From Analytical to Empathetic: Disruptive Communication for Action-Based Decision-Making

Christina Hellevik*†[1], Jakob Bonnevie Cyvin[2], Amanda Hausken[2], Katharina Buschholz[2], and Di Wu[3]

[1]Department of International Business, Norwegian University of Science and Technology (NTNU) – Borgundvegen 2, 6009 Aalesund, Norway

[2]Department of Geography, Norwegian University of Science and Technology (IGE, NTNU) – NTNU, Department of Geography NO-7491 Trondheim Norway, Norway

[3]Department of ICT and Natural Science, Norwegian University of Science and Technology (NTNU) – Borgundvegen 2 6009 Aalesund, Norway

Abstract

Disruptive communication has been used to stimulate engagement around plastic pollution among various audiences (e.g., Löfström et al., 2021). It is defined as communication that interrupts normal life aiming to foster radical change (Klöckner & Löfström, 2022). However, it also needs to be chanelled towards concrete decisions and action (Klöckner & Löfström, 2022). In this project, we address humans' documented misperception of risk (Slovic, 1987; Pidgeon, 2012) and difficulty in interpreting and integrating uncertainty in decision-making. We treat local and regional decision-makers as laypeople and engage them in a citizen science experiment to gauge the potential of different communication forms to help understand plastic pollution and its negative impacts. This is achieved by subjecting the participants to a serious game or simulation of decision-making on the basis of three different 'treatments', two of which present the facts in different ways: 1) Learning through reading a scientific report, 2) Learning through use of an interactive geographic visualization tool. And finally, 3) citizen science approach where decision-makers take part in research by examining fish gills for microplastic fibers. The latter is seen as disruptive in a Norwegian coastal community where the economy is based on fishing. It is used as to stimulate empathy by exposing the participants to the effects of plastic pollution on fish, which is deeply embedded in the local culture and economy. Through the results, we investigate the decision-makers' interpretation of scientific information, targeting the concepts of risk and uncertainty. We further highlight whether the analytical tools are enough to stimulate the level of empathy or care needed for positive action-based decisions. The experiences gathered in this study help deepen our understanding of how we as scientists can better reach decision-makers to build mutual trust and encourage wise, empathetic policy-development grounded in scientific evidence.

Keywords: visualization, citizen science, decisionmakers, uncertainty, risk

*Speaker

†Corresponding author: christina.hellevik@ntnu.no