

WELCOME

Welcome to the first i2S News for 2021.

This is our bi-monthly notification of additions and updates to the resources on the i2S website (<http://i2s.anu.edu.au>). i2S News also provides a list of the latest blog posts on the Integration and Implementation Insights blog (<https://i2insights.org>).

The i2Insights blog is now 5 years old. For a review of how the blog is progressing, see <https://i2insights.org/2020/12/15/fifth-annual-review/>. We are now looking to ramp up the number and range of contributions, as well as the blog's reach. For the month of February we will be doubling our publication rate to twice a week. We are also [recruiting i2Insights Ambassadors](#) to help us ensure that the blog contributes to a truly global community, as well as a comprehensive coverage of topics that are key to research integration and implementation.

We hope that you have successfully weathered last year's shocks and that 2021 is off to a good start for you.

Gabriele Bammer and Peter Deane

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FEATURED TOOLS

Stakeholder engagement: risk and equity matrix

Purpose: To review how equitably risks and benefits are distributed amongst stakeholders, researchers and others involved in any research project.

Description: The aim of the matrix is to stimulate systematic consideration of potential impacts for stakeholders, researchers and others involved in a research process, so that risks and benefits can be equitably distributed.

For each party involved in the research, this involves completing a matrix, such as the one shown below (over the page), that considers:

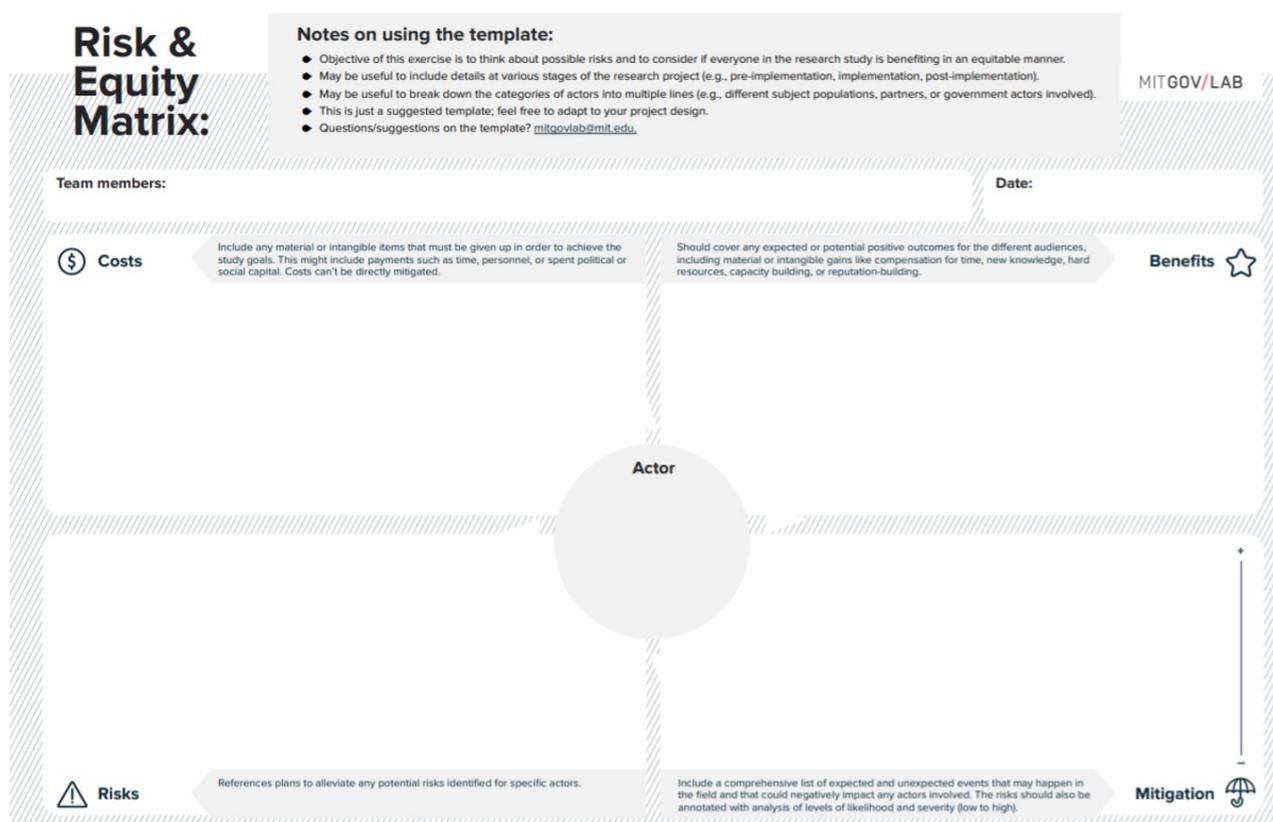
- Costs
- Benefits
- Risks
- Mitigation.

Costs involve “any material or intangible items that must be given up in order to achieve the study goals. This might include payments such as time, personnel, or spent political or social capital. Costs can’t be directly mitigated” (MIT Governance Lab, 2020a).

Benefits cover any expected or potential positive outcomes for the different parties involved in the research, “including material or intangible gains like compensation for time, new knowledge, hard resources (services, hardware, etc.), capacity-building (skills), or reputation-building” (MIT Governance Lab, 2020a).

Risks are “possible harms including a comprehensive list of expected and unexpected events that may happen” (for example, in the field) and “that could negatively impact any actors involved. The risks can also be annotated with analysis of levels of likelihood and severity (low to high)” (MIT Governance Lab, 2020a).

Mitigation “references plans to alleviate any potential risks identified for specific actors. For example, addressing threats to personnel safety and well-being in the field includes both designing research protocols to be carried out in teams of two, using low-cost tech, and having regular check-ins to address any unexpected problems that may arise; as well as having a communication and escalation action plan ready in case” (MIT Governance Lab, 2020a).



MIT Governance Lab (2020b)

These matrices should be filled out for everyone involved in the research, including:

- all stakeholders, including practitioners, civil society partners, government actors, informal and traditional authorities (*eg.*, “community leaders, religious, traditional, or tribal chiefs,” MIT Governance Lab, 2020a), businesses
- all researchers, from lead researchers to research assistants and study managers (some risks and their mitigation may be covered in institutional work health and safety reviews)
- “research subjects,” noting that these are generally covered in institutional ethics reviews
- Other actors, such as donors and the media. (Adapted from MIT Governance Lab, 2020a.)

Process issues

As far as stakeholder engagement is concerned, filling out the matrix is ideally a joint exercise between the academic leads and each stakeholder group. Conversation prompts include:

- “Look at the different categories, are any of them lopsided? Do risks seem equitably distributed?
- If it is lopsided, is there a way to shift the intervention or research design to change this?
- Are the mitigation plans specific enough to implement? Is there an accountability mechanism or fail safe in case something goes wrong?
- Have mitigation measures been budgeted for sufficiently?” (MIT Governance Lab, 2020a).
- There should also be follow-up to double-check that stakeholders are still comfortable with risks they have accepted, along with the process and decision-making that led to that acceptance.

The matrix is useful at three different stages of the research:

- “in the planning phase of the collaboration, before major decisions on the research or intervention design, and budget, are set in stone”
- at “a mid-point check-in to revisit the matrix and see if anything needs to be reconsidered or updated”
- at the end of the project, when it is important to “document critical lessons: What went according to plan? What changed or was unexpected? What takeaways can be noted to improve outcomes for next time?” (MIT Governance Lab, 2020a).

The following questions can help assess how well the relevant issues have been reviewed. The parties involved ask themselves if they have been:

- “Specific: Are your responses tailored to the actor and clear about the extent to which people are being affected (e.g. ‘10 hours per week’ instead of ‘time costs’)?
- Comprehensive: Do your answers include a range of considerations beyond time, money, and physical safety? For example, political, reputational, professional, and emotional factors.
- Realistic: Do researchers have the time, ability, and authority to implement mitigation strategies? Are the strategies feasible and measurable (e.g., ‘weekly calls to facilitate communication’)?
- Balanced: Conduct assessment at various time periods to understand immediate and longterm effects of intervention to inform larger programming goals.”
- “Vague: Are your answers too brief, non-specific, or not concrete enough to evaluate (e.g., ‘no greater risks than everyday risks’ or risks broadly categorized as high, medium or low without explaining what was at risk and why)?
- Repetitive: Are you using generic answers, or copying and pasting answers across the different actors?
- Inconsistent: Are you giving much more attention to one category or actor than another? For example, sometimes people give much more consideration and detail to describe benefits to various actors than costs, risks, or mitigation” (MIT Governance Lab, 2020a).

References:

- MIT Governance Lab (MIT GOV/LAB, Authors: Alisa Zomer and Selmah Goldberg). 2020a. “Risk and Equity Matrix”. Version 1. Engaged Scholarship Tools. Massachusetts Institute of Technology Governance Lab, Boston, United States of America.
- MIT Governance Lab (MIT GOV/LAB, Authors: Alisa Zomer, Varja Lipovsek, and Selmah Goldberg). 2020b. “Workbook”. Version 1. Engaged Scholarship Tools. Massachusetts Institute of Technology, Boston, United States of America.
- A guide and workbook for using the matrix are available at:
<https://mitgovlab.org/results/risk-and-equity-matrix/>

Location of this resource on the i2S website:

<https://i2s.anu.edu.au/resources/stakeholder-engagement-risk-equity-matrix>

Change: adoption versus use (updated tool)

Purpose: To highlight the difference between adoption and use in how research findings contribute to change

Description: To understand how research findings lead to change, it is useful to look separately at two steps:

- Adoption, which is “the willingness and ability to take research results and convert them into something that’s usable more broadly.” This can involve incorporating the results into “an artefact or service or advice” (Elsun, 2013 p. 432).
- Use, which is inclusion into relevant practice or policy of the artefact, service or advice by people or organisations, who are not the adopter.

Elsun offers the example of the development of a new technical instrument. Adoption is the decision by a manufacturer to produce the new instrument. Use is the decision by organisations to buy the instrument and incorporate it into their operations.

Another example is seed manufacturers adopting research findings on genetic modification of agricultural plants to produce such seeds for commercial sale. Use requires not only uptake by farmers in growing crops from these seeds, but also the willingness of consumers to buy and eat the products.

Finally, public servants may adopt research results in advice provided to government when new policy is being framed. Use depends on that advice being incorporated into the relevant policy, the application of the policy in program design and delivery being consistent with the advice, and the societal outcomes reflecting the intent of the advice.

Researchers often make the mistake of focusing only on adoption. Adoption and use require different processes, as they may be stimulated by different motivations. In his lightning talk presentation, Elsum (2013) describes the importance of understanding the “receiving ecosystems” in which adoption and use occur and considering “pathways” through which impact or change are likely to occur. The difficulty of achieving change rises with the complexity of the receiving ecosystem.

Elsun also offers the following useful advice for those undertaking research that seeks to influence change:

- the problem is usually ‘fixed’ in that it cannot be changed to make it more tractable to research
- researchers need to focus on a ‘workable’ solution, which “involves a blend of technical factors and factors to do with adoption and use, none of which may be optimum within its particular domain” (Elsun, 2013, p 433)
- when time constraints are important, the first workable solution is often the one that is adopted and used, rather than waiting for an optimum solution
- when there is high uncertainty, iteration between the technical and adoption/use domains in a learning-based approach is required.

References:

- Elsum, I. (2013). Tackling Integrative Applied Research: Lessons from the Management of Innovation. In, *Disciplining Interdisciplinarity: Integration and Implementation Sciences for Researching Complex Real-World Problems*, by Gabriele Bammer, ANU E-Press, Canberra, Australia, pp: 431-441.
- Video (35 minutes: relevant segment found at 1:40 minutes to 4:45 minutes): A lightning talk about this digital poster is available as Digital Poster Lightning Talks #2 by Elsum, Stewart, Walker, Neville, Haryanto and Vincent available on the i2S channel on YouTube:
 - <https://youtu.be/IHqUJDpeJoE>

Location of this resource on the i2S website:

<https://i2s.anu.edu.au/resources/change-adoption-versus-use>

Additional tools can be found at: <http://i2s.anu.edu.au/resources/tools>

FEATURED VIDEO

Bias: dilution effect

Purpose: To provide an understanding of the dilution effect and its impact on decision making.

Description: The dilution effect is a cognitive bias that occurs when we weigh up several pieces of information, some of which are relevant to a decision that we have to make and some of which are irrelevant.

It turns out that in making a decision we do not usually distinguish between the relevant and irrelevant information. Instead, having irrelevant information dilutes the value of the relevant information.

For example, when more side-effects of a drug are listed in the information provided, we worry less about the serious side effects than when only the serious side effects are listed.

Similarly, when we are assessing someone's performance, we provide a different assessment for someone for whom we have relevant and irrelevant information than for someone for whom we have exactly the same relevant information only.

The dilution effect is also important when we are trying to make a persuasive case to influence a decision. Increasing the number of arguments in our case, especially if some of them are relatively weak, will not strengthen the case, but actively weaken it. Sticking to the strong arguments alone is likely to be more persuasive.

Reference:

- "The counterintuitive way to be more persuasive" by Niro Sivanathan was a talk at 'TEDxLondonBusinessSchool', London, UK in 2019. Video (11 minutes) online at either:
 - TED.com: https://www.ted.com/talks/niro_sivanathan_the_counterintuitive_way_to_be_more_persuasive, or
 - YouTube: https://youtu.be/hK8kk_3WA7w

Location of this resource on the i2S website:

<https://i2s.anu.edu.au/resources/bias-dilution-effect>

LATEST i2INSIGHTS BLOG POSTS

The i2Insights blog (<http://i2insights.org>) has recently published the following posts:

'Measuring' interdisciplinarity: from indicators to indicating

By Ismael Rafols

<https://i2insights.org/2021/02/09/measuring-interdisciplinarity/>

Three complexity principles for convergence research

By Gemma Jiang

<https://i2insights.org/2021/02/04/complexity-for-convergence-research/>

Leadership in participatory modelling

By Raimo Härmäläinen, Iwona Miliszewska and Alexey Voinov

<https://i2insights.org/2021/02/02/leadership-in-participatory-modelling/>

Five organizational features for successful interdisciplinary research

By Jessica Blythe and Chris Cvitanovic

<https://i2insights.org/2021/01/26/context-for-successful-interdisciplinarity/>

A successful model of integration in an art-science project

By Daa Ahmed Mohamed Ahmedien

<https://i2insights.org/2021/01/19/art-science-integration/>

Why we need strengths-based approaches to achieve social justice

By Katie Thurber

<https://i2insights.org/2021/01/12/strengths-based-approaches/>

Can examining cross-disciplinary interactions illuminate unknown unknowns?

By Rick Szostak

<https://i2insights.org/2021/01/05/cross-disciplinarity-illuminates-unknown-unknowns/>

i2Insights ambassadors and fifth annual review

By Gabriele Bammer

<https://i2insights.org/2020/12/15/fifth-annual-review/>

Four lessons for operating in a different cultural environment

By Nithya Ramachandran

<https://i2insights.org/2020/12/08/cross-cultural-working/>

What is 3-dimensional team leadership?

By Bradley Kirkman

<https://i2insights.org/2020/12/01/3d-team-leadership/>

Interdisciplinary competencies and innovation

By Colleen Knechtel

<https://i2insights.org/2020/11/24/interdisciplinarity-and-innovation/>

FEATURED PROFESSIONAL ASSOCIATION

International Association for Critical Realism

The *International Association for Critical Realism* (IACR) has the “objective of serving as a networking or otherwise facilitating resource for anyone broadly sympathetic to, or concerned with, realist philosophy and social theory. Given the current crises in the social sciences and philosophy, it was widely felt that such a resource is urgently needed.”

IACR supports an annual conference, awards a yearly prize for innovative new writing in or about the tradition of critical realism, and has its own journal, the *Journal of Critical Realism* (JCR). IACR also expresses an intention to “organise or help co-ordinate and publicise lectures, seminars, workshops, summer schools and related events concerned in any way with realist philosophy and social theory,” as well as to “facilitate related research projects.”

From the perspective of Integration and Implementation Sciences (i2S), critical realism provides a way to deal with ontological and epistemological concerns in science and social science that is philosophically sophisticated, theoretically rich and methodologically varied. It is an open system approach to research contexts that is inherently interdisciplinary, realist and morally aware. Critical realism is one of the major strands of scientific and social scientific theory along with positivism, post-modernism, critical inquiry, empiricism, interpretivism, *etc.*

IACR was founded in 1997.

- Website:
 - <http://criticalrealismblog.blogspot.com>

Location of this resource on the i2S website:

<https://i2s.anu.edu.au/resources/international-association-for-critical-realism>

Additional professional associations and networks can be found at:

http://i2s.anu.edu.au/resources/associations_networks

FEATURED JOURNAL AND JOURNAL NEWS

Journal of Critical Realism (JCR)

The *Journal of Critical Realism* (JCR) is the journal of the *International Association for Critical Realism* (IACR) and was established "to foster the discussion, propagation and the development of critical realist approaches to understanding and changing the world. It provides a forum for scholars wishing to promote realist emancipatory philosophy, social theory and science on an interdisciplinary and international basis, and for those who wish to engage with such approaches."

The JCR caters to audiences from many different disciplines with the common core being a shared interest in critical realism and it "publishes articles, review essays, review symposia, book reviews, debates and postgraduate interventions that relate in some significant way to critical realist approaches to understanding and changing the world. It is committed to encouraging work within the framework of, or engaging with all phases of the philosophy of critical realism: original and dialectical critical realism and metaRealism."

Papers particularly relevant to Integration and Implementation Sciences (i2S) focus on knowledge synthesis and interdisciplinarity with a wide coverage of different fields and disciplines.

Journal impact factor (2019): N/A

- **Website:**

- <https://www.tandfonline.com/toc/yjcr20/current>

Location of this resource on the i2S website:

<https://i2s.anu.edu.au/resources/journal-of-critical-realism>

Call for papers by Frontiers (open access publisher and open science platform) on 'Discussing Structural, Systemic and Enabling Approaches to Socio-Environmental Transformations: Stimulating an Interdisciplinary and Plural Debate within the Social Sciences' for submission to either of the journals *Frontiers in Sociology* or *Sociological Theory*

"In recent decades, the social sciences have engaged more deeply with the evolving interconnection and interdependence between the social and the natural world... While this has fostered a creative expansion of the analytical toolboxes employed to tackle socio-environmental transformations with novel concepts and methods, it has been accompanied by a fragmentation of the topic into an array of different (and sometimes conflicting) approaches, each imbued with

distinct conceptions of change and more or less explicit value-commitments... With few -albeit notable- exceptions, each of these approaches has been pursued differently and in relatively self-enclosed epistemic communities, often reflecting enduring disciplinary or theoretical divides, and preventing a reflexive debate on the interactions and possible synergies between each of these perspectives on socio-environmental transformations.”

“In order to overcome these traditional divisions and foster a more plural, creative and reflexive debate, this Research Topic invites scholars and research practitioners from different regions and epistemic communities to engage with the different approaches to and dimensions of socio-environmental transformations, as well as their possible interaction and integration. We will particularly welcome contributions from emerging and/or established researchers from groups often excluded from these circles, or from the Global South.”

“Papers might address, but are not restricted to, the following topics:

- Theoretical or conceptual reflections on different conceptions of and analytical approximations to socio-environmental transformations
- Epistemological or methodological contributions on the study or practice of socio-environmental transformations
- Qualitative or quantitative studies discussing theoretical and pragmatic insights that may be gathered from particular experiences or case studies of socio-environmental transformations.”
- **For more detail see:**
 - <https://www.frontiersin.org/research-topics/17536/discussing-structural-systemic-and-enabling-approaches-to-socio-environmental-transformations-stimul>
 - Submission deadline is 15 June 2021

Additional journal information can be found at: <http://i2s.anu.edu.au/resources/journals>

FEATURED CONFERENCES

2021 International System Dynamics Conference: From insights to action: resilience to global problems

The *International System Dynamics Conference* “is an annual event where people from all over the world interested in the practice of System Dynamics and systems thinking gather. Now in its 39th year, the Conference appeals to audiences across industry and academia [and] participants come from business, universities, K-12 education, not-for-profits, government, consulting, the healthcare sector, and beyond.”

Also, held just before the conference (July 20-23, 2021), is the *8th System Dynamics Summer School*, which “provides a unique opportunity to learn (or review) the basics of System Dynamics and get exposed to real-world applications of the method”.

In 2021, the *2021 International System Dynamics Conference* “will explore how System Dynamics allows us to generate insight into the drivers of problems and the design of solutions in highly

interconnected dynamic systems. Some of the current problems that the world faces (such as COVID-19, climate change, poverty, etc.) are of such complexity that it is nearly impossible to build adequate insight without structured approaches like System Dynamics. The 2021 International System Dynamics Conference will include rigorous dialogue and exchange of ideas about resilience to global problems, how to design solutions to these problems, and how we might turn insight into action”.

Major threads covered in the conference include stakeholder engagement, public policy, methodology and learning & teaching.

The conference is being held virtually, on 26-30 July 2021.

- **For further details see:**
 - <https://systemdynamics.org/conference/>
 - Call for abstracts open until 25 March 2021

Sustainability Research and Innovation Congress 2021 (SRI2021)

The *Sustainability Research & Innovation Congress 2021* (SRI2021) is a “transdisciplinary gathering in sustainability [and a place of] advocacy for sustainability scholarship, innovation, collaboration and action. The first in an annual series that unites global leaders, experts, industry and innovators to inspire action and promote a transformation in sustainability.” The conference will provide an “opportunity for diverse audiences to connect with the global sustainability community, learn about the latest sustainability science, create novel networks and partnerships, explore new ideas, gain visibility, inspire and be inspired.

The core focus of SRI2021 is on:

- “sustainable solutions from the global south: Flipping the script on sustainability, introducing perspectives and lessons from the Global South, finding partners in the Global North, and exploring the differences.
- Integrated action for the Sustainable Development Goals (SDGs): Identifying pathways to societal transformation, mapping actors, and evaluating synergies, trade-offs and risks.
- Advocating knowledge-to-action: Advancing sustainability science through knowledge co-design.
- Sustainability for whom? Encouraging diversity and inclusion to advance sustainability throughout generations.
- Resilience: Research and innovation which builds our capacity to deal with disturbances to function and flourish.”

The conference is being held virtually and onsite at the Brisbane Convention and Exhibition Centre, Brisbane, Australia, on 12-15 June 2021.

- **For further details see:**
 - <https://sri2021.org>

Additional conference information can be found at:
<http://i2s.anu.edu.au/resources/conferences>

ABOUT i2S NEWS

The aim of this newsletter is to provide regular (bi-monthly) updates about new resources added to the Integration and Implementation Sciences website (<http://i2s.anu.edu.au/resources>) and the Integration and Implementation Insights blog (<http://i2Insights.org>). It also provides occasional conference and other news items. These resources are useful for researchers interested in Integration and Implementation Sciences (i2S), which underpins the investigation and tackling of complex real world problems, by:

- Synthesizing knowledge from different disciplines and stakeholders,
- Understanding and managing diverse unknowns, and
- Providing integrated research support for policy and practice change.

In general, each issue features tools (concepts and methods), either a useful compilation or one or more examples of note. We also provide information about journals, professional associations & networks and conferences where researchers can learn from others, report their findings and interact with like-minded peers.

i2S News is archived at: <http://i2s.anu.edu.au/what-i2s/i2s-publications/i2s-news>.

Useful links:

- i2S website: <http://i2s.anu.edu.au>
- i2Insights blog: <http://i2Insights.org>
- i2S on YouTube: <https://www.youtube.com/user/i2sTalks>
- LinkedIn group "Global Network for Research Integration and Implementation": <https://www.linkedin.com/groups/4888295/>

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