"* and that one "*needs a network of dedicated followers, otherwise it's an academic exercise"*, making a clear link to the desirability of practical outcomes.

> *"Have the evidence base prepared, as the system is not always ready at the time of its production."*

There were also some comments about language used, again focusing on practicalities. *"Implementation will require scientific, organisational leadership and in some cases ministerial or equivalent involvement, so the language needs to be less academic, to allow engagement, translation and use; the terminology of research on research and meta-science is not that complicated".*

Expanding the stakeholders

The interviewees were cautious about over-expanding the number of partners, notwithstanding the desire to address diversity, for fear of creating an unmanageable entity. Switching to a model of core partners increases the diversity at the primary decision-making body, but equally can make reaching consensus more challenging, as well as that of maintaining trust and openness. The consensus across the interviewees was that the focus should remain on funders, as there is plenty to do with and for them.

However, many interviewees also accepted the need to engage with publishers in some way and at some point, despite the reservations. One funder interviewee observed that *"few funders have been willing to engage in the dialogues"* with publishers. They went on to wonder *"what would collaboration [with publishers] look like?"* This suggests the need for exploration of the space, which RoRI could facilitate.

Another funder interviewee recounted experience of working with publishers: *"They thought they would have control and that it would put them in a good light. It was worth trying, but it was tricky. The expectations and incentives were not aligned."* Another interviewee observed that *"work with publishers needs to be independently owned"*, with RoRI providing that independence.

> *"Create an open group culture; beware of being a cabal of powerful funders and European-based researchers. Allow others to join, checking for community orientation rather than product focus."*

A few suggestions were made, such as creating a publisher-focused task force, using a contractual relationship to ensure data release and internal engagement (*"publishers committing to time and data would be more valuable than cash"*). This could have value, but equally could consume significant time and resource simply in achieving its establishment. An alternative might be to have publishers *"in loose collaborations as part of a broader network"*, reflecting a wider community engagement. A further alternative might be to use an 'industry club' subscription model, in which membership brings briefings on relevant research and the ability to suggest topics for investigation.

Sustainability and infrastructure

Addressing organisational, intellectual and economic sustainability is key for the long-term success of the initiative. At the centre of this is the level of commitment by the partners to the topic of research on research, and their perception of how it relates to their organisational objectives: is it an interesting research topic that should be funded as such, or is it a means to support their organisational and the wider system's development?

> *"Why is the research the most relevant thing for me (the funder / budget holder)?"*

Whilst most interviewees seemed to favour the developmental perspective, a small number were more inclined to the research perspective: *"It would be good to see RoRI winning funding in competition"*. However, this view from a funder may be conditioned by the concern that operational budgets are constrained and reducing, whilst grant funding budgets are larger and tending to increase. A different funder interviewee observed that:

> *"Most members are struggling with resource. Funders do not have funding for this activity. There are hardly any calls for research on research; just some usage of the research on research terminology in calls."*

Aside from the potential budget available, grant funding also provides funders with quality assurance and some protection from criticism about use of funds. However, it generally means less control, even in directed mode, and maintains the arm's length as opposed to collaborative relationships. In addition, a grant application in which the funder themselves had an interest (as a collaborating partner) might raise questions of conflict of interest.

The benefits accessible to funders from grant-funded research are therefore reduced compared to structurally-funded, strategic research. Additionally, consortium-based grant funding would introduce double jeopardy unless the funding partners agree to a collaborative funding programme, which are notoriously difficult to achieve between two funders let alone 10 or 20. Finally, single-funder grant-funded projects would still require multiple data access agreements for comparative investigation to be possible.

It is therefore in the interests of funders, and all other stakeholders, that the collaborative consortium style of organisation, funding and operation is supported. This does not rule out the possibility of grant-funded projects, especially if that is the only way that a given organisation can take part. But the core needs collaborative funding, both for jointly-initiated projects and to reflect the resource and support needs of a virtual institute operating across the five elements of the RoRI mission and objectives. Future modes of funding under which RoRI might operate include a consortium-funded core programme, individual grant-funded

projects, commissioned R&D work, club-funded community-focused projects, and some knowledge-based services.

> *"One needs to ensure clarity in RoRI's overall objectives, including what RoRI is not doing, so that the mission is not divergent, and there's a chance of delivering it."*

Organisationally, RoRI is at a natural point of evolution, and is ready for the introduction of some more formal structures, definition of roles and responsibilities, and internal feedback processes, reflecting comments from a number of interviewees. The reframing of the Board will help to incorporate more voices, as well supporting accountability; as one interviewee noted,

> "Having funders in the [Board] room helped with accountability". *Allocate resources against priorities, and be transparent."*

Operationally, whilst flexibility was applauded, there were concerns about the need for better planning, for example to avoid some short timescales for drafts or responses. Moving into the second phase will require more attention to long-term planning and forecasting, management and administration, communications and task distribution to manage burdens on individuals, to avoid single points of failure and to maximise opportunities and potential for contributions. Many of these aspects need professional support to be delivered successfully, which has only recently begun to be put in place.

Every organisation has potential for single points of overload or failure, including at the leadership level, and RoRI is no different. Many interviewees noted the concentration in the Director's position, creating a reliance on an individual, being pulled in many directions, exacerbated by him being the primary external voice. The combination of co-Chairs, Director and Associate Directors is important to create capacity and to encompass the range of necessary and available skills. The current individuals have different skills and styles, which has been used to some advantage. This needs to be built upon in moving to the next phase, including close working at this level and spreading the responsibility for managing partner and community relationships. The appointment of research fellows within some of the core partners should also help.

> *"Where the power and energy lies will change, based on the individuals involved and the level of commitment from each partner. RoRI needs a clever way of managing relationships with funders."*

Data sharing has already been noted as a key element of the infrastructure for research on research and a challenge. One interviewee helpfully noted the different possible reasons for an organisation being reluctant or unwilling to share its data: regulation (e.g. competition law); compliance (e.g. data protection); commercial confidence (e.g. competitiveness); trust (e.g. reputation). Each of these needs its own consideration, to be able to overcome both specifics and perceptions. Also to avoid one reason being used as an excuse for not addressing another.

One funder interviewee commented that they are *"demonstrating [their] commitment to data sharing by funding it directly. It is awkward to require something of researchers/research organisations and not to do it yourself"*. However, others rightly noted that *"data access needs a purpose, not just a data request"*. Data sharing, both technical infrastructure and legal arrangements, will continue to hold some challenges, and hence will need sustained attention. This will extend from the immediate questions within individual projects to those about sharing with the wider research on research community(ies).

Shared data is going to underpin many areas of future research (and other areas of society), not just that of research on research. The more direct experience funders have of making it happen safely, the better placed they will be to enable it in all of the fields and contexts that they support.

The prospectus for the second phase

The prospectus for RoRI's second phase (*RoRI Phase 2: prospectus & invitation to partnership, March 2022, v.5*) provides a viable model for the partnership, seeking to address many of the challenges observed by the interviewees, and incorporating many of their ideas expressed in the interviews. It identifies a number of features (many in common with section 2) that argue strongly for a collaborative consortium model, that would be practically impossible to achieve through a grant-funding model.

> *"With core partners, it will enable more people and organisations to be involved in the Board, to bring ideas to the table."*

The proposed Phase 2 structure includes a range of features including legal entity, relevant governance and advisory structures, and mechanisms for engagement. It creates a business-like structural environment (including job roles and descriptions for the Executive Team) providing an element of discipline and control without over-constraint if operated appropriately. It reflects a typical stage of development after start-up and as one moves into a period of relative stability and growth. As with any structured environment, it will need specific resource that needs to be budgeted.

"Core partners need to take responsibility for engagement and resources."

The mechanisms for engagement, including core, project and in-kind funding, along with fellows, associates, nodes and a community of practice, provide flexibility, diversity, and potentially the means to address capacity by enabling secondments of various sorts.

> *"Phase 2 is not stipulating a particular type of role: core, project, cash, in-kind; there is a choice available to partners, which makes it more flexible and thus more accessible."*

The aim to have modest growth in partners, *"to go deeper with a core group rather than engaging with many more in a lighter-touch way"*, seems sensible, and reflects the views heard from the interviewees. Expanding the Partnership Board from four Founders to 12-15 Core Partners should naturally increase the diversity of the Board (dependent on the Partners themselves, of course). However, having up to two members from each core partner will mean a Board of 30 people, which can be unwieldy, and will require careful management and operation to ensure all members can contribute. It may be worth considering having a principal member with a named alternate to ensure representation and assist engagement within the partner. Both principal and alternate might be involved in some activities of the Board, such as exploring possible topics for investigation. Agility can still be found in the smaller Executive Team, but RoRI will want to ensure that there is no emerging gap between the Executive and the Board that can sometimes be seen in such situations.

> *"Other stakeholders might come as they become more mature. The speed of scale up needs to be carefully managed: increasing the number who are just providing funding is ok, but not at the strategic level."*

The combination of a Partnership Board with a Community-Interest Company (CIC) looks like an imaginative way of addressing the operational and transnational challenges. There are, however, a small number of caveats of which to be aware or that might be further discussed with relevant professional advisors. The first is that whilst the Partnership Board has primary responsibility for governance and direction, it will need to be aware that its members may on occasions be acting as shadow directors of the CIC, and hence have personal liability under the UK Companies Act. It would be wise to have a briefing for members on this matter, refreshed annually.

The second caveat is about who will be the members of the CIC. The whole point of the dual Board approach is so that not all partners need to be CIC members. In theory, that could mean that only one organisation needs to be a member of the CIC. However, for reasons of balance and protection of the partnership it would be better to have at least three

organisations as members. The individuals acting as CIC Directors do not have to be the same as those representing the core partners on the Partnership Board; indeed it might be healthy for them to be different, drawn from the finance or legal teams of the members.

The third caveat is that the CIC may not automatically be eligible to receive grant funding from some organisations, which operate eligibility requirements. Such requirements do not necessarily apply to structural funding or operational budgets. Project-level funding may be more amenable to grant mechanisms, so the 'home' institutions of the researchers are likely to have a role to play in the receipt of funds.

The final caveat is linked to the third, and relates to the operational relationship between the CIC and the researchers' home institutions. Whilst the core researchers will be seconded from the home institutions to RoRI (i.e. to the CIC), they will continue to need to use their institutions' research and other support services to deliver the objectives of RoRI, unlike faculty seconded to a spin-out company that has (or leases) its own capital and operational infrastructure and necessarily operates at arm's length from the institution.

Given that the researchers will be running the research funding that they receive via RoRI through their home institution, it seems reasonable for the home institutions to accommodate this operational flexibility. It would be wise to have this clearly documented and agreed, so that those at the operational level have authoritative guidance. (In a UK-specific context, purchase of services from the University of Sheffield would be reportable in the annual HE-BCI Survey and reflected in the Knowledge Exchange Framework (KEF). Depending on the research mechanism used, the income passing to the University might also be reflected in the Survey and the KEF.)

From a budgetary perspective, RoRI should be careful about assuming that office and other overhead costs will be met wholly on an in-kind basis, as this creates reliance on annual planning and budgetary processes over which it has little or no control. In particular, some of these costs are cash costs rather than sunk costs, so having a cash budget can be necessary but may not be protected commitments within an overhead context. The budgetary specifics should be included in the operational agreement recommended in the previous paragraph.

In describing the advantages of the CIC, the Prospectus mentions *"the capacity to own, manage and preserve infrastructures and other shared IP [intellectual property]"*. One interviewee raised a concern that this might mean institutionalising the IP, in a potentially negative vein in comparison to the open research ideals. This is not how the author read that text, given the examples used, but it does illustrate the need for care in managing the assets and in articulating the approaches to be used. For example, if one partner creates a key element of technical infrastructure, they would consequently own it, unless they are required

or chose to vest ownership in it to RoRI (i.e. the CIC) or made it open source. As another interviewee put it, *"it is the distinction between ownership and custodianship of infrastructure"*.

In finalising the details, implementing the Prospectus and launching Phase 2, RoRI will be creating a detailed business plan. If not already doing so, this might make use of a Business Model Canvas, a tool that is often used to guide the development of commercial business plans; in particular for new and small companies. The questions taken from one version of the Canvas (https://www.alexandercowan.com/business-model-canvas-templates/), provide some relevant prompts, even though they do not cleanly fit a research institute:

Customer Segments:	Who are the customers? What do they think? See? Feel? Do?
Value Propositions:	What's compelling about the proposition? Why do customers buy, use?
Channels:	How are these propositions promoted, sold and delivered? Why? Is it working? AIDA.OR framework (attention-interest-desire-action-onboarding-retention)
Customer Relationships:	How do you interact with the customer through their 'journey'?
Revenue Streams:	How does RoRI earn revenue from the value propositions?
Key Activities:	What uniquely strategic things does RoRI do to deliver its proposition?
Key Resources:	What unique strategic assets must RoRI have to compete?
Key Partnerships:	What can RoRI not do so it can focus on its Key Activities?
Cost Structure:	What are RoRI's major cost drivers? How are they linked to revenue?

4. Conclusions

This short and necessarily constrained review of RoRI has benefited from strong and positive engagement from those interviewed, demonstrating their (individual and organisational) interest and commitment to both the field of research on research, and to RoRI. The general tenor of comments has been very positive, with constructive discussion of the challenges faced and suggestions for the future. The dialogue of the interview process illustrated the engagement of the partners, and suggests that similar interchanges might be built into the regular working processes of RoRI.

The overall view is that RoRI has made great progress and that the pilot phase objectives have broadly been met, albeit constrained by the pandemic. Interviewees were more interested in the general progress and direction than in an expectation of absolute completion in this pilot phase. There was a prevalent view from interviewees of wishing to see practical outcomes based on robust research.

Engagement, by the RoRI core team with the partners and vice versa, has generally been good, with recognition of some areas for improvement, to be supported by the proposed revised structures. Co-creation has been an important feature of RoRI's approach to engagement, and underpinned the selection of topics for the initial six projects. Phase 2 will need to maintain this approach, and *"be adequately evidence-based"*, with selection of projects recognising *"the difference between important and tractable"*, with activities *"supporting practice and practice change"*. Practical findings *"are what will retain the enthusiasm of the stakeholders"*, including their willingness to provide funds.

RoRI encountered a number of challenges, which is to be expected and part of the purpose of a pilot phase. These included: how to address diversity (in people, geographies, organisations, disciplines, modes and definitions); the approach to communication within and beyond the partnership; supporting the range of translational and innovation pathways; reflecting on partner engagement and the transitions through which they would go; whether and how to expand the number of partners and the range of stakeholder groups; the technical, legal and cultural obstacles to data sharing; and achieving organisational, intellectual and economic sustainability. Interviewees provided a range of suggestions to contribute to the resolution of these challenges, which will require the engagement of all the partners.

Overriding the challenges, there are a number of key features that were repeatedly mentioned and which are important characteristics of the initiative, reasons that participants engage, and essential to protect in moving to the second phase. These are:

- **Trust:** that RoRI provides an environment in which trust can be built, which allows open and frank discussions
- **Forms of Co-X:** RoRI involves co-design, co-creation, co-production, co-experimentation, co-development, co-implementation, co-evaluation, co-communication, co-investment, and co-ownership
- **Funders as partners, subjects and beneficiaries:** RoRI is more than a set of funded projects, and resembles a collaboratively-funded, multi-party (industrial) research consortium
- **Dialogue is as important as outputs:** the process of discussing the questions to address, the projects to undertake and the conversations within each project are an essential part of RoRI
- **Research into practice:** RoRI operates across the boundaries between academic enquiry and the practice of policy-making and funding
- **Choice of topics:** as part of the co-creation approach, the selected topics sought to reflect the interests of all partners, generally operating at the system level, spanning boundaries and stakeholder groups

Organisationally, RoRI is at a natural point of evolution, and is ready for the introduction of some more formal structures, definition of roles and responsibilities, and internal feedback processes, reflected in the proposals of the Prospectus. The Prospectus provides a viable model for the partnership, creating a business-like structural environment, and providing an element of discipline and control without over-constraining if operated appropriately. It reflects a typical stage of development after start-up and as one moves into a period of relative stability and growth.

Operationally, RoRI will mature in tandem with the revised structures, with continued attention on mixed-term planning, management and administration, communication and task distribution. The reconfigured leadership team (co-Chairs, Director and Associate Directors) should draw on their combined skills and styles to create capacity and flexibility of response, including spreading the responsibility for managing partner and community relationships, working closely with the core partner representatives.

This independent review has heard from a selection of RoRI's partners and stakeholders that research on research is an important, on-going subject of interest, that RoRI has begun to deliver on its mission, and that a collaborative consortium model needs to be at the core of taking this agenda forward. RoRI has demonstrated a number of key features, and is set to be able to address the range of challenges and opportunities that exist in the research on research space.

> *"Emphasise the potential and do it seriously."*

Appendix 1: Summary Profile of RoRI

RoRI was founded in 2019 by Wellcome Trust, Digital Science, and the Universities of Leiden and Sheffield. RoRI is now a consortium of 21 partners, drawn from 13 countries and regions.

Mission:

RoRI translates ideas and evidence into practical, real world solutions to improve research culture and systems. We do this by bringing together people and organisations that care about research, gathering information and developing tools to inform and improve how research is funded, practised, communicated and evaluated.

Objectives:

1. **Research**: We support, expand and build capacity for interdisciplinary, mixed-method RoR in and across research systems worldwide
2. **Translation**: We connect academic RoR capabilities to the data and analytical resources of our partners
3. **Innovation**: With our partners, we experiment, co-produce and test new tools, indicators, funding methods and evaluation frameworks
4. **Brokerage**: We critically evaluate RoR methods and support engagement with RoR data and evidence by decision makers and wider society
5. **Facilitator:** We create an independent space for RoR learning, networking and collaboration between researchers, policymakers, funders and technologists

Six projects in the pilot phase

1. **Criteria:** Who gets research funding and why does it matter?
2. **Excellence**: What is 'excellent' when it comes to research and why does it matter?
3. **FAIRware**: How can we make sure as much research data as possible is FAIR?
4. **Pathways:** What are research careers like for different people?
5. **Peer Review**: How is peer review changing and what does it mean for the future of research publishing?
6. **Randomisation**: How can research funders be more experimental? Are lottery-style funding mechanisms a good idea?

Publications

RoRI's publications can be accessed on its website at https://researchonresearch.org/reports.

Appendix 2: Organisations interviewed

Center for Open Science (US)
Canadian Institutes for Health (CIHR)
Centre for Science and Technology Studies (CWTS), University of Leiden
Digital Science
DBT/Wellcome Trust India Alliance
Declaration on Research Assessment (DORA)
European Molecular Biology Organisation (EMBO)
First Create the Media
Hindawi
Michael Smith Health Research Foundation
Nature
National Institutes of Health Research (NIHR)
Novo Nordisk Foundation
Sloan Foundation
Springer Nature
Swiss National Science Foundation (SNSF)
UK Research and Innovation (UKRI)
University of Sheffield
Volkswagen Foundation
Wellcome Trust

Appendix 3: Interview topic outline

1. Delivery against Pilot Phase objectives
   - How well has it gone?
   - Have there been any problematic areas?
   - Have the structures helped the research?

2. Engagement of the partners, collaborators and other relevant parties
   - Reflection on Board function; how the Board has performed; balancing of interests
   - Communication with and between the partners; how involved do the partners feel
   - Communication with collaborators and more widely; level of interest shown
   - Balancing interests of partners

3. Strategy setting and prioritisation of topics and opportunities
   - How is the field of R-on-R evolving; what's the organisational position on R-on-R [this might be the first question]
   - How is strategy setting done, how might it be improved
   - Who is / should be involved
   - What should the priorities be

4. Balance of activity types, between more academic enquiry and practical findings that can be translated into policy and practice at scale
   - Nature of portfolio (academic to policy / practice influence)
   - How it might evolve
   - Timescales involved
   - What's needed to create practical effects (e.g. scale or precision)

5. Administrative, legal and bureaucratic aspects of RoRI's operations
   - Challenge of doing something like this; RoRI is the result of research, too.
   - Programme versus project levels; implemented in different ways for each project
   - Things to be alert to in the new structure
   - Collaborative research supported by consortium funding

6. Understanding of productivity, including on-going constraints
   - Some co-production, some commissioned / contracted research; practical issues
   - Linkage to partners' range of interests and timescales
   - Remote working effects; lessons learned; practices to embed or to change

7. Any other thoughts?

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