

## Appendix: A Note on Method

The empirical material in this book is the result of my more than two decades of engagement with the industrial ecosystem around Norwegian offshore oil and gas. Across a number of research projects, with a varied set of collaborating researchers, PhD students, and postdocs, I have studied aspects of digitalization in the industry. The details of data collection and data analysis in these projects are provided in the papers published with my coauthors. Here, I offer some reflections of a methodological nature beyond what is addressed in those papers.

First, the longitudinal research design in this book is not something I planned but rather a gradually acquired quality. I did not aim for a biography of artifact (Williams and Pollock 2012) or a *longue durée* (Ribes and Finholt 2009) perspective. In the political economy of my academic environment, there is a clear expectation that we generate external research funding for PhDs and postdocs. For idiosyncratic reasons, some of the early research funding I secured happened to be within the domain of oil and gas. Securing additional research funding is always easier than starting from scratch. I thus somewhat opportunistically stumbled into the digitalization of oil and gas. However, remaining and digging further into it certainly was not by chance. I was motivated by a clear sense that there was *something* empirically here, which I struggled to wrap my head around in a phenomenon-driven mode of theorizing (von Krogh 2018).

Second, my engagement with oil does indeed span an extended period, but with huge variations in intensity. Over the years I have in parallel had an

equally extended empirical engagement with digitalization in the health-care sector. Across several research projects, I have, together with collaborators, explored digitalization in secondary care in hospitals, in primary care in municipalities, in pharmacies, and with general practitioners. The fieldwork is dominated by the Norwegian context but also includes studies of health care in Africa and India. It is difficult to come up with two empirical domains more different than public health care and corporate oil and gas. Personally, moving between them has been a source of inspiration, energy, and necessary variation. Despite the differences at the empirical level, however, I have pursued a form of triangulation at the level of conceptualizing and theorizing. Hence, the broad characterization of digitalization promoted in this book resonates deeply with tendencies also found in health care: liquefaction, or disembedding, is manifest in the sensor- and Internet of Things–based push for so-called welfare technologies (Grisot et al. 2019);<sup>1</sup> interest in data-driven approaches tap into efforts toward more evidence-based medicine (Timmermans and Berg 2010); and, increasingly, digital platforms are recognized as key to orchestrating an evolving set of health services (Hanseth and Bygstad 2015).

Third, my personal preference was always for relatively small, light-weight research projects devised and conducted directly with implicated stakeholders in partner organizations. The unceremonious manner in which these projects can typically be set up locally with partners in public and private organizations has been a comparative advantage enjoyed by many Scandinavian researchers. This is changing, if not in general, certainly within the oil and gas industry. Research projects need to go through increasingly bureaucratic procurement processes requiring blessings from upstairs, which has consequences for the nature and size of the projects. Against my natural instincts, I thus find myself increasingly working in large research consortiums or networks with a wide range of researchers, only a fraction of whom would be familiar with my own research tradition. For instance, I am currently involved in two large research projects in the oil domain, each with twenty-plus researchers and still more PhDs/postdocs: Sirius (2021) on big-data access in oil and BRU21 (2021) on digitalization given a scenario of oil prices below thirty US dollars per barrel. Large, nonorganic research efforts

are not really my cup of tea. I need there to be an organic element based on professional trust and respect, either present from the start (as with Sirius, led by someone who was a graduate student together with me ages ago) or cultivated over time (as with BRU21).

In sum, the mode of research underpinning this book evolved from fairly autonomous, self-sufficient, and modestly sized to larger consortia-based engagements. This shift mirrors in part changes in how research funding is organized in the domain under study, corporate oil and gas. In addition, however, it reflects more generally how studying increasingly “large” phenomena—climate change monitoring (Edwards 2010), long-term biological diversity (Karasti et al. 2006), or, the theme of this book, the expansive if not imperialistic nature of digitalization—increasingly leans on more collective and long-term ways of organizing research.



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# Digital Oil

## Machineries of Knowing

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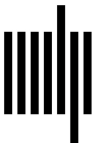
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