

Research4Life Infrastructure Review and Landscape and Situation Analysis

29th July 2020

Rob Johnson

Agenda

- Introduction from Research Consulting
- Landscape and Situation analysis: overview of the key findings of the report
- COVID-19 addendum
- Infrastructure Review: overview of the key findings of the report
- Q&A

Introduction from Research Consulting

Project team



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A mission-driven business working to improve the effectiveness and impact of research and scholarly communication. Based at the University of Nottingham Innovation Park, we provide insights and advice on:

- Research management
- Open science
- Knowledge exchange and commercialisation

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Research4Life Landscape and Situation Analysis



Aims and methodology



Research Consulting was commissioned by Research4Life in 2019 to undertake a landscape and situation analysis of the key trends in the research and communications landscape

Aims

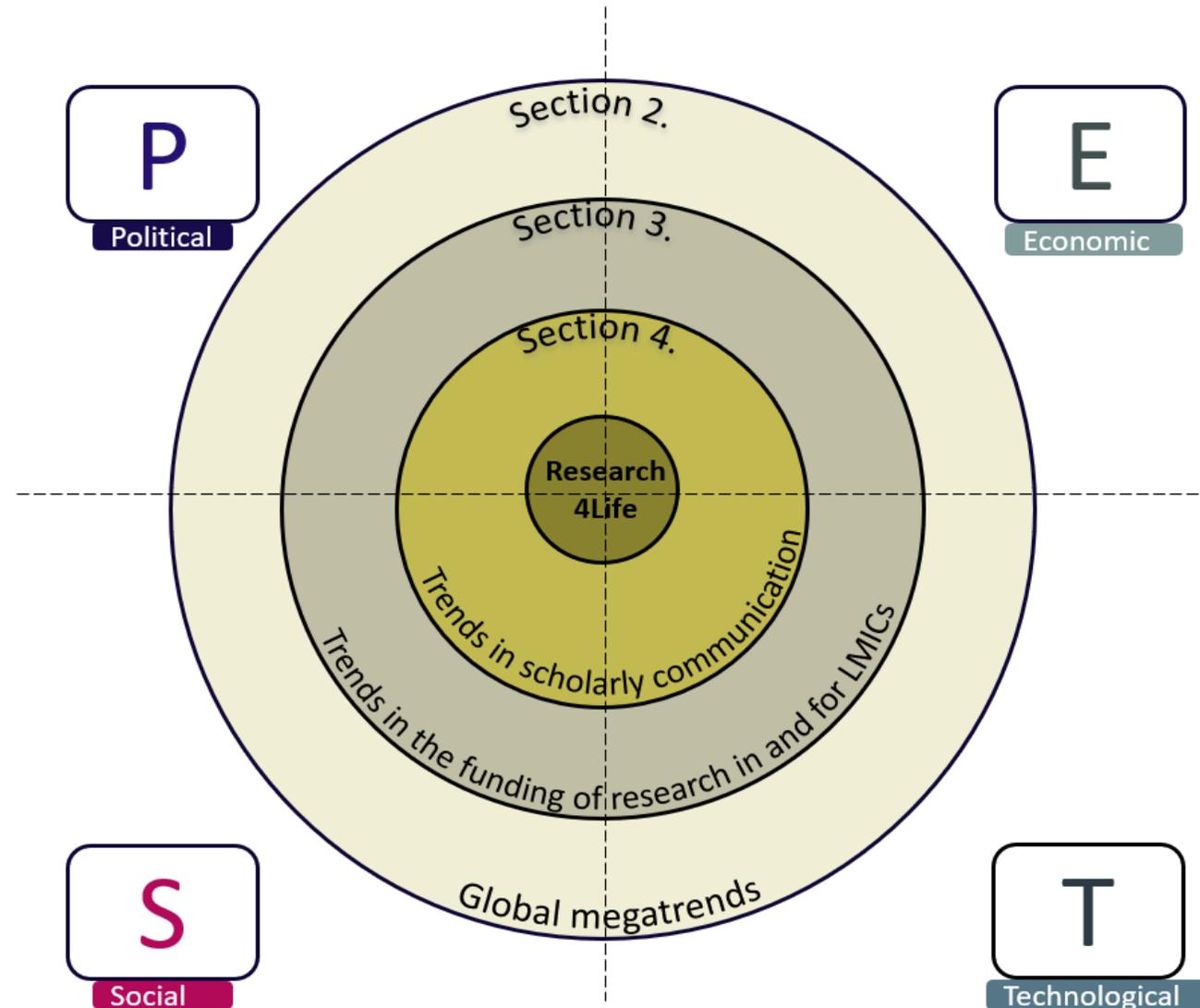
- Understand the external dynamics and recent changes within the research communication ecosystem
- Identify the key trends in research communication

Methodology

We used a **mixed methodology** to identify the key trends affecting research and scholarly communication. This included:

- Identification of trends: informed by existing knowledge and a survey of Research4Life partners
- Desk-based research

PEST levels of analysis



Global megatrends



Political

- The 2030 Agenda for Sustainable Development Sustainable Development Goals continues to guide development thinking.
- The rise of populism and nationalism in high income countries has hurt global trade, multilateral action on climate change and regional collaboration.
- Declining influence from high income countries and the rise of China.

P



Economic

- Economic growth is on the rise in LMICs
- However, so is inequality in wealth distribution.
- After a period of debt reduction, LMICs have increased levels of public spending and their debt is increasing again.
- Trade protectionism is on the increase and has contributed to a slowdown in global growth.

E



Social

- Rapid population growth in LMICs and stagnation in high-income countries.
- Increased urbanisation in LMICs has placed public services under pressure but enabled rapid improvement in literacy rates.
- Growing demand for higher education increases the talent pool for research and has seen the number of universities in LMICs soar.

S



Technological

- Internet access and mobile communication have risen rapidly across the globe but substantial differences still remain.
- Artificial intelligence and big data are on the rise but may come to represent a new digital divide between high-income and low-income countries.
- Access to scientific research is seen a key development catalyst.

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Trends in the funding of research in and for LMICs



Political

- Growing recognition of the relationship between research and sustainable development.
- Demand for more equitable research partnerships between high income countries and LMICs.
- The rise of China in research geopolitics.
- Increasing politicisation of science, often linked to restrictions on freedom of expression.

P



Economic

- Public sector R&D investment is growing, but from a very low base.
- Lack of funding, especially from the private sector, remains a key constraint on research conducted in LMICs.
- International R&D funding is substantial but there is growing concern about its influence on research agendas in LMICs.

E



Social

- University growth is driven by demand for education.
- Much research in LMICs is carried out by actors outside of academia.
- There is a persistent lack of researchers in LMICs.
- Research training programmes are creating a cohort of young and tech-savvy researchers.

S



Technological

- The internet has made research more accessible than ever before.
- Research data is growing in importance.
- AI and big data have become essential tools in many research fields.
- LMIC researchers risk being left behind as technological infrastructure increases in complexity, and skills gaps widen.

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Trends in scholarly communication



Political

- Access to research is seen as a catalyst for sustainable development.
- As many as 50% of new journal articles are now made available via some form of open access.
- High income countries are the primary drivers of the OA movement, with significant regional variations in approaches to access and publishing.
- Global moves to reform copyright take place against a backdrop of piracy.

P



Economic

- Publishing is shifting towards an author-pays model, driven in part by Plan S.
- Increased availability of content through other sources is eroding publishers' pricing power.
- Consolidation and diversification are key forces changing the publishing marketplace.
- Subsidised OA publishing models are growing.

E



Social

- Researchers' attitudes to OA are positive, especially in LMICs, and OA articles attract a disproportionate share of total views.
- Researchers from LMICs are under pressure to publish and vulnerable to predatory journals.
- The dominance of the English language in science is being challenged by the growth of Chinese language publications.
- There is a growing acceptance of Ebooks but OA books have yet to gain significant traction.

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Technological

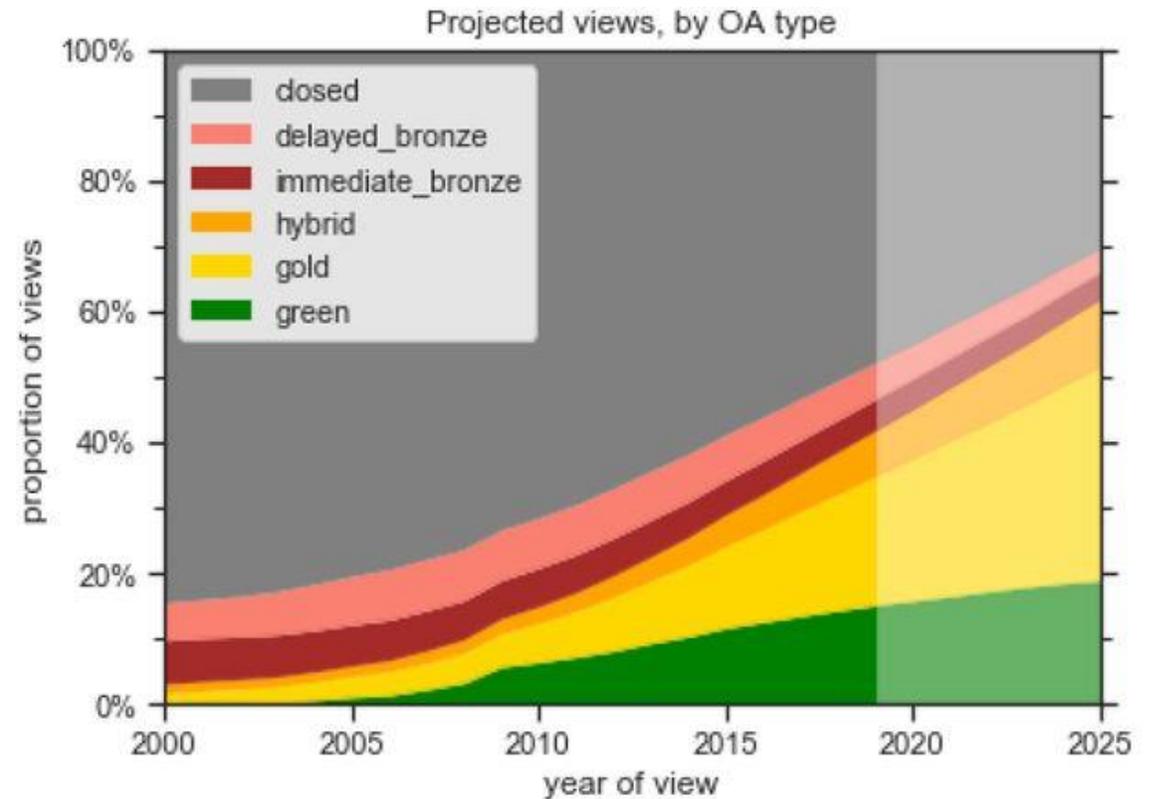
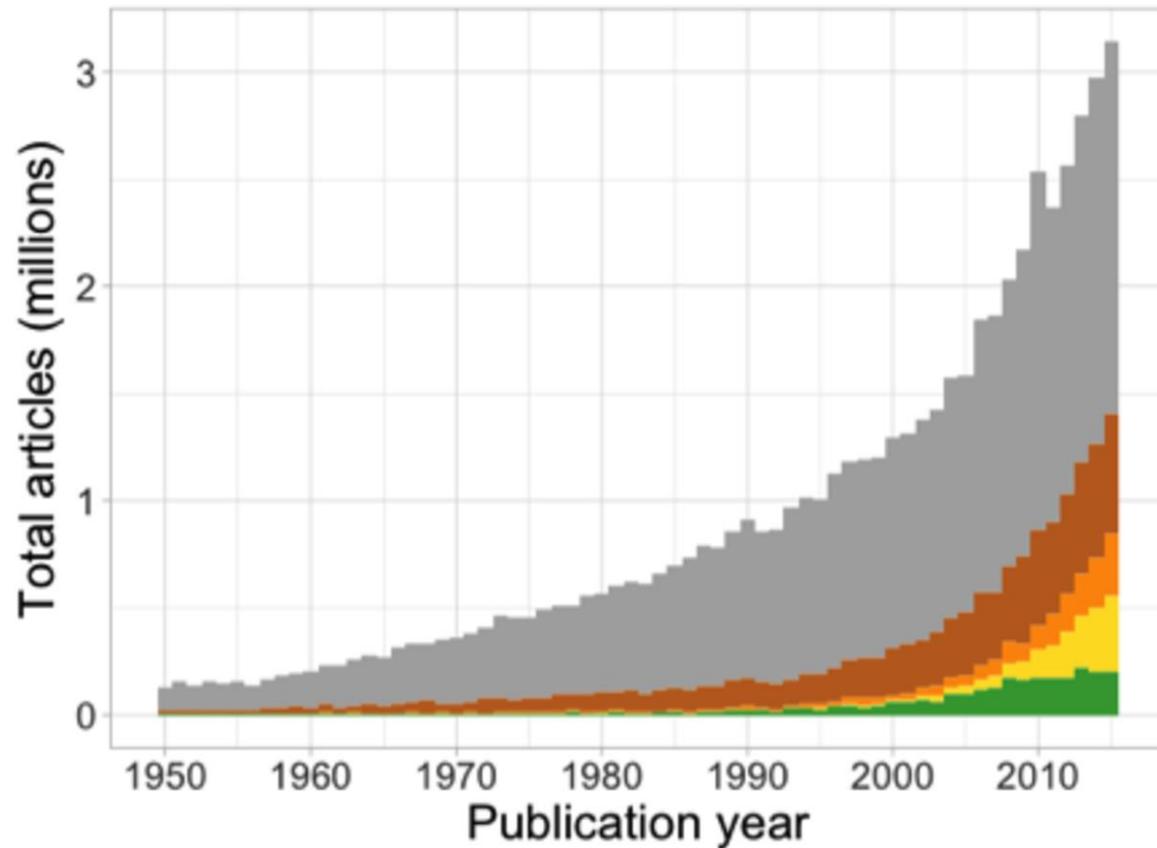
- An OA publishing infrastructure is slowly developing, with open-source publishing solutions now widely adopted in LMICs.
- Open access platforms and preprint servers are growing in popularity.
- The role of libraries is changing due to the rise of algorithmic discovery, social networks and mobile access.
- New approaches to authentication and identity aim to enhance the user experience.

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OA is estimated to grow...



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Projected article views, by OA type ([Piwowar et al, 2018](#))

Estimated number of articles with OA copies ([Piwowar et al, 2018](#))

The impact of COVID-19



Sets precedent for greater intervention by governments and state actors



Widespread fiscal and monetary risks, especially for LMICs



Increased adoption of new technologies, including AI and big data



Heightened recognition of the value of scientific research



Threats to HEIs and library budgets in both high-income and low-income countries



Accelerating shift to open, electronic content rather than closed and print resources

In summary...



Demand for more equitable research partnerships between high income countries and LMICs



Public sector R&D investment is growing, but from a very low base



Growing demand for higher education has increased the talent pool for research and has seen the number of universities in LMICs soar



Research in LMICs is growing both in terms of the total amount of money invested in R&D and the total number of researchers



The rise of open access is changing the amount of literature freely available to LMIC researchers as well as publishing models



Changes to search and discovery workflows have radically altered the user experience

Access the report outputs via Kudos:

<https://www.growkudos.com/projects/research4life-landscape-analysis>

KUDOS



Project

Research4Life Landscape and Situation Analysis

Research Consulting

KUDOS

Banner photo by NASA on Unsplash

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Outputs



Publication

Research4Life: Landscape and Situation Analysis

This report summarises the findings of a landscape and situation analysis of trends in the research and scholarly communication landscape in low-and-middle-inc



Publication

Addendum to Research4Life Landscape and Situation Analysis - COVID-19

An addendum to the report in light of the recent global pandemic which highlights the implications this has on the findings of this study.



Image

Research4Life Landscape and Situation Analysis - Visualisation of Analysis Levels

This graphic illustrates the levels of analysis involved in the landscape and situation analysis report.



Image

Research4Life Landscape and Situation Analysis - Global Megatrends PEST Analysis

A PEST infographic summarising the key global megatrends as mentioned in the report.



Image

Research4Life Landscape and Situation Analysis - Trends in the funding of research in and for LMICs PEST Analysis

A PEST infographic summarising the key trends in research in and for LMICs as mentioned in the report.



Image

Research4Life Landscape and Situation Analysis - Trends in Scholarly Communication PEST Analysis

A PEST infographic summarising the key trends in the scholarly communications landscape as mentioned in the report.





Research4Life Infrastructure Review



Aims and methodology



As part of its regular cycle of programme evaluations, Research Consulting was commissioned by Research4Life in 2019 to undertake an infrastructure review to assess the partnership's organisational effectiveness

Aims

- Assess the effectiveness and efficiency of Research4Life from the perspective of the different partner types
- Provide information to partners which will help them make decisions on the strategic future of Research4Life

Methodology

We used a **mixed methodology** to assess the partnership's operational effectiveness. This included:

- Background research on Research4Life's core partners' role and analysis of Research4Life's usage data
- Interviews with **23** Research4Life partners and **four** external partners
- Two surveys sent out to partners

Findings



Research4Life SWOT (strengths, weaknesses, opportunities, threats) analysis

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STRENGTHS

1. Unique collaboration of public and private actors – UN agencies, publishers, libraries and technology partners
2. High degree of strategic fit with partners' organisational aims and priorities
3. Continued growth in the breadth of content and number of partners
4. Significant improvements to authentication and discovery processes in recent years
5. Training provision is well-regarded, and the MOOC has been a significant success
6. The partnership has successfully expanded to include the GOALI programme

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WEAKNESSES

1. Lack of key performance indicators means levels of usage is not well-understood by partners
2. Limited funding constrains effectiveness and investment in technical infrastructure
3. User portal has poor responsive design, and is not user friendly on mobile devices
4. Lack of strategic direction on systems has enabled only limited progress against an outdated technology roadmap
5. Low levels of awareness amongst users limits uptake of the R4L platform
6. Piecemeal approach to country exclusions creates inefficiencies and compromises user experience

O

OPPORTUNITIES

1. Redevelop content portal and offer a mobile-friendly interface
2. Develop a set of summary key performance indicators
3. Increase use of marketing and social media to promote the programme in LMICs
4. Increase focus on training and capacity building in LMICs, leveraging the success of the MOOC
5. Develop a Theory of Change focussed on demonstrating R4L's impact
6. Improve visibility of research from LMICs
7. Pivot to tackle barriers to (OA) publication
8. Pursue new funding streams and Improve recovery of Group B fees

T

THREATS

1. Increased availability of open access content
2. Growth of illegal content sharing
3. Failure to demonstrate R4L's impact risks eroding support amongst UN Agencies and external stakeholders
4. Inability to offer a comparable user experience to emerging commercial access providers like Zenty.io
5. User authentication mechanisms fail to evolve to take advantage of new technology
6. External perceptions of R4L as neo-colonial and/or anti-open access limit its effectiveness and causes reputational damage

Partners' motivations and benefits of participation

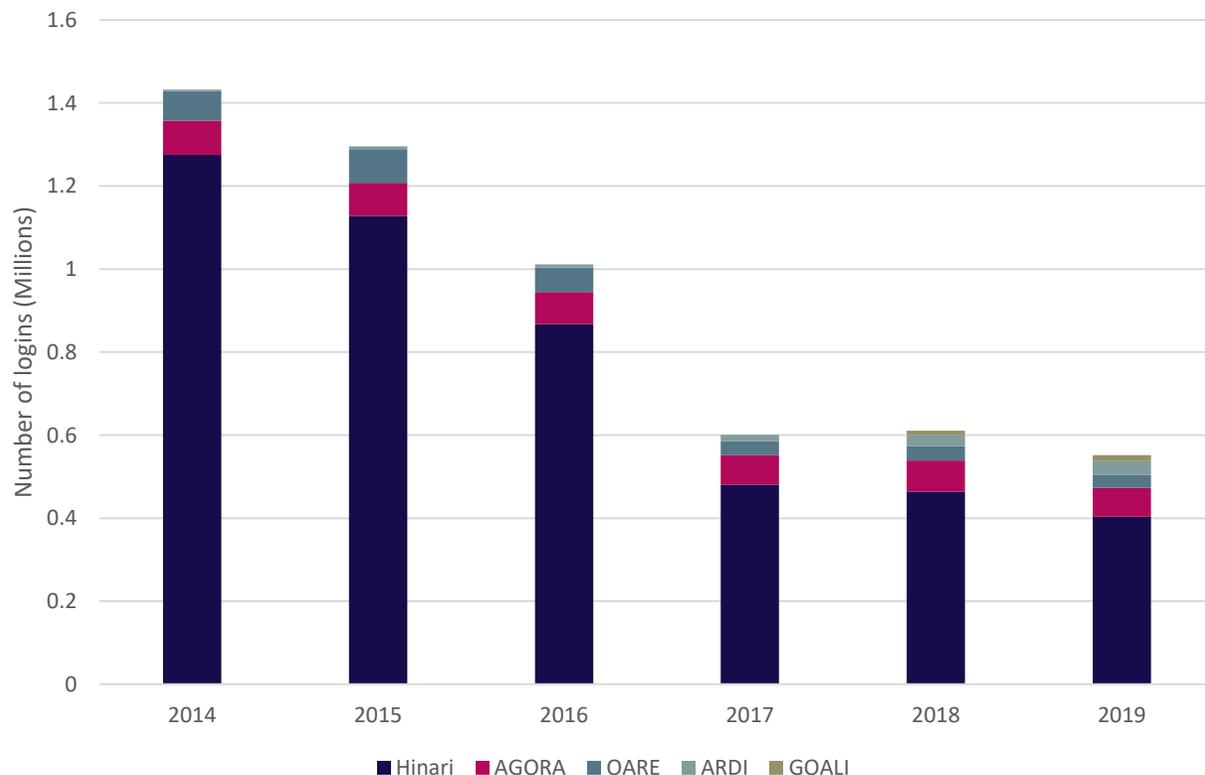


- Research4Life aligns with partners' organisational mission
- Involvement in the partnership is a key reputational benefit
- The partnership offers unique opportunities for collaboration
- Limited awareness of the Sustainable Development Goals

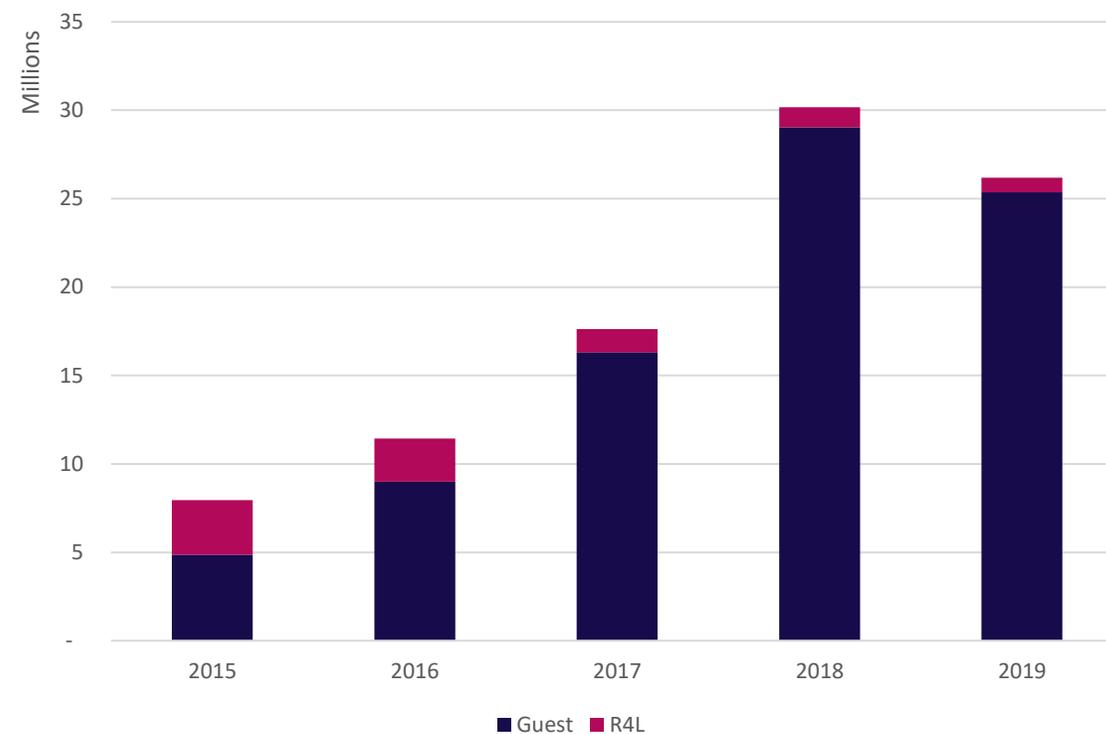
Decline in usage

Research4Life usage is declining but usage of open access content is increasing.

Usage across the five programmes



Research4Life usage and guest usage from Research4Life countries – ScienceDirect (source: Elsevier, 2019 data incomplete)



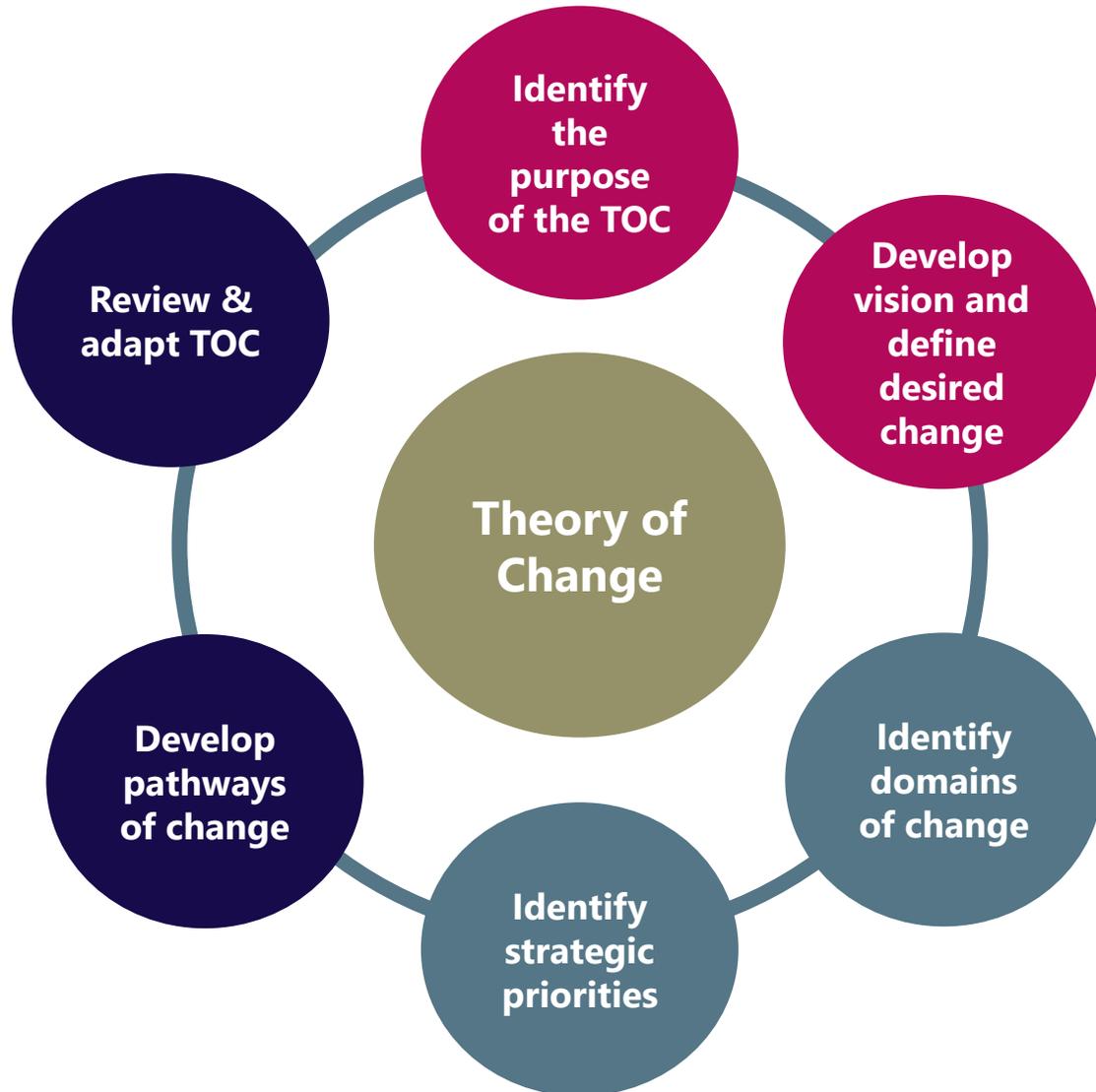
Impact

“Impact reports I’ve seen in the past, I felt were a bit weak, it’s about really being able to see what impact R4L is having on a large scale. We saw some interesting reports that talked about programmes delivered, but not genuine impact: ‘as a result, this happened’. – Publisher

“We have a lot of good intentions but need to think about how to demonstrate the impact of our work. Everyone assumes it’s good, but it’s not well-explained or quantified.” - UN Agency

“One of the issues we are facing is that there are no indicators, so without indicators the whole initiative is at risk.” - UN Agency

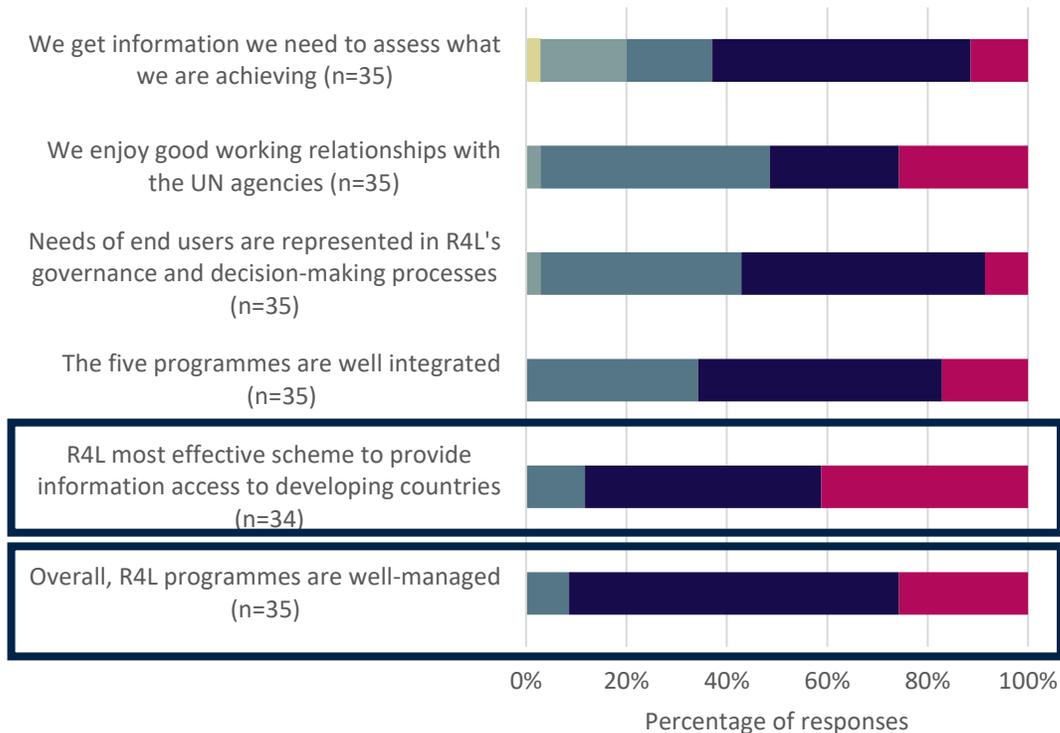
Theory of change



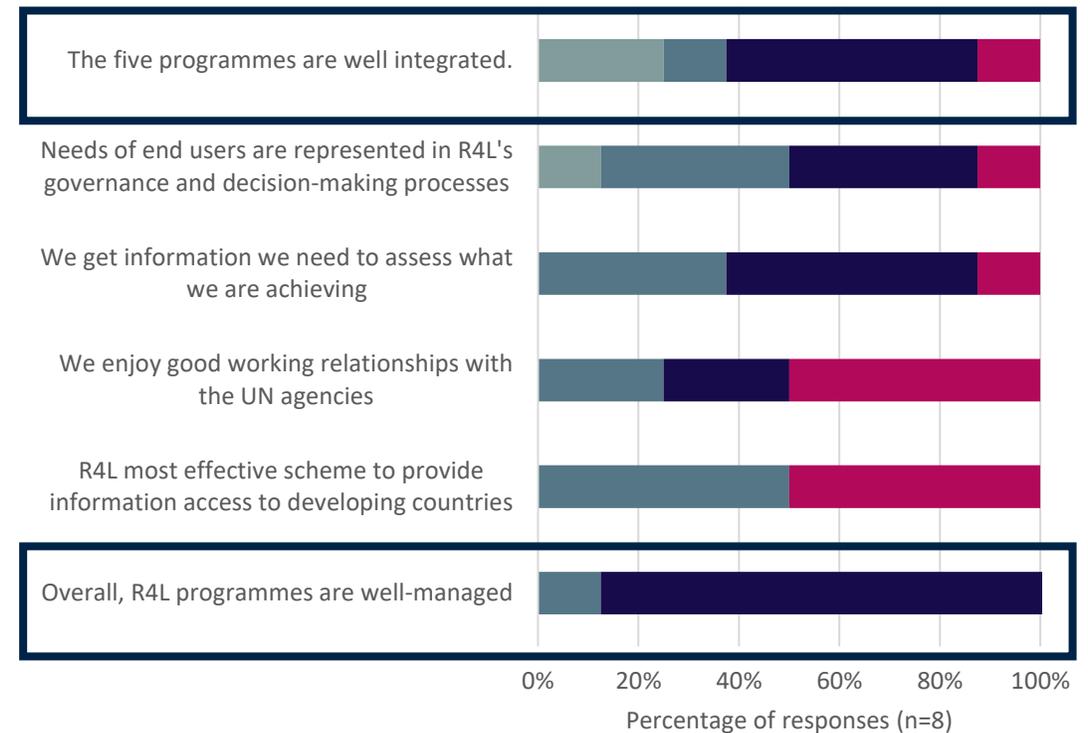
“A theory of change would be useful, that's an excellent idea. There are so many smart people with good intentions, but we have to be more business-minded to demonstrate impact” - UN Agency

Governance and management

Publishers' perception of Research4Life partnership



Other partners' perception of Research4Life partnership



Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

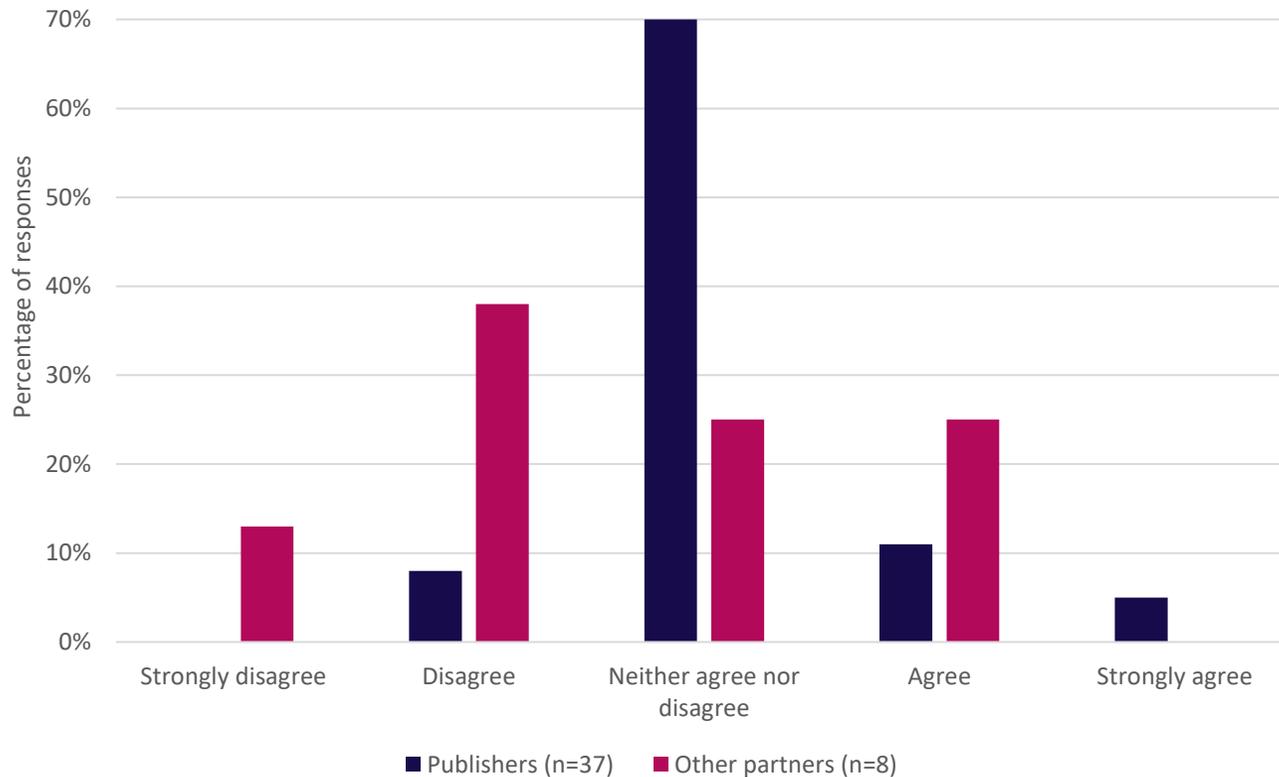
Technical infrastructure

“In terms of systems development, this portal is so old-fashioned and horrible, everybody knows that, and it needs to change for sure.” - UN Agency

“The whole point of R4L is to deliver valuable content to researchers in the developing world, and it's that delivery where we're messing up...All the other stuff, the training, the comms, where we seem to be doing a much better job, is the icing on the cake.” - Infrastructure Partner

Mobile access

Percentage of publishers and other partners who agreed that Research4Life is effective in supporting mobile access



“Mobile devices are very important - people complain so much and say, 'why don't you have an app?'” - UN Field Officer

“A lot of the traditional training scenarios assume that everyone is sitting in front of a PC but in many countries in Africa, Indonesia, people don't use PCs, they use mobile phones - it's easier, cheaper, more stable.” – Infrastructure Partner

IP recognition

“The whole area of IP recognition needs to be looked at to a greater extent. [We need] some kind of review around the current password system and what opportunities there are for addressing that.” – Publisher

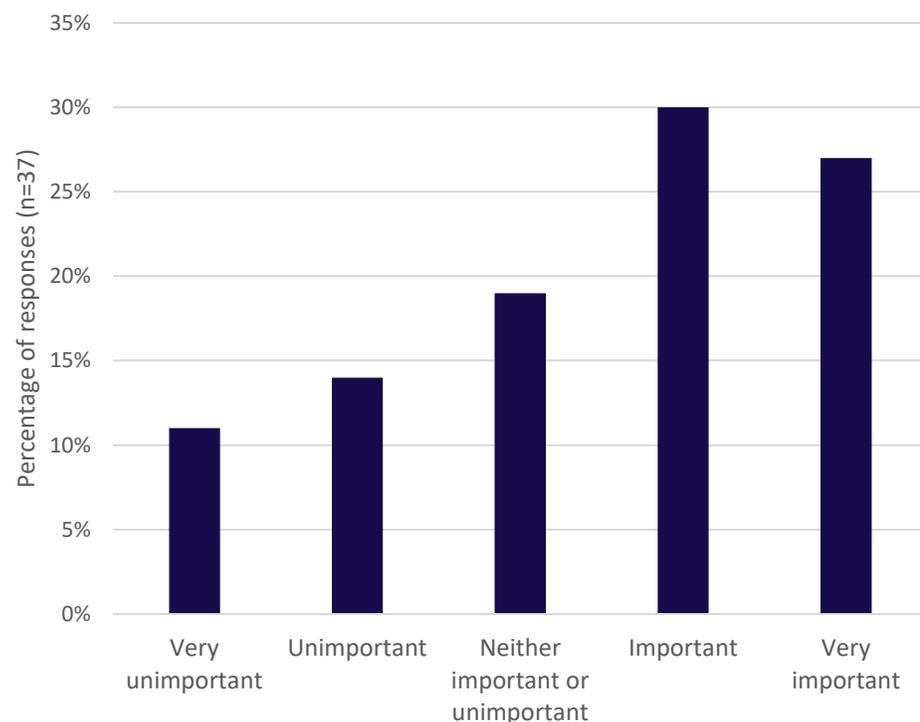
“The new authentication platform came in five years ago, and that made a big difference. We are also moving to IP-based access, and that’s making a big difference on the campuses where it’s in place.” – UN Field Officer

“We have been promoting IP registration, but what we have seen... is that people might not know that IP registration is an option. It's very laborious.” – UN Agency

Exclusions

Whilst over 50% of publishers see exclusions as important and very important, users report exclusions have a negative impact on the user experience.

The importance publishers ascribe to setting exclusions on content



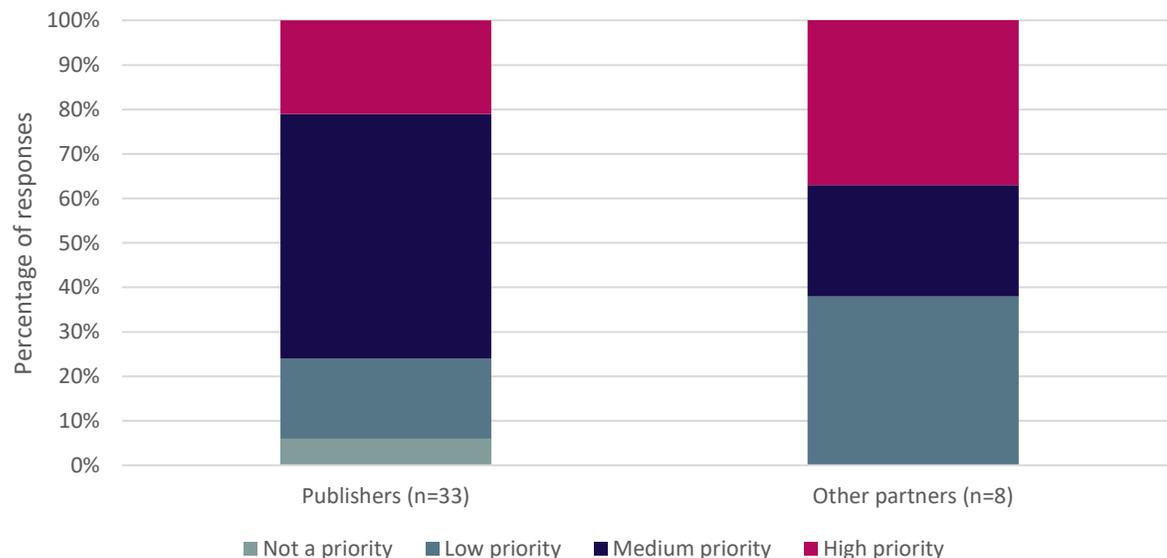
“Exclusions by the publishers are a big problem - where countries are moving from A to B and have to pay.” - UN Field Officer

“Issues stem from all of the country exclusions that the publishers put in place - it's just exceedingly complex, the list that the providers send. You take all that, spread it across >100 countries, and inherently in that there will be challenges.” – Infrastructure partner

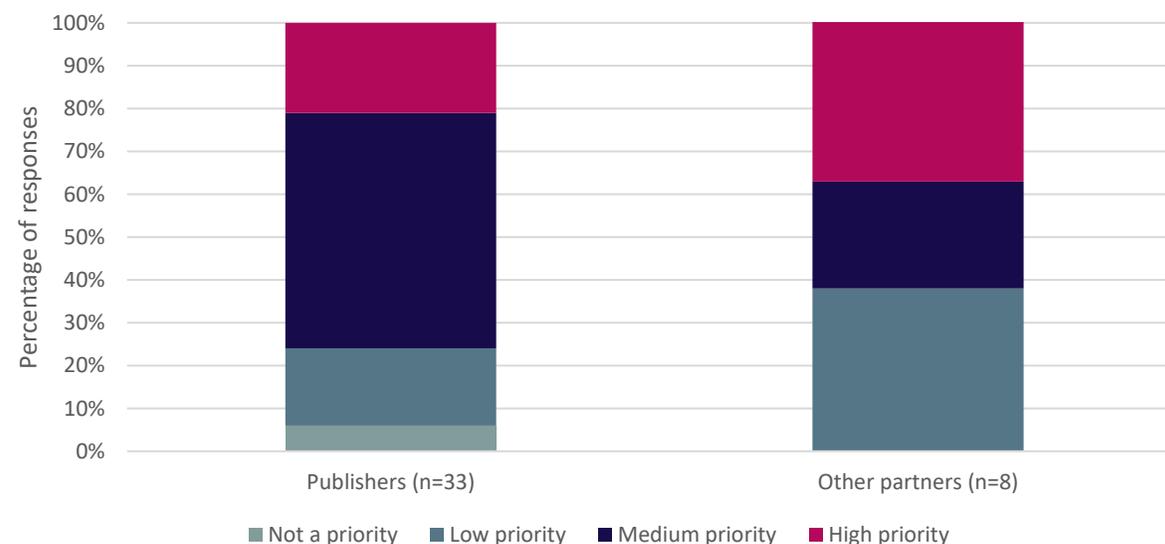
Communications and marketing

Whilst partners do promote the programmes, the visibility of the partnership is a concern.

The level of priority set by publishers and other partners for greater social media presence in low- and middle-income countries



The level of priority set by publishers and other partners for increased communications and marketing in low- and middle-income countries



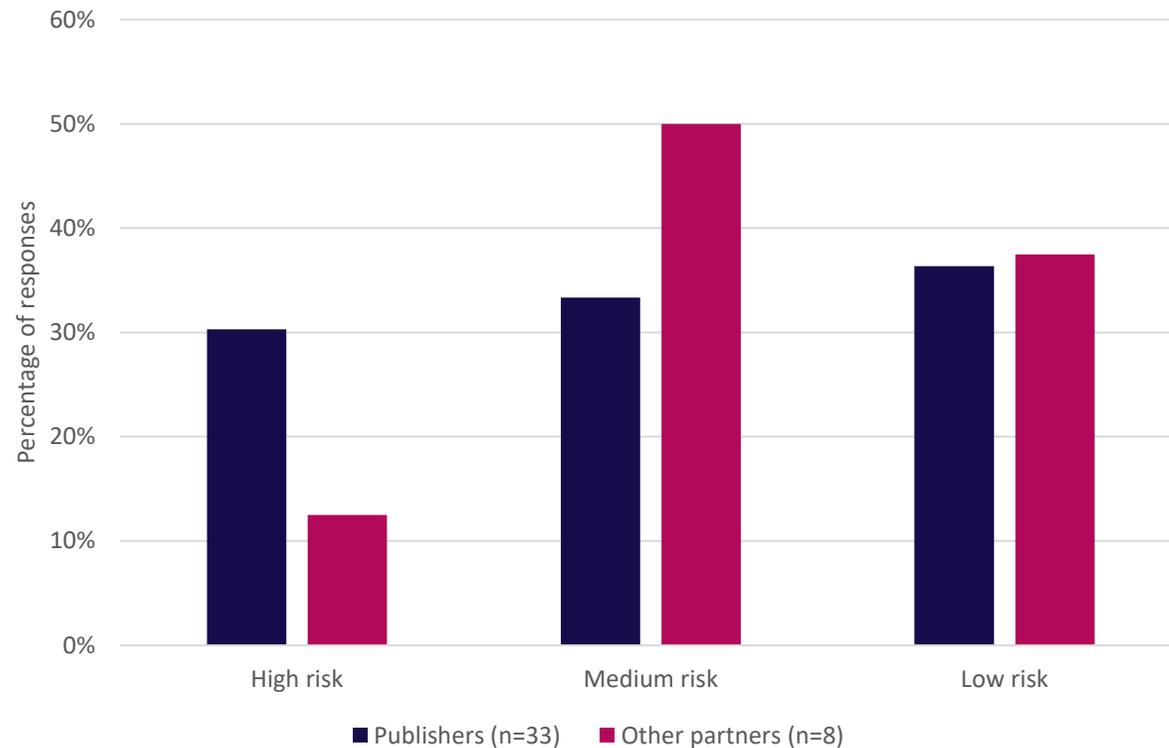
“The lack of visibility is always a concern for R4L. They've never had that and it's an issue, a liability.” – Publisher

“I don't think they're that active on Twitter. I definitely think they should be doing more - it's such an easy, cheap thing to do. It's something which is there for the taking.” - External Expert

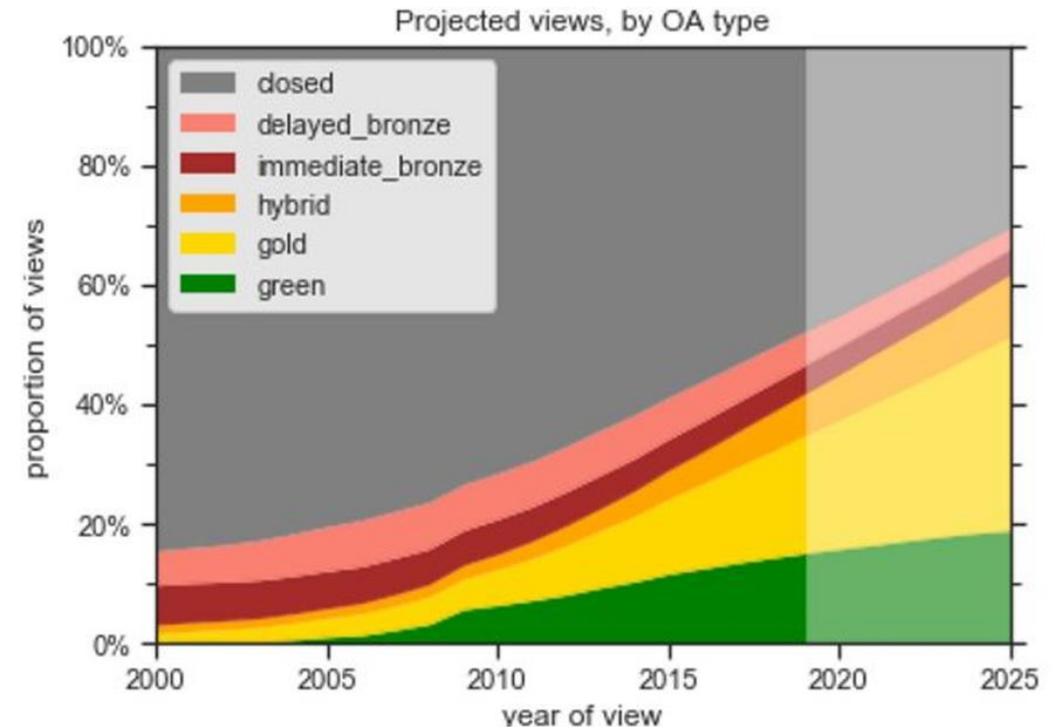
Open access

Partners don't see open access as a significant threat but open access is estimated to grow.

Publishers' and other partners' views on the risk posed to Research4Life by OA



Projected article views, by OA type (Piowar et al, 2018)



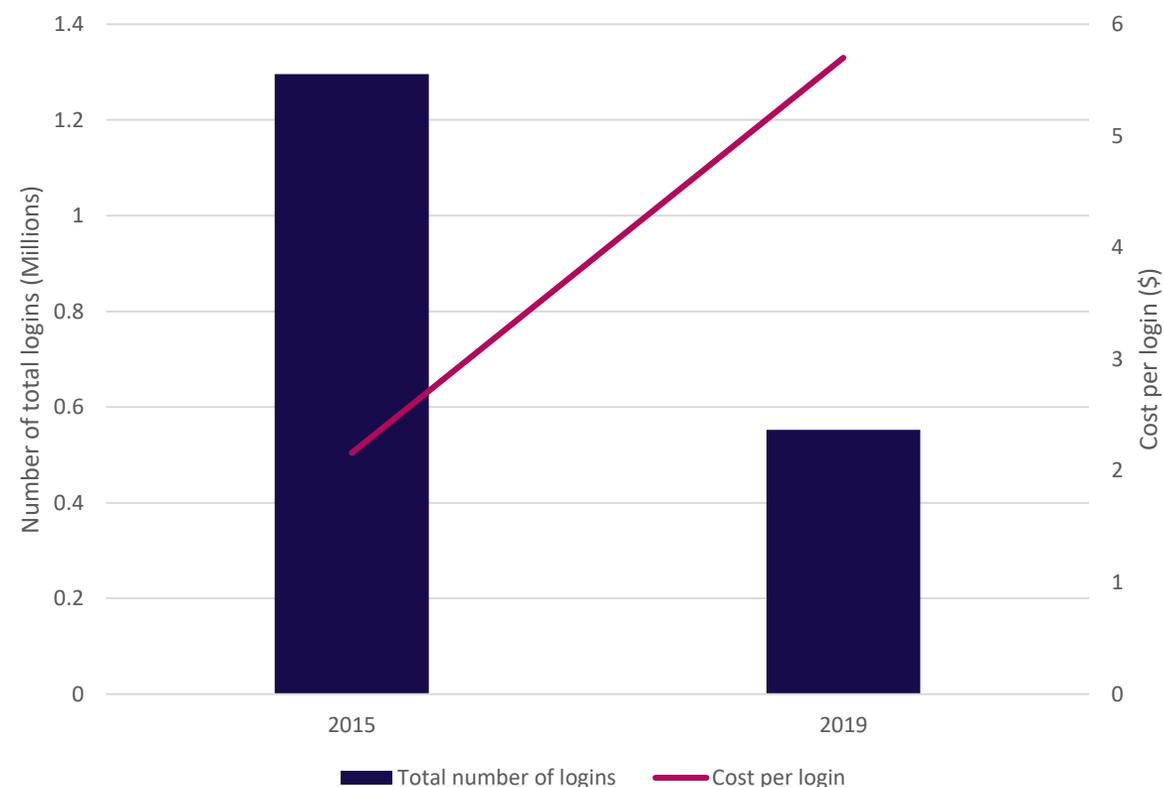
Costs and resources

Costs have increased and with the decline in usage, so have the costs per login.

Cost comparison 2015 and 2019

Partner	2015 estimate (\$k)	2019 estimate (\$k)
Publisher	750	885
WHO	1,060	1,515
FAO ^c	239	275
UNEP ^d	160	80
WIPO	180	150
ILO	-	100
Yale ^e	150	30
Cornell ^f	150	25
STM	110	80
ProQuest	1	7
Total	2,800	3,147

Cost per login 2015 and 2019



Future developments

- There are a variety of suggestions for future funding models

“Primary funders for this are the publishers, as we discovered from the feasibility study from CABI. With funders it is difficult to make the case, they just turn around and ask, ‘well why aren’t publishers doing more?’” – Infrastructure partner

- Partners wish to consolidate rather than add any new programmes

“...I don't want to sound territorial, but we have five programmes now and I'm not sure that we should start another programme. At this point we should merge the programmes and rebrand as focusing on R4L as a whole.” - UN Agency

- The five separate programmes confuses the overall partnership

“I think it's overkill having different sites for each programme, it just adds complexity, and the interface allows you to filter by subject anyway. The number of programmes just dilutes the brand of Research4Life, and I think there's an in-between approach they could take.” - Technical Partner

- Partners don't see a need to include any new bodies

“In terms of other bodies, I can't think of any and that may be because we're already broadly inclusive and adding new organisations might make this more difficult.” - UN Agency

- UN Field Officers highlight a need for better language coverage

“We also need better language coverage - we have English, French, a little bit of Portuguese at present, but having more language accessibility would help a lot. English is the main language for the content, but people have a real barrier when the discovery and interface are all Anglophone.” - UN Field Officer

In summary...



Research4Life has improved its offering but usage has declined, many partners are unaware of this



Research4Life aligns with partners' missions but lacks external visibility



Total costs have increased slightly – but cost per login has more than doubled



Governance is seen as effective, but with room for improvement



The current training arrangements are deemed as effective by partners who are aware of them



Partners wish to consolidate rather than expand

Research4Life SWOT (strengths, weaknesses, opportunities, threats) analysis

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Conclusions and recommendations

Strategy: Review and redefine Research4Life's strategic priorities

Technology: Redevelop content portal, with a focus on responsive design

Marketing and communications: Increase use of marketing and social media to promote the programme in LMICs

Capacity Development: Strengthen online training offer, leveraging the success of the MOOC

Funding: review scope to improve recovery of funds from Group B countries

Thank you

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