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Fostering Stakeholder Identification, Understanding, and Support for FOAK Projects: Designing and Testing Stakeholder Communications in Fusion Energy Plant Delivery

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Motivation

Organizations delivering first-of-a-kind (FOAK) projects, like those delivering the first fusion energy plants, must secure stakeholder support under conditions where stakeholders have limited direct experience with the technology, its risks, and its broader societal implications (Davies, 2014; United Nations, 2017; Zhang et al., 2025). This novelty creates distinctive challenges and opportunities in securing stakeholder support. On the one hand, such novelty induces uncertainty that challenges organizations' ability to establish legitimacy and trust, and to secure cooperation and support from stakeholders (Aldrich and Fiol, 1994; Suchman, 1995). The absence of proven track records, institutional norms, and shared understanding limits stakeholders' ability to pay attention to and assess such organizations (Alvarez and Sachs, 2023). On the other hand, novelty also creates an opportunity for organizations to enact sensegiving – to shape whether and how stakeholders make sense of its activities, intentions, and future trajectories (Gioia and Chittipeddi, 1991). In such contexts, meanings and expectations are not yet entrenched, leaving greater scope for interpretation.

A primary way organizations delivering FOAK projects enact sensegiving is through their communications. Stakeholders have limited direct experience with novel technologies or the organization developing it, making the focal organization's communications an important source of information (e.g., Fischhoff, 2013). Moreover, under conditions of novelty, understandings of the FOAK project and its implications are often still emergent, with stakeholder interpretations not yet fully institutionalized. As a result, early communications can play a critical role not only in shaping stakeholders' sensemaking, but also in establishing an initial relationship between stakeholders and the focal organization(s) (Gioia and Chittipeddi, 1991; Brunet and Forgues, 2019; Alvarez and Sachs, 2023). By shaping whether and how stakeholders interpret and relate to the focal organization(s) before competing narratives become more established among media, regulatory, and advocacy actors, communications may help foster stakeholder understanding, identification, and support, while reducing the interpretive space in which oppositional narratives might later emerge (Ninan and Sergeeva, 2022).

Our study therefore seeks to understand whether and how organizational communications can be designed to foster stakeholder understanding, identification, and support under conditions of novelty and uncertainty, with the aims of informing practitioner efforts and advancing the literatures on sensegiving and stakeholder relations.

Theorizing

In beginning to theorize the relationship between sensegiving and stakeholder relations, we revisit research on stakeholder sensemaking. Prior research suggests that sensemaking draws on a variety of cognitive processes, including categorization, framing, analogy, identity-based reasoning, affective evaluations, and so on, through which individuals make sense of novel information (Maitlis and Christianson, 2014). In cognitive psychology and risk communication research, these interpretive structures are often conceptualized as “mental models”. Mental models are internal representations of how actors, technologies, risks, benefits, and causal relationships fit together within a broader system (e.g., Bostrom et al., 1992; Downs et al., 2008; Downs et al., 2020).

We adopt the concept of mental models because it enables stakeholder cognition to be examined at a systems level rather than through isolated rhetorical devices or frames (Newell and Simon, 1972; Morgan et al., 2001). Mental models capture how stakeholders understand the relationships among organizations, technologies, societal outcomes, and uncertainties. As such, the mental models approach provides a design-relevant foundation for examining how sensegiving efforts align with stakeholders existing understanding, and how this alignment shapes stakeholder relations under conditions of novelty and uncertainty.

From the mental models perspective, the relationship between sensegiving and stakeholder relations will depend on how aligned sensegiving efforts are with stakeholders’ sensemaking lenses or mental models. When stakeholders interpret new information, they do so through their existing mental models. When the new information maps closely to existing mental models, cognitive load and ambiguity is reduced. Such alignment makes an organization more ‘legible,’ making them more likely to identify with and support the organization and its activities (Suchman, 1995). Identification, in turn, provides a foundation for stakeholder support (Scott and Lane, 2000). Moreover, in novel contexts, early alignment with stakeholders’ mental models can narrow the interpretive space in which alternative or oppositional narratives might later emerge (Kaplan, 2008). We therefore hypothesize that organizations’ sensegiving efforts – communications – which are more aligned with stakeholders’ mental models will increase stakeholders’ (1) understanding of, (2) identification with, and (3) support of an organization and its activities, as well as (4) reduce stakeholders’ susceptibility to misinformation.

Approach

We plan to test these hypotheses in the context of the UK's emerging fusion industry. To do so, we adopt a multi-stage research design. First, we develop an influence diagram to identify the decision relevant knowledge in the emerging UK fusion industry (Fischhoff, 2000; Steinberg et al., 2020). Second, we conduct interviews to elicit mental models held by key stakeholder groups, including residents living near the recently proposed power plant site (Morgan et al., 2001). Third, drawing on these elicited models, we design alternative communication treatments that vary in their alignment with stakeholders' mental models. Treatments differ in the extent to which they reflect stakeholders' existing causal assumptions, terminology, concerns, and comparisons to familiar technologies, as well as in how they explain risks, benefits, governance processes, and future societal impacts. Lastly, we evaluate the effects of these varied communications on stakeholder understanding, identification, support, and susceptibility to misinformation using a survey experiment (e.g., Kleeman et al., 2023).

Contributions

Our multi-stage approach will contribute to the sensegiving literature by demonstrating a systematic way to operationalize sensegiving efforts and to make stakeholder cognition empirically tractable. The literature to date has so far has been dominated by exploratory approaches (Maitlis and Christianson, 2014). Moreover, if the designed communications indeed result in improved stakeholder relations, our approach would demonstrate to organizations delivering FOAK projects how to design effective communications. Moreover, it would point to the importance of developing organizational capabilities for eliciting stakeholder mental models, translating these insights into communication design, and updating communications as stakeholder understandings evolve. This opens up opportunities for future research on the capabilities required to create and sustain responsible sensegiving over time. Beyond the value of the research approach, the potential findings are themselves important for research on the social acceptance of FOAK projects (Zhang et al., 2025). Evidence regarding the relationship between mental-model-aligned-sensegiving efforts and stakeholder outcomes would help clarify the cognitive mechanisms through which FOAK project organizations' communications may influence stakeholder understanding, identification, support, and susceptibility to misinformation. Such findings would demonstrate that the effectiveness of sensegiving depends not narrowly on a few features, like analogies or on affective vocabularies (e.g., Gioia et al., 1994; Cornelissen et al., 2014), but on broader alignment with stakeholders' mental models.

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