Track 9 – Innovation and culture

(Giovanni De Grandis, NTNU, Matthias Kaiser, UiB)

Thursday 29th 17:15-18:10 – Session 1

Friday 30th 13:15-15:00 – Session 2

Abstracts session 2

Mobilization, relevance and rigor: RRI as a policy concept

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Umbrella concepts like Responsible Research and Innovation (RRI) have the capacity to unite researchers from otherwise disparate fields under their umbrella (Rip & Voß, 2013). They are thus effective in mobilizing researchers for a cause—or causes, namely the ones that can meaningfully be subsumed under their label. Thus, to maximize their mobilization effects such concepts are usually rather broad and allow for interpretations. However, the resulting interpretative viability—or pragmatic ambiguity—comes at a cost, namely the lack of conceptual rigor (Benders & Van Veen, 2001; Giroux, 2006). Among researchers engaging with RRI, the perceived lack of clarity about what RRI entails have led to many expressions of frustration (e.g. Rip, 2016), countless attempts at clarifying what the content of the RRI signifier is or should be (e.g. Christensen et al., 2020; Fisher, 2020; Owen et al., 2013; Ribeiro, Smith, & Millar, 2017; Schuijff & Dijkstra, 2020), as well as how the term and related thinking has been used and by whom (e.g. Randles, Tancoigne, & Joly, 2022).

A central tenet of the research and innovation policy of the European Union, as expressed in e.g. the Rome Declaration (European_Union, 2014), and the Horizon 2020 program that accompanied the declaration, is that engagement with RRI should diffuse beyond scholarship and researchers mobilized by the term to become institutionalized as new practices for the undertaking of research and innovation (Owen, Macnaghten, & Stilgoe, 2012). The discussion about the diffusion of RRI as lived practice beyond a community of researchers benefitting from the concept in various ways, signals that research on organizations' use—and misuse— of ideas on how to organize and manage is a relevant theoretical framing for the diffusion of practices question.

The field shares with research in policy concepts, how some concepts emerge as fashionable and then disappear (Abrahamson, 1996; Downs, 1972; Kieser, 1997), sometimes to reemerge under new label (Spell, 2001). The field too has a tradition for umbrella concept research (Hirsch & Levin, 1999), which is closely related to what has become known as the 'relevance-rigor' debate (Fincham & Clark, 2009; Rynes, Bartunek, & Daft, 2001). In the rigor-relevance debate, it is commonly assumed that broad concepts are of relevance to practitioners,

whereas most researchers prefer narrow concepts, where cause and effect can easily be accounted for (Daft, 1980; Hirsch & Levin, 1999). This insight leaves open the extent to which the scientific knowledge created in the field of management and organizational scholarship represent much else than language games to practitioners (Astley, 1985).

Using this literature as a point of departure, I ask if the use of broad umbrella concepts in science policy leads to enhanced relevance of science to practitioners? Based on an implementation study of RRI in 23 science funding and science performing organizations globally, I show that the umbrella character of RRI may help mobilize a community of scientists, but that practitioners struggle to connect RRI to discernible organizational practices. In contrast, the theorized individual aspects of RRI lend themselves comprehensible to practitioners as something they may successfully enact. The mobilizing effects of RRI for both scientists and practitioners appear connected to its heralded visions, the legitimacy provided by its various institutional anchorages, and its newness, rather than to any clear comprehension of what constitutes practices of RRI. These findings question widely held assumptions about what 'relevance' is to practitioners, as well as what constitutes 'practicable' science concepts. I topically review umbrella concept theorizing in organizational science and in science and technology studies and discuss findings in the light of the thus emerging dimensions of the functions of umbrella concepts.

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Understanding responsiveness in the responsible innovation process: A case study in the Brazilian manufacturing industry

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Organizations have been pressured to consider the possible impacts of their innovations on society and the environment. It is essential to ensure that new technologies, products, and services are developed and used transparently, inclusively, and ethically. In this context, responsible innovation (RI) has been identified as a promising area to face the challenges of the transition to a sustainable economic development model. RI refers to "a transparent and interactive process by which social actors and innovators become mutually responsive to each other with a view to the (ethical) acceptability, sustainability and social desirability of the innovation process and its marketable products" (Von Schomberg, 2013, p. 19). RI assesses innovations' potential positive or negative impacts (Voegtlin et al., 2022). However, it can be difficult to predict the consequences of innovation in its early stages (Zhang et al., 2023). Thus, although there is a growth in studies on RI, research is still predominantly at a conceptual level, with a need for more empirical investigations (Zhang et al., 2023). Based on this, Stilgoe et al. (2013) proposed a theoretical framework composed of four dimensions to

understand how organizations direct their innovations more responsibly: anticipation, reflexivity, inclusion, and responsiveness. These four dimensions overlap; therefore, their integration is important for robust results in developing RI (Ahuja et al., 2023). However, what can be seen in the literature is that there is a greater concentration of research on the inclusion of stakeholders (Silva et al., 2019), deepening reflexivity on the risks and unexpected results of innovations (Gómez; Ballard, 2013) and in the mechanisms that promote the anticipation of possible consequences (Khan et al., 2021). Few studies still address questions about the responsiveness dimension (Ayoub; Abdallah, 2019; Stockmann; Winkler, 2022). Responsiveness involves the organization's ability to constantly monitor and evaluate the impact of its innovations, making necessary adjustments to ensure that its solutions remain responsive. This dimension represents the organization's ability to respond to the other three dimensions of RI, acting as a unifying factor (Stilgoe et al., 2013). Despite its importance, this dimension is considerably less explored in discussions about responsible innovation, associated in previous studies with identifying potential risks, transparency, ethics, and accessibility (Burget et al., 2017). Therefore, there are gaps in knowledge about the elements that can improve organizations' responsiveness and facilitate the concrete and effective production of responses to changes (Ayoub; Abdallah, 2019; Stockmann; Winkler, 2022). Therefore, this study aims to analyze the elements that contribute to enhancing the responsiveness of responsible innovation. Qualitative research was carried out based on a single case study in a traditional Brazilian industry, nationally recognized for its concern with the socio-environmental impact of its innovations. The results showed how responsible innovation is conducted, highlighting how the dimensions of anticipation, inclusion, reflexivity, and responsiveness are empirically observed. Based on this understanding, our study demonstrates the elements that allow organizations to enhance their responsiveness. Specifically, we discussed three elements that were essential for the company to leverage the responsiveness of responsible innovation: analytical intelligence for greater ability to detect changes in context and user needs; procedural agility with the use of management tools that encourage collaboration and facilitate the flow of information and ideas; adaptive flexibility that allows the articulation of functions, modifying the distribution and sequencing of tasks. This study contributes by guiding elements that can help organizations improve responsiveness in the innovation process.

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Sacred RRI? The role of faith in innovation policy

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A promising area within Responsible Research & Innovation (RRI) research has been the ongoing scholarship on how, across diverse contexts, the values and ethics of innovation and its outcomes are shaped by organizations, ideas, and cultures. One salient aspect, however, that has been largely overlooked up to the present is the role of faith or religious traditions. Take for instance the Journal of Responsible Innovation, a leading RRI journal, where there are at the time of writing zero publications engaging with or even discussing faith as a (not the or dominant) facet of shaping the values or ethics of innovation (with one predictable exception being Islamic Finance: Hilmi 2018). This reflects a larger eschewing of religious traditions from within the social sciences, in particular innovation policy, where analysis and investigation on their contemporary relevance is scarce – a tacit dismissal of faith as at worst normatively regressive or at best private and unscientific. Yet there are at least two counterpoints that point to the importance of including faith on the research and

policy agenda of RRI. First, the opposite of private, many religious traditions are manifest and interwoven within society, especially in the non-Western world, making faith an undeniably relevant factor to consider. Second, rather than retroactive inclusion, religious traditions already have much to say regarding the aspects of humanity that are non-market oriented i.e. that define and contribute to the commonweal. In this paper, we therefore posit that if RRI is meant to understand the purpose of innovation in a more inclusive way and develop values-based principles to pursue it, we can no longer afford to overlook the role of religious traditions. Concretely, we suggest two ways to arrive at a 'sacred' RRI policy: selection and navigation. We start with the premise that there must be a rubric beyond market mechanisms to engage with what broad areas and particular technologies innovation should proceed i.e. ascertaining what is good and bad innovation. There are analogous cases in areas like investment and consumer awareness where adoption of initiatives such as ESG and B Corp hold companies to certain social and sustainability standards (Hughes et al. 2021, Moroz & Gamble 2021), albeit from mainstream (Western) perspectives. To return to RRI, we argue that faith-based and community-embodied value systems, often times as indigenous commons (Berket 2018), are informed by much more than calculated profit maximization or self interest, and accordingly, so should the directionality of innovation. Selection as a tool of sacred innovation policy would therefore be a set of goalposts to determine what innovation should move forward, whereas navigation would be how innovation should move forward i.e. a set of guardrails. Together, both act as two levers that determine the destination and keep the course of innovation. For instance, in many faith traditions, white phosphorus munitions would not be a permissible thing to develop and innovate on (let alone utilize) because by design they are intended for and will succeed in indiscriminate destruction of life and ecosystems. This is an instance of selection, whereby such a technology would simply not receive funding nor a diversion of talent to carry forth the innovation process. Another example would be a diagnostic device that can generate rapid and accurate health scans (an unequivocally beneficial outcome) although the components utilized in the current production process are directly procured from mining facilities that exploit child labor. As an instance of navigation, a sacred RRI policy would require altering the upstream production process to either identify an ethical source or develop an alternative e.g. recycle obsolete electronics.

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Project Archetypes: Exploring the Field Patterns of the European Research Area

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This paper formulates and explains the project archetypes' pattern that characterises the involvement of the European Southern Neighbourhood in the European Research Area. This enquiry into the relationality weaved by research collaboration presents four archetypes. The main empirical material employed to model and study the four archetypes is semi-structured interviews with Europe-based project managers. This paper presents European Union science diplomacy and looks at how multilateral research-driven ties support post-Westphalian external action objectives, drawing on the insights provided by leading figures of projects financed by the Framework Programme 7 and Horizon 2020. Expert experiences of co-developing research-intensive solutions with Morocco- and Tunisia-based colleagues to address the most pressing challenges faced by the European Union and its Southern neighbours offer new insights into the patterned routines that support the implementation of such supranationally steered governance frameworks as the European Research Area, including its external action and science diplomacy dimensions. Almost half of the studied projects correspond to the archetype with one EU-funded project interaction. This confirms the rather sporadic or ad hoc relational ties of the European Southern Neighbourhood to the European Research Area, facilitated by various Europe-based competence centres. A list of projects combined with other collaborative engagement modalities is less prevalent. Nevertheless, there are several instances proving that Europebased managers are eager and capable of sustaining ties with their European Southern Neighbourhood counterparts based on diverse funding sources. Thus, to a considerable degree, the dynamics and relational ties of the European Research Area are embedded in a broader international research landscape, not siloed away from it.

The categorisation of projects under four archetypes enables a better understanding of the structure of the European Research Area beyond its major division into Bourdieusian subfields. To understand the modalities of these subfields, archetypes are instrumental. Archetypes demonstrate the relational logic and project-oriented management solutions that put in motion the European Research Area subfields. Archetypes offer a more nuanced understanding of the considerations guiding experienced research project managers in extending collaborative plans across the European Southern Neighbourhood. Archetypes better illustrate what pattern of expert circle encounters supports European Union external action, in what settings, and for how long the European Union science diplomacy projection unfolds through shared 'kn/own/ables' and new initiatives offered to the European Southern Neighbourhood through European 'technoscientific gifts'.

The enthusiasm to develop European Union external action studies by employing various theoretical and conceptual elements and methodological approaches is important not solely for this emerging field of studies. Seen more broadly, this receptiveness to various stances and the processing of diverse empirical material bring continuous intellectual dynamism to the more than century-old thinking on international relations. European Union external action studies, such as this one, may serve as a source of inspiration for other compartments

of international relations and indicate prospective pathways for reinvigorating research agendas with a fresh look at classics and European integration as a reinvented and reinvigorated tradition.

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