



TRIPLEHELIX
UNIVERSITY INDUSTRY GOVERNMENT association



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TEMPLATE FOR ABSTRACT – min. 1,000 – max. 1,500 words

TITLE: Defining ‘responsible’ in Responsible Research and Innovation. The case of Quadruple helix innovation in the energy sector in the Tampere region

TYPE (Original research)

TRACK: Triple Helix in the age of Digital Transformation, Industry 4.0 and Innovation Ecosystems.

PURPOSE:

This paper aims to investigate the social innovation process in the regional innovation system of the Tampere region in the context of the Finnish National Innovation System. It focusses on analysing the role of actors on the regional innovation system in the context of Responsible Research and Innovation (RRI) in the economic development of the region, especially in the (green) energy sector. the objective of this paper has been to discuss how the different actors of the regional innovation system perceived their own role and that of other actors in RRI, how they define ‘responsible’ in the context of RRI, and what is their overall understanding of the social innovations. As a conceptual framework, we utilise the concept of a quadruple helix to better understand the roles and interwoven fabric of social innovation.

DESIGN/METHODOLOGY/APPROACH:

The paper is based on qualitative approaches and content analysis of 12 stakeholders in the regional innovation system that are representing different regional stakeholder groups and working positions related to economic development in the energy sector. In addition, we have analysed national and regional documents related to energy policies and the role of research and universities as well as citizens in sustainable (economic) development.

FINDINGS OR EXPECTED OUTCOMES:



The responsibility in research and innovation activities is not defined by utilising existing conceptual approaches or EU policies, such as RRI. The responsibility is defined by Higher Education Institutions (HEIs, hereafter), public agencies and business as citizen (user, customer) engagement, as well as ethical, environmental, and legal responsibility. Citizen engagement is an important part of the innovation processes in the quadruple helix and also as part of the activities of each institutional stakeholder in the forms of public engagement, customer engagement and student engagement. All stakeholder citizens are seen as important actors and are considered co-producers ('with' society, public engagement). However, the dominant discourse still provides a place for citizens as legitimisers rather than active participants. The role of legitimiser can be seen from the perspective of local democracy (political legitimisation), customer-centred services (consumer legitimisation), and public services (taxpayer, value for money). The study in general shows that, even though most organisations are unfamiliar with RRI, they can discuss themes related to responsible research and innovation. RRI is not applied even in a reductionistic manner, as a concept used for describing current activities, since it not generally known.

ORIGINALITY/VALUE:

The study is carried out by identifying a research gap in the implementation of the concept of Responsible Research and Innovation. Our extensive review of literature and participation in RRI Project show that the major knowledge gaps in RRI include, but not limited to defining and operationalising the concept of 'Responsible', and understanding the perceptions of stakeholders (e.g., citizens) towards RRI. Therefore, this study would fill the identified gaps by analyzing the Tampere region energy sector innovation processes.

PRACTICAL/SOCIAL IMPLICATIONS:

As a policy implication we have learned that pragmatic inquiry is useful in coping with social innovations. There are many ways to approach global problems such as climate change, and there can be many solutions to energy sector challenges. As pragmatists, Mead and Dewey taught that democratic solutions are opening arrangements enabling social participation in reflection on the chances to solve collective problems. Thus, by including citizens' voices in the collective problem dilemma, decision-making processes entail a deeper commitment of actors' governance and social



action becomes a creative process to be legitimised. Here, the importance given to having a shared understanding on policy concepts, such as responsible research and innovation, is key to the final social solutions in democratic societies.

DIRECTIONS FOR FURTHER RESEARCH/LIMITATIONS:

Evidence shows that RRI introduced as a policy concept, but our analysis shows that there is a missing link between RRI policies and practices. Therefore, further research is needed in linking RRI policies with practices.

KEYWORDS (3-5):

Responsible, Quadruple Helix, Responsible Research and Innovation

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