Helping at NASA: Guidelines for using process consultation to develop impactful research

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ABSTRACT

Management research has long been criticized for its perceived lack of relevance or impact beyond academia. How can we, as management scholars, create research that is more relevant and impactful? I argue that Edgar Schein's process consultation approach can be part of the answer. Process consultation's ultimate aim is to help client organizations. Key aspects of what is now recognized as engaged scholarship were fundamental to process consultation even before engaged scholarship was part of the management vocabulary. Based on my engagement process with the National Aeronautics and Space Administration since 2013, I argue that trust can fruitfully be seen as an outcome and an enabler of productive long-term helping relationships and of engaged scholarship; that what I call pragmatic bricolage is important in terms of offering help based on the client's needs as they develop at different junctures; and that unexpected dilemmas in such relationships are inevitable, but ways forward can be found by applying key principles of social systems. I conclude by outlining guidelines for impactful research and for disseminating research to wider audiences.

1. Introduction

Management research has long been criticized for its perceived lack of relevance or impact beyond bibliometrics and academia (Beyer, 1982; Hambrick, 1994). This disconnect between theory and practice has been a persistent dilemma. A variety of reasons have been identified relating to institutional constraints, knowledge translation, differing logics between research and practice, or research design (Kieser, Nicolai, & Seidl, 2015). Engaged scholarship, where researchers engage closely with practitioners in various aspects of the research process, has emerged as an important part of the solution (Van de Ven, 2018; Van de Ven & Johnson, 2006).

In this manuscript I draw on Edgar Schein's process consultation (Schein, 1969, 1987a, 1987b, 1999) to offer an approach to how we, as management scholars, can make an impact beyond academia. The essence of this approach is to ultimately help client organizations through a process of sustained engagement that involves an appreciation of challenges from the practitioners' perspective, joint development of interventions, and the building of trust. I argue that key elements of what we now recognize as engaged scholarship were fundamental to process consultation even before engaged scholarship entered the management vocabulary.

Drawing on my engagement with the National Aeronautics and Space Administration since 2013 I discuss how process consultation may be employed to develop impactful research. In subsequent sections I outline the development and philosophy of process consultation; discuss the agency's strategic challenges; the process of engagement; and actors' perspectives of how the interventions and the relationship have been perceived. I then discuss process consultation as a helping process; the building of trust as both an
outcome and an enabler of engaged scholarship; long-term helping as an engagement mode of pragmatic bricolage; and dilemmas in the engagement process and the guiding role of underlying principles in helping to find a way forward with respect to those dilemmas. I conclude with guidelines on how to conduct impactful research via process consultation and on research dissemination to a wider set of audiences.

2. Relevant literature

2.1. Engaged scholarship and research impact

For the past few decades there have been persistent critiques of the perceived disconnect between management scholarship and management practice (e.g. Beyer, 1982; Hilgert, 1972), partly arising from the “ incestuous, closed loop” (Hambrick, 1994: 13) of management research, dialoguing with itself rather than with a broader set of stakeholders. A number of reasons for the disconnect have been identified, including a lack of knowledge translation from theory to practice (Markides, 2011), a belief that theory and practice represent different logics that cannot be easily reconciled (Sandberg & Tsoukas, 2011), and the view that research is not designed to incorporate practitioner relevance in the first place (Van de Ven & Johnson, 2006). Additional reasons noted in the voluminous literature on the perceived lack of relevance of management research include institutional reasons (how academics are incentivized, the nature of the publication process, specialization in business schools that discourages a broader perspective) and managerial preferences (use of consultants and reading popular rather than evidence-based management literature) (Kieser et al., 2015).

Engaged scholarship (Cheney, Wilhelmsson, & Zorn Jr., 2002; Van de Ven, 2018; Van de Ven & Johnson, 2006) has emerged as an important way to link management research to concerns of practice. Engaged scholarship is defined as “a collaborative form of inquiry in which academics and practitioners leverage their different perspectives and competencies to coproduce knowledge about a complex problem or phenomenon that exists under conditions of uncertainty found in the world” (Van de Ven & Johnson, 2006: 803). The assumption is that research produced via collaboration between academics and practitioners through a process of sustained engagement is more likely to incorporate and address concerns of practice, and more likely to be accessible by and inform practitioners (Toffel, 2016). Engagement between academics and practitioners thus allows academics to enhance their relevance, challenge their established views to develop new perspectives, reach broader audiences, and ultimately be more helpful (Cheney et al., 2002). Van de Ven (2018: 37) suggests that the perspectives of a number of stakeholders, “users, clients, sponsors and practitioners” should be taken into consideration at the stages of problem formulation, theory building, research design and problem solving.

It is further suggested that research questions are designed to address issues relevant to practice (Toffel, 2016); that researchers remain in the field for a sustained period so that they can better grasp the logic of practice (Sandberg & Tsoukas, 2011; Van de Ven, 2018); and that a number of theoretical models and methods can be engaged in order to gain a broader perspective on the challenges and potential solutions studied (Van de Ven & Johnson, 2006).

Engagement can build trust. Getting to know, understand and in time trust each other is a crucial component for practitioner-academic teams to work well together (Amabile et al., 2001). Building trust between practitioners and researchers involves a good deal of “face-time” interactions (Van de Ven, 2018: 40) allows more valid data to be obtained, and supports an effective helping relationship over the longer term (Schein, 1991: 11). Further, when trust exists, practitioners are more likely to agree with and support, or even participate in knowledge dissemination activities such as joint publications with researchers in applied journals (Marabelli & Vaast, 2020).

Engaged scholarship and co-creation are key routes to impact beyond bibliometrics and academia (Greenhalgh, Jackson, Shaw, & Janamian, 2016), and help research move beyond the closed, self-referential loop that Hambrick (1994) warned against. The United Kingdom’s Research Excellence Framework (the process by which the government evaluates Universities’ performance) warned against. The United Kingdom’s Research Excellence Framework (the process by which the government evaluates Universities’ performance) defined impact as “an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia … Impact includes, but is not limited to, an effect on, change or benefit to the activity, attitude, awareness, behavior, capacity, opportunity, performance, policy, practice, process or understanding” (Research Excellence Framework (REF), 2019: 90) of a variety of stakeholders in any geographic location. In the REF2021 evaluation impact accounted for 25% of the overall assessment; research outputs for 60% and research environment for 15%.

There are several challenges of connecting research to impact including the time lag between research-based interventions and the occurrence of meaningful impact; how impact may develop in different trajectories over time; and how to attribute specific types of impact to particular research outputs (Penfield, Baker, Scoble, & Wykes, 2014). Nevertheless institutions are advised to describe impact in terms of case study narratives, use first hand testimonies, and employ a variety of indicators to substantiate impact (Morton, 2015; Penfield et al., 2014).

2.2. Process consultation

How is process consultation relevant to engaged scholarship and impact? I argue that process consultation, from its inception (Schein, 1969), was in fact engaged scholarship par excellence, even before engaged scholarship became part of the management vocabulary. As discussed below, Edgar Schein employed different terminology but in substance was encouraging and nudging researchers towards key elements of engaged scholarship, as well as making an impact by helping client organizations.

Schein started to develop his ideas on process consultation during his participation in sensitivity groups (T-groups) from 1957 onwards, where members of the group had to analyze their own group dynamics over several days and offer honest, real-time, face to
face feedback to each other. From these emotionally demanding experiences and subsequent consulting engagements he realized that “the most effective intervention was not expert advice but (1) facilitating the client’s own understanding of his or her own problem and (2) teaming up with the client to jointly develop a solution” (Schein, 2006: 294).

Schein (1969: 9) defined process consultation as “a set of activities on the part of the consultant which help the client to perceive, understand, and act upon process events which occur in the client's environment”. The nature of process consultation becomes clearer when compared with other consulting modes. Schein (1987a, 1990) outlined three models of engagement: expert, doctor, and process consultant; with the latter most aligned to his philosophy of helping. The expert is invited by the client to provide information or tools to solve a problem that the client has already identified or diagnosed. The doctor is invited by the client to additionally diagnose what the problem might be, and to suggest a cure. In both cases the engagement is initiated by the client and then led by the expert or doctor. In contrast, in the process consultation mode, the client initiates the process but then owns the problem, the diagnosis and the interventions. The process consultant is there to provide facilitation and inputs that can help the client diagnose their own issues and plan appropriate interventions. In this sense the consultant is not there as an expert or doctor, but rather to participate in a mutual inquiry process and to share their process skills (Schein, 1969, 1990). The psychological contract (Schein, 1987b: 33) in terms of mutual expectations and how the process and the consultant is seen is very different in these modes.

In order to be effective in process consultation, Schein suggests that consultants must suspend their prior biases about the client; and also must aim to convey skills to the client so that the client can help themselves in future: “helpers must suspend most of their own biases initially; they must develop a mutual inquiry process that not only creates a shared sense of responsibility … but also enables helpers to pass on some of their own diagnostic and intervention skills. Helpers must help their clients to learn how to learn” (Schein, 1990: 60).

With respect to engaged scholarship, these understandings prompted Schein to advocate collaborative engagements with practitioners (Van de Ven, 2018) over a sustained time period rather than a single engagement (Tofel, 2016). The attempt to appreciate challenges from the practitioners' perspective (Sandberg & Tsoukas, 2011) rather than to impose researchers' perspective on the process is a cornerstone of process consultation. Schein (1987a) discusses three intervention types, all of which are predicated on the researcher having a deep understanding of how the client views their own organizational challenges.

The three types of interventions are exploratory, diagnostic and confrontive (Schein, 1987a). “Active, interested listening” (p. 164) is an example of an exploratory intervention and includes for example initial conversations with the client about the client's context and challenges. “Forcing historical reconstruction” and “forcing concretization” (p. 164) are examples of diagnostic interventions, where the process consultant probes for information on the history of the organization as well as on particular episodes. “Content suggestions and recommendations” (p. 166) and “conceptual inputs” (p. 167) are examples of confrontive interventions. Confrontation here refers to the act of bringing the client face to face with data and findings, even challenging ones, that will help the client gain a valid appreciation of their issues and move towards effective solutions.

In this context, Schein stresses that all interactions between a consultant and a social system, in whatever mode of engagement is adopted, are in fact interventions. By seeking to diagnose an issue, the consultant has already engaged with the system (Schein, 1969: 98, 2002). Being aware of this and observing how the system reacts offers valuable data; and also helps the consultant avoid unproductive interactions.

A “clinical inquiry” mode may give rise to diagnostic data revealed by the client, when the client trusts the consultant and wishes them to appreciate the situation so that more effective help can be given (Schein, 1991). In this process, generative dialogue (Schein, 1993) is important since it can lead to a productive diagnosis shared by both client and consultant. This data gathering mode can be employed in addition to observing “real work getting done” (Schein, 1991: 11), or conducting interviews or surveys. Schein here advocates multiple ways to gather data, trying to grasp multiple stakeholder perspectives (Van de Ven & Johnson, 2006) as well as a sustained engagement with the field rather than one-off visits (Tofel, 2016; Van de Ven, 2018) so that both trust and deeper understanding can develop (Amabile et al., 2001).

It is worth noting that for Schein (1995: 19) clinical inquiry is synonymous to process consultation: “it should be clear to the readers that I view ‘process consultation’ and ‘clinical inquiry’ to be essentially the same”. Schein (1987b: 12) in his book on clinical inquiry mentioned that most of the examples would be drawn from his work as a process consultant, and framed the book as “the perspective I take toward this kind of work, not the day to day routine of how such work is done nor the particular skills required to do it”. Schein (1987b, 1995) developed clinical inquiry as a differentiating approach from ethnography and action research, since it is largely consistent with, but also distinct from these approaches. One difference for example is that the clinical / process consultation mode begins with the client, as opposed to action research and ethnography that starts with the researcher. A clinical mode “involves the researcher in the client’s issues rather than involving the client in the researcher’s issues” (Schein, 1995: 15).

My personal journey with process consultation began during my doctoral studies at Cambridge University between 1993 and 1997, when I conducted research in a management consulting firm employing Schein's (1987b) clinical perspective combined with ethnography (Heracleous, 2001, 2006), in a mode of what Schein (1987b: 27-28) calls “the ethnographer as clinician”. In that project I researched the role of culture in organization change processes, by examining visible aspects such as behaviors and symbols, under-lying values, and deeper governing assumptions as advised by Schein (1984, 1992). In particular I focused on how governing assumptions influenced agents' ways of thinking, framing issues in their discursive interactions, and the change process itself. I explored elements such as the organization's relationship to its environment, the nature of reality and truth, the nature of human nature, the nature of human activity, and the nature of time, as manifested in the first-order perspectives of actors and their behaviors (Heracleous, 2001, 2006).

Table 1 clarifies and positions the process consultation approach in relation to the expert and doctor models, as well as in relation to action research and ethnography. I selected these models and research approaches to compare process consultation with following
Schein's comparisons of process consultation to them in his various writings over the years.

Each model has their own attributes, goals and challenges. Process consultation however is the only one of these models where the client both initiates and also has a role in leading the engagement process. Further, process consultation is the only model where the key objective is to help the client develop the skills to help themselves both with respect to the ongoing project as well as in the longer term. This of course does not preclude the development of scholarship, and indeed Schein has used his insights from process consultation efforts to make key contributions to organization theory, for example to themes of organizational culture and leadership (Schein, 1984, 1992, 2006). But process consultation does place the needs of the client at the center. Action research is arguably close to process consultation in terms of conducting research close to practice and engaging with and understanding the agents’ perspectives so that valid interpretations and interventions can take place. But action research does not presume these agents' active involvement in leading the process and does not explicitly aim to leave the organization with long-term knowledge and competencies to address similar challenges in future. Similarly, ethnography aims to understand the natives’ perspectives, but the aim is to provide thick descriptions that can contribute to insights and scholarship rather than help the organization.

3. Client context: NASA's strategic and organizational challenges

NASA was created by the US government in 1958 and tasked with the “preservation of the role of the United States as a leader in aeronautical and space science and technology” (National Aeronautics and Space Act, 1958, Sec.102, c5). The agency was constituted by five laboratory facilities of the agency’s predecessor, NACA (National Advisory Committee for Aeronautics) that had focused on aeronautical technology.

During the height of the cold war in the 1960s when the Soviet Union and the United States were competing for space superiority, NASA's budget rose to between 4% to 5.3% of the US federal budget, depending on the source consulted and the precise year (Dick, 2009; Lambright, 2009). After the moon landings of 1969–1972 where the United States symbolically won the cold war, and political and civil challenges to the magnitude of resources dedicated to the space program, the agency’s budget sharply fell to around 1% of the federal budget in 1975 and stabilized to around 0.5% over the last decade. In its early history, NASA focused on creating novel technologies that involved extensive testing and built-in engineering redundancy, with a focus on reliability and task accomplishment rather than cost control. The focus was on winning the space race rather than pursuing efficiency.

After the moon landings, prompted by political concerns about NASA’s price tag, higher levels of internal formalization as the...
agency grew, higher levels of external contracting, and high-profile accidents, Federal reporting and safety regulations and related legislation increased. As a response, NASA's numbers of headquarters staff and professional administrators grew considerably to respond to increased coordination and reporting requirements (McCurdy, 1993). Program offices were formed to coordinate activities across centers. Faced by sharply reduced funding but continuing high ambitions in terms of its missions, the agency's efforts to increase efficiency while retaining effective innovation and exploration can be seen as pursuit of ambidexterity (Heracleous, Yniguez, & Gonzalez, 2019). This pursuit included for example the “faster, better, cheaper” (FBC) approach instituted by Daniel Goldin, the agency's administrator between 1992 and 2001 (Lambright, 2007). The FBC approach had mixed results, with some successes in reducing costs, but also with a higher rate of mission failures compared to historical norms (Bearden, 2003).

Over the years the agency's employee base progressively grew older, due to low levels of employee turnover and a shrinking total workforce. Work on accomplishing missions of ever-increasing complexity such as the current goal of sending human missions to Mars compound the challenges of resource scarcity and creeping bureaucracy. A further complicating factor is the temporal dis-junctures faced by the agency. NASA has to plan for decades-long missions, yet its funding has to be approved annually by Congress, whose representatives are elected or re-elected for 2-year terms; and requested by a Presidency that has 4-year terms, and may shift policy direction on the nation's space priorities at any time.

In the meantime, commercial space has progressively grown to the point where state agencies around the world accounted for just one fifth of a US$ 415bn global market in 2019, with 80% being accounted for by commercial products, services and infrastructure. US government space budgets (both civilian and military) account for around a tenth of the global market size.

The agency therefore has been facing radically different task and institutional environments as compared to the early days of Apollo, having had to adapt its organizational capabilities to become more efficient, while continuing to innovate and explore (Heracleous, Yniguez, & Gonzalez, 2019). Various organizational change programs were initiated by the agency over the years, that encountered significant challenges due to the agency's established cultural and operational paradigms (Donahue & O'Leary, 2012; Terrier, Heracleous, & Gonzalez, 2017).

In 2013 the Johnson Space Center (JSC) initiated an organization change program entitled JSC2.0, whose aim was to enhance efficiency, agility and adaptability. According to the then Center Director, Ellen Ochoa, “my concept of JSC asks a fundamental question: If we were building JSC today, how would we build a space center to reach our vision of leading a global space enterprise that is sustainable, affordable and benefits humankind? … How would we be organized to most efficiently and effectively carry out our work? What tools and processes would we use? How can we be more nimble and adaptable to change, and stay that way in the future?” (Ochoa, 2013).

As part of JSC2.0 in 2014 the Center initiated a reorganization, whose goal was to “advance human exploration with a structure and governance that are more lean, agile and adaptive to change” (JSC Reorganization, 2014). This included the need to “enhance collaboration and reduce stovepiping, engage leadership on a more strategic level, respond quickly and effectively in changes in HQ priorities … [and] operate more efficiently”. JSC2.0 involved fundamental change in organization culture and the way the agency operates, that nevertheless proved challenging to achieve (Terrier et al., 2017).

4. Helping NASA through process consultation

In this section I describe my engagement process with the agency. I outline my entry to the field and prior learning about the agency; the joint work on interventions and trust-building; and finally the dissemination of learning internally and externally via joint work on publications. In order to illustrate how fundamental process consultation principles assisted me in the field, I also outline in Table 2 below three episodes where I faced some dilemmas about what I should do next. I describe the episodes, the dilemmas they evoked, key considerations relating to organization change, principles of process consultation, and finally the outcome of the particular episode based on the relevant considerations and principles.

4.1. Entry to the field and learning about the agency prior to entry

In the context of my long-standing interest in the theme of organizational ambidexterity, in February 2013 I contacted Steven Gonzalez, a NASA engineer and at the time Deputy in JSC's Strategic Partnerships Office. Gonzalez was interested in ambidexterity, having attended an executive development program at Harvard Business School where this theme was discussed. I learned of this interest through a blog piece that he had published on the NASA website. This piece suggested that the need to pursue high risk missions and technical innovations while simultaneously continuing to support existing missions and limiting risk required NASA to become ambidextrous (Gonzalez, 2010).

After initial email communications and video-calls where I shared my prior studies of ambidexterity at Apple and Singapore Airlines (Heracleous, 2010, 2013) and my intention to study the pursuit of ambidexterity in practice in more organizations, I was invited to offer a workshop at JSC in April 2013, entitled “competitive advantage through strategic ambidexterity”. This was the first of eight workshops offered between 2013 and 2019 at JSC, one of NASA’s largest research and development facilities and the home of its human spaceflight operations and exploration programs. The themes of subsequent workshops related to strategic alignment, organizational ambidexterity, organization culture and capabilities, agility, strategy under uncertainty, and the role of partnerships and alliances.

With respect to Schein’s (1990) advice to suspend one's biases, before delivering the first workshop I started reading up on the history and evolution of the agency. I wanted to appreciate the historical, cultural and political challenges that the agency faced before interacting with actors within the agency. I aimed to avoid subscribing to some views in the media presenting the agency as too...
expensive on the public purse, too bureaucratic or too outdated. Once at the agency, I did not want to be perceived as someone who would parachute there purporting to have all the answers to their complex challenges, or someone who sees a part of the elephant but foolishly believes that he understands the whole beast. This background learning turned out to be valuable. Some of it found its way in subsequent publications (e.g. Heracleous, Terrier, & Gonzalez, 2019; Heracleous, Niguez, & Gonzalez, 2019) where my NASA co-authors and I discussed how the prior experiences and context of the agency shaped its subsequent propensity to be ambidextrous.

According to Schein (2006: 298), “the process consultation model argued for locating the client's reality before imposing the consultant's norms”. I believed that such a focus on the history and context of the agency would be instrumental not just for suspending or at least mitigating any prior biases about the organization (Schein, 1990), but also in signaling to the agency actors, both during the workshop interventions but also in informal conversations that I was committed to building a fruitful relationship of mutual trust with the organization. As Schein (1991: 7) notes “the process consultant must be an expert in how to diagnose and how to develop a helping relationship”.

My efforts to suspend prior biases and assumptions and to become knowledgeable about the agency's history, culture and
challenges were noticed and appreciated. In a testimony letter in October 2015, Gonzalez states: “Thank you Loizos for the research that you have done to prepare for these workshops to ensure that you had the relevant insight into the NASA history and culture. This research was apparent in your conversations with the JSC team as they shared their appreciation for the time you spent learning and reading about our history and the changes that have shaped our organization over the years. I have worked with other researchers that have a methodology that works in other industries, but they have not taken the time to understand how it would be applied to the NASA organization and therefore the collaboration was short lived. Your impact in the workshops are clearly a result of the time you have taken the time to build an understanding of the complexity that has developed over the years at NASA and your willingness to restrain from jumping to any conclusions until you have heard the various perspectives within our organization.”

4.2. Working jointly on interventions and building trust over time

The workshop themes were crystallized through an ongoing joint process of coordination with Gonzalez and other JSC actors as needed. The agenda was guided by the client and also by prior learning and data gathering. The aim was to help JSC leaders address strategic and organizational challenges that the Center was facing at the time of each workshop, such as to support the implementation of the Center's ongoing change program, aid the agency's transition towards a network organization to enhance efficiency and more effectively work with commercial space, and monitor and evaluate JSC's external partnerships.

These workshops were intended to introduce state of the art research, concepts and frameworks relating to their particular themes, to engage leaders in diagnostics and strategic conversations about the agency and its challenges, and to leave them with a clearer or at least shared idea and vocabulary about these challenges. The way I understood my role was along the lines suggested by Schein (1991: 10): “as a helper I must make interventions whose primary function is to stimulate inquiry and diagnosis.” Further, I saw the workshops as interventions focusing on the agency's strategic challenges, and also the participants' own challenges as leaders in the agency, that could engage the participants in generative dialogues via interactive session designs where hierarchy mattered less and everyone had access to air time (Schein, 1993). The workshops were an important aspect of what Barrett and Oborn (2018) refer to as “deeper engagement” between academics and practitioners, where academic expertise is made available to practitioners in joint co-creation initiatives.

Concurrently, I conducted interviews of actors at JSC, gathered and studied historical and current documents about the agency, and in time helped to provide access for two doctoral candidates who continued to research NASA's organization change from different perspectives. Following Schein (1969)’s advice I regarded all my interactions with the agency and its actors as a type of intervention, whether these were formal interventions such as the workshops, or simply interviews or informal conversations where actors were, many for the first time, asked to reflect on what the agency's and their challenges were and what could be done about these challenges.

Schein's (1990: 60) further advice that helpers “must develop a mutual inquiry process” with the client includes a process of “joint diagnosis” that becomes necessary since the consultant “can seldom learn enough about the organization to really know what a better course of action would be for that particular group of people with their particular sets of traditions, styles, and personalities” (Schein, 1969: 6, emphasis in original). I often received a sense of the gaps in my knowledge during conversations with agency actors when they would explain in some detail such things as why a particular program was cancelled after years of effort and investment, what is nature of the agency's relationships with particular stakeholders, or the effects of shifts in the nation's space policy (often more nuanced than, or even contrary to dominant perceptions on these topics).

For example, I realized early on based on such conversations, that the relationship between NASA and commercial space actors such as SpaceX is not one of competition, as widely assumed, but primarily one of collaboration. NASA contracts are crucial for Space X's financial health, and the company has been drawing on the agency's multi-year accumulated space knowledge, for example by learning from NASA's past missions and recruiting NASA engineers. As Musk (2017: 57-58) noted, in “2006, 4 years after starting, was also when we got our first NASA contract. … I am incredibly grateful to NASA for supporting SpaceX, despite the fact that our rocket crashed. I am NASA’s biggest fan. Thank you very much to the people who had the faith to do that”.

In my work with the agency, the need for joint diagnosis manifested in pre-workshop coordination and ongoing conversations with my primary contact and sponsor, Steven Gonzalez and other actors as needed, on what types of content and session design would be most useful for the actors attending, given their strategic and organizational challenges at any particular time. As Schein (2006: 297) counseled, “when doing process consultation in another culture it is essential to work with someone from that culture to avoid mistakes that might hurt the client”.

These conversations led to the realization that for the workshops to be effective, the design should include certain features such as: displaying awareness of the agency's mission and context in various ways during the workshop interventions; pre-development of diagnostic frameworks that could be effectively employed during the workshops; a real-time diagnostic component during the workshops where participants could engage in group conversations on their particular challenges that they then shared in plenary; dedicating time to developing action directions based on these conversations; and situating each workshop in an overall narrative that linked it to prior interventions, to ongoing challenges, and to what we wanted to achieve so as to provide an effective context and rationale for the conversations.

Prior to one of the early workshops on organization culture I conducted a survey that included open-ended questions about how actors saw the agency's culture five years prior and how they saw it in the present. I then coded their statements as representing

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1 I attribute comments to the individuals who made them by name, in cases where these individuals have been co-authors on joint publications about NASA; or where their comments were made publicly. In the remaining cases I mention just the job title of the actors making the comments.
negative, neutral and positive evaluations of culture for both time periods and visually mapped the pattern of results. The results showed a marked shift towards negative evaluations in the present. The content of the comments and associated interviews indicated that these evaluations were partly caused by the abrupt cancellation of the constellation space program by the government three years prior to the workshop, while it was under way and after significant investments in sunk costs, project development, and people had been made by the agency. The constellation program had also evoked high emotional commitment by agency actors as its goals were a return to the Moon as a step to Mars; evoking the agency’s spirit and raison d’etre of exploration.

The survey results posed a dilemma for me since the evaluations of current culture were markedly negative. I did not know whether to share these beyond my sponsor and if so when and to what extent? I reflected on organization change in relation to the agency’s agility change program, and on principles of process consultation. With respect to organization change, it was clear to me that revealing the information would enhance urgency for change and also enable change champions and agency leaders to act on valid information. Further, process consultation principles held that “confrontation” interventions where the process consultant shares information that may be challenging, can lead to generative conversations and enhance commitment to action. A further principle was that a decision on how to handle the survey information should be taken jointly with the client, who should own both the problem and potential solutions. After discussions with my sponsor we decided that I should share these evaluations during the workshop in terms of both their pattern and content, as a way to strengthen both the urgency and rationale for organization change. Table 2 below outlines this vignette, and also two additional ones discussed below.

The second vignette discussed in Table 2 relates to the outcomes of a 2-hour workshop in the latter stages of the multi-year set of interventions. This workshop was intended to help the agency conceptualize and analyze its inter-organizational networks. The senior leader who sponsored this workshop was present to open it with a brief talk about the importance of this theme, and then departed. The workshop shared a framework for analyzing the value added of inter-organizational relationships and engaged actors in conversations about the agency’s relationships with a view to solidifying criteria that the agency could use to evaluate its own relationships. The limited time did not allow final decisions on these criteria. The workshop outcomes were later not deemed satisfactory by the senior leader in terms of the extent of detail and action directions that resulted from the workshop.

The dilemma for me was what, if anything, I should do about this. What could I do to prevent a potential hit to the relationship of an intervention that did not reach its full potential? Did anything need to be done in the first place? I based my reflections on what would best assist the agency’s agility change program, and then on what principles of process consultation would advise. With respect to assisting the change program under way, the participants and their division head had found the workshop helpful and were intending to use the learning and tools shared in their subsequent discussions on this theme. With respect to process consultation principles, the intervention was seen as helpful by those who took part, there was transfer of learning, and the client owned both the challenge and the way forward. These considerations indicated to me that the best thing to do in this case, was nothing.

4.3. Disseminating learning internally and externally through joint applied publications

Co-authored publications were also a way to be helpful in terms of embedding some of the frameworks with particular actors, passing on some diagnostic skills, and assisting in subsequent strategic conversations. To date six articles have been co-authored with Steven Gonzalez (Deputy in JSC’s Strategic Partnerships Office) and Douglas Terrier (Chief Technologist at JSC and subsequently from 2018 to 2021 Chief Technologist of the agency). These publications not only served to codify the learning and insights, but also provided an important platform for strategic conversations on the themes they addressed; both between myself and my co-authors but also, once publicly available, more broadly in the agency. Important inputs for these publications came from what Schein (1991:3) describes as clinical inquiry, the “observation, elicitation, and reporting of data that are available when we are actively engaged in helping organizations”. For example, the Heracleous and Gonzalez (2014) paper was informed by my early observations and interview data indicating the cultural and processual challenges the agency had in collaborating across field centers internally, as well as with commercial actors externally.

A further co-authored publication outcome of this effort to appreciate NASA’s history and context discusses how rebels can revitalize innovation and future-proof an organization, based on a case study of NASA rebel engineers in the 1980s and 1990s (Heracleous, Wawarta, Paroutis, & Gonzalez, 2019). These young engineers, that came to be called the “pirates”, realized that the Apollo mission control system would not be able to withstand the more complex needs of the impending Shuttle missions. They worked for years in their spare time without support from the agency and with opposition from flight controllers, to develop a new system that ultimately was exactly what the agency needed and won awards for innovation and savings in government. After that the pirates were tasked with developing the International Space Station mission control. This historical example was first uncovered by my doctoral student Christina Wawarta during her fieldwork at JSC, and upon realizing the importance of this rebel group we conducted further research by interviewing its leader and several of its members and searching for related documents. Gonzalez, my main contact and sponsor at the agency was one of these pirates.

One example of such a pre-developed diagnostic framework was focused on agility. While agility has been fashionable, it is also a nebulous and hard to pin down term particularly in terms of implementation. I wanted to develop a way for leaders to discuss agility that would be generative and actionable. The framework has three aspects: strategic, organizational and leadership, and asks three fundamental questions in each of these aspects to help leaders diagnose the agility of their organizations and derive actionable insights. The framework is described in Heracleous (2018) and Prange and Heracleous (2018).

I kept in mind Schein’s (1990) advice to try and pass on to the client diagnostic and intervention skills and endeavored to do this via a number of ways; the development and sharing of applied frameworks, their use in workshop interventions, through informal conversations, and through the co-authorship process. For example, in one of the interventions I engaged participants with a framework on
ambidexterity that described in applied, managerial language the structural, contextual, temporal and ecological approaches to achieving ambidexterity. The ecological approach refers to how an organization can learn to be more innovative or more efficient and engage in knowledge and technology transfer within its broad network of alliances and partnerships (Stadler, Rajwani, & Karaba, 2014). This was particularly applicable to NASA given its pursuit of a network model at the strategy level (Heracleous, Terrier, & Gonzalez, 2018). In a testimony letter in June 2017, the Manager of the Strategic Partnerships Office stated that “Ambidextrous thinking was the ‘aha’ moment for me… It gave me clarity. Real clarity… it provided me with the knowledge and techniques to empower the technology officers to assimilate the business and technology aspects of the organization and informed the reorganization of the Strategic Partnership Office … I have used this knowledge to inform the development of the communication strategy, and as part of this strategy, the development of a guidebook …”.

A further framework that has been impactful in terms of helping NASA actors make sense of, and guide the strategic evolution of the agency presents three phases of this evolution; the traditional hierarchical phase (during the time of Apollo), the inter-governmental collaboration phase (the setting up and operation of the International Space Station), and the current commercial network model (the involves for example the Crew Resupply Program for the International Space Station). In Heracleous and Gonzalez (2014) we argued that NASA should return to its early organizational agility and initiative that enabled the Apollo moon landings, and gradually evolve towards a network business model. In such a model both internal and external collaboration could be more effective, so the agency could better compete and innovate in the era of commercial space. These arguments were based on early diagnostics and insights from the first workshop with JSC participants. They were picked up by global news outlets including Forbes, Fox News and Bloomberg, prompted further, often heated conversations inside the agency, and informed JSC2.0 conversations on why and in what direction the agency needed to change.

A subsequent Harvard Business Review article (Heracleous et al., 2018) described how by then NASA was more explicitly shifting towards a network model, from the early hierarchical and then transitional inter-governmental models. This article informed the thinking of NASA executives such as Chief Technologist and co-author Dr. Douglas Terrier, and subsequent interventions such as the workshop carried out in April 2019 at JSC that offered a framework to assist NASA executives in evaluating their ongoing commercial partnerships and in selecting and creating future value adding partnerships.

Dr. Terrier indicated that the response to the HBR article within NASA has been very positive and that it has shaped strategic conversations at very senior levels. Dr. Terrier’s testimony in September 2018 states: “Your research at NASA, that encompasses conversations with senior leaders, has flourished and has led to a series of co-authored papers with NASA leaders including myself …. One recent output of our work together is an article in the Harvard Business Review entitled ‘The Reinvention of NASA’ … Since the article entered the public domain in 2018, it has served as a useful template for initiating and informing strategic conversations at the highest levels of the agency. I have personally received exceptional feedback from some of the most senior leaders at NASA on this article and the strategic perspective it sets out on NASA’s ongoing evolution…”.

Following the process consultation approach where I gradually developed social capital and was in time perceived as helpful and trustworthy, enabled me to be allowed behind the scenes, where actors often shared frank information about their challenges, experience, and views (Schein, 1987b, 1995). Contrary to this, in the “doctor-patient model”, and depending on the prevailing climate, “the patient may be reluctant to reveal the kinds of information which the consultant is likely to need in order to make his diagnosis” (Schein, 1969: 6).

When working on one of these publications, I again faced a dilemma, as outlined in Table 2 above. When my agency co-author read the first draft, he was unpleasantly surprised that it contained some critical evaluations of the agency’s propensity to be ambidextrous. When we started discussing in a face to face meeting, I noticed mild annoyance in his body language as he questioned my intent in including these evaluations. My dilemma was: should I retain the critical evaluations unchanged in the manuscript and potentially compromise the relationship, co-authorship and even the ability to publish this manuscript? Or should I soften the evaluations, retain co-authorship, be able to publish, but risk compromising validity of analysis? Was publication of a manuscript with less critical elements, in the service of providing a valid analysis, was to ultimately help the agency rather than to critique it. This turned out to be a helpful approach; my agency co-author was motivated to provide more detailed historical and culture-related inputs on themes discussed in manuscript, that enhanced its accuracy and validity. The submitted and published manuscript included more extensive analysis of positive, neutral and also critical elements.

5. Discussion

5.1. Process consultation as helping

Schein (1987a, 1999) held a helping orientation as the cornerstone and raison d’etre of process consultation. As he noted, “when all is said and done, I measure my success in every contact by whether or not I feel the relationship has been helpful and whether or not the
client feels helped … the intention to be helpful is the best guarantee of a relationship that is rewarding and leads to mutual learning” (Schein, 1987a: 243). This presupposes the ability and intention to help on the part of the process consultant; and privileges the first order perspectives of the actors as to whether they deem the relationship as helpful.

A number of testimony letters and other inputs from senior actors in the agency note that the engagement process has helped in a variety of domains including supporting the JSC2.0 organization change program; supporting NASA’s gradual shift in business model towards a network organization; and aiding various related organizational initiatives. These initiatives included informing the reorganization of the Strategic Partnerships Office that encompassed cross-training to enhance staff competencies and agility; supporting and enhancing the strategic planning process; and developing and applying a framework for evaluation and monitoring of JSC external partnerships.

One representative statement from the testimony in June 2017 of a Deputy of the Partnerships Development Office at JSC, stated for example that the agility workshop “made me think more outside the box… It’s opened new windows for me and new doors to view things differently… provided an evidence-base for new strategic techniques, knowledge and approaches, shaping a new way of thinking within the organization, providing both a foundation for viewing the business environment in multiple ways and has afforded individuals within the organization to be more adaptive to change.”. Further, Chief Technologist Douglas Terrier’s testimony letter of September 2018 elaborates further: “Your workshops … have not only brought an objective, independent perspective and a broader industry evidence-base to us, but also displayed a keen understanding of the space industry and of our own strategic challenges. This high degree of relevance and customization to our needs has enabled our leaders and experts to more productively engage with the development experiences and to gain useful inputs for dealing with our challenges…”.

I believe that what made the relationship effective was primarily my desire to engage in a meaningful way by learning as much as I could about the agency in the early stages of the formation of the relationship; my wish to be helpful in relation to the agency's challenges and the gradual development of trust; and my background in interpretive organization theory and qualitative research, that helped me appreciate first-order perspectives of the actors involved.

In terms of knowledge generation, insights from my work at NASA have contributed to understanding how an organization’s history and context can shape its propensity to be ambidextrous (Heracleous et al., 2019) and to appreciating how organizations can gradually change their business logics and capabilities over time in accordance with task requirements and external conditions (Heracleous et al., 2018). Further, by understanding which aspects of the organization remained stable and which aspects changed over time, and the interrelationships among these aspects, insights from this work helped to extend a structurational perspective on change that examines both surface as well as deep levels of change and how these may shift concurrently or in disjunction with each other (Heracleous & Bartunek, 2021). Publications based on my NASA work have fed back to the agency, reinforcing the helping process within a pattern of virtuous circles, as described above.

However, this engagement process also taught me that a “pure” process consultation approach in a long-term helping relationship may be inadequate given the variety of challenges that an organization faces. Conceptual inputs based on state-of-the-art research, as I offered in workshops for example are a feature of the “expert” mode of engagement. Knowledge generation in terms of published work, based on learning from interventions for example is an explicit goal of action research rather than process consultation. As I will argue, an effective, long-term helping process is more likely to be one based on pragmatic bricolage rather than any single engagement mode.

I outline below the role of trust as both an outcome and an enabler of engaged scholarship; long-term helping as an engagement mode of pragmatic bricolage; and suggest that the way forward in unexpected and inevitable dilemmas that arise can be found by returning to cornerstone principles of social systems; in my case of organization development and process consultation.

5.2. Trust as both an outcome and an enabler of engaged scholarship

As Schein (1991: 11) notes, if the process consultant is perceived as helpful, “a level of trust builds up that allows me then to ask very probing questions without feeling that I am treading on private turf. This level of trust also often results in being invited to attend meetings or to observe real work getting done.” Over time this “deeper engagement” (Barrett & Oborn, 2018) approach that involved continuous joint collaboration on a number of fronts including workshop interventions, in-depth interviews, being invited to attend informal as well as operational meetings, and co-authoring of research outputs, led to, and was enabled by, the development and strengthening of mutual trust. Through these “face-time” interactions (Van de Ven, 2018: 40) I got to appreciate how the development of trust, particularly in high reliability, high profile, politically charged settings is crucial for being afforded access to frank and valid information, that in turn helps the process consultant to tailor an approach for helping the client make an effective assessment of what the challenges are and how they can be addressed.

Such trust can be built by demonstrating awareness and appreciation of what the organizational actors are risking by inviting a process consultant, an unknown and potentially risky outsider by all accounts, into sensitive settings. Further, trust can be built by tailoring communications, interactions and research outputs in a way that honors that trust and access. In order to do this well, one has to try to understand and negotiate cultural values, political currents, and organizational challenges of the actors one wishes to help. For example, when asking difficult questions or expressing challenging diagnostic views, in what Schein (1987a) calls “confrontive” interventions, I was always mindful of using a vocabulary and style that acknowledged my respect for the agency and its people.

The challenge is however that without a level of initial trust, such initiatives may not even get off the ground. In the early stages actors may be more guarded and engage in more limited types of initiatives. Over time, trust develops as an outcome of further interactions, and also supports and enables additional activities. This structurational logic (Giddens, 1984), referring in this case to what may be called the “duality of trust”, inspired by Giddens’s discussion of the duality of structures, may shed added light on the development process and role of trust in engaged scholarship.
5.3. Long-term helping as an engagement mode of pragmatic bricolage

In referring to an engagement mode of *pragmatic bricolage* I draw from literature on the role of qualitative researcher as bricoleur (Denzin & Lincoln, 2011; 4-6; Kincheloe, 2001; Rogers, 2012). For Denzin and Lincoln (2011), the qualitative researcher may adopt, adapt and combine their resources and knowledge at hand in a pragmatic and conscious way in order to accomplish something or operate effectively. The interpretive bricoleur “produces ... a pieced-together set of representations that are fitted to the specifics of a complex situation” (p. 4). Bricolage can be carried out in terms of theory (interdisciplinary research) methodology (multi-methods research) or narrative (telling a story in terms of multiple perspectives) (Rogers, 2012). Bricoleurs are comfortable in terms of operating in different contexts and recognize potential synergies across different perspectives. They can operate well in liminal zones (in this case the intersection of theory and practice) and are skilled as boundary spanners (Kincheloe, 2001).

Similarly, I submit that within process consultation that involves scholar-practitioner collaboration and the encounter of different logics, the researcher needs to be a bricoleur; able to see and negotiate not just contradictions but also synergies across these different logics; to translate theory to practical insights; comfortable with drawing from a variety of theoretical and methodological approaches and to shift roles as requested by the client or needed by the situation.

In long-term engagement processes in complex organizations it may be inadequate to rely solely on a “pure” process consultation approach. Schein (1990) for example suggests that process consultants suspend their biases when entering a new setting. He is referring however to the process of entry rather than any preparation prior to entry. Nevertheless I felt I had to incorporate a fair amount of prior learning in my approach given my belief that history matters to organizations (Rowlinson, Hassard, & Decker, 2014), and that in this case the agency’s illustrous history and its effects on organizational culture would be instrumental in processes of organization development and change. I consulted relevant books, articles, also materials from the agency’s history office, and endeavored to understand the overall narrative as well as key episodes in the agency’s history. This effort turned out to be valuable in my interactions with the agency and to the effectiveness of the engagement process.

Further, I initiated contact rather than the client, and an important part of my goals with respect to the engagement was to generate and disseminate knowledge through scholarly publications. These are both features of action research rather than of process consultation, as Table 1 above shows. Having practiced ethnography for my doctoral work, I made it part of my practice to observe actors’ behaviors and a variety of symbols in their natural setting, and make interpretations as to what may be the underlying values (Schein, 1992) while maintaining a critical distance. As outlined in Table 1 this is an ethnographic mindset, that can nevertheless inform process consultation.

Further, in practice it is often challenging to clearly distinguish between the expert, doctor and process consultant modes, and it is likely that any intervention contains elements of more than one of these approaches. At times for example I suggested frameworks that I thought would help the agency address particular challenges, such as the evaluation and monitoring of external partnerships, an example of the doctor mode of engagement. Further, my workshops provided expert information such as established research and frameworks (often custom-made ones) on what the diagnostics indicated that the agency needed. An example is the 9-point agility framework (Heracleous, 2018) mentioned above, based on my broader research on agility (Prange & Heracleous, 2018). The expert model may be very helpful if introduced based on the needs of the client. For example Douglas Terrier stated in June 2017, regarding the expert information I shared during workshop interventions at JSC: “Those of us who have been exposed to it, have benefited greatly. Because it provides a framework to have the discussion... it’s one thing to have a subjective position on this, it’s another to have the research and back it up, be able to say this is a problem we can generalize in the broader industry ... that knowledge, we didn’t have without having Loizos’ work ... I think it’s very helpful to those that have it”.

These considerations point to the likelihood that an effective long-term helping engagement with a client organization, including initiatives of engaged scholarship, may necessitate a mode of pragmatic bricolage. That is, while guided by key principles of social systems, the actor helping the system may have to combine perspectives and shift roles depending on pragmatic demands of the system, and doing so without any set pattern in a process that may be best described as bricolage.

5.4. Dilemmas in the engagement process and the guiding role of underlying principles

A long-term engagement process, including engaged scholarship efforts, will inevitably run into dilemmas given the different life worlds and agendas of scholars and practitioners. As outlined in Table 2, episodes giving rise to these dilemmas may occur unexpectedly and may need swift responses or repair actions (or inactions, as would be appropriate for particular situations).

When reflecting on how best to address such dilemmas, I went back again and again to cornerstone principles of social systems; in this case, of organization change and development, and of process consultation. These principles have influenced a number of social scientists including Edgar Schein and arise from seminal work by Carl Rogers (1942, 1952), Douglas McGregor (1960), Gregory Bateson (1972), Kurt Lewin (1947), and others. The primary influence however, and the source of ideas of helping as the key goal and the client being at the center of interventions, came from the therapeutic approach of Carl Rogers.

Such foundational principles, as incorporated in theories of organization change and development and process consultation, were powerful in helping me address dilemmas in the field as illustrated in Table 2 and the accompanying vignettes. They also provided direction in terms of which engagement role to adopt at different junctures in the process of pragmatic bricolage discussed above. Upon entry to the field, openness to understand the client and their challenges is crucial. As Schein (1990: 61) cautioned, an engagement should “always start in the process consultation mode” so that there can be a solid foundation if the expert or doctor modes are employed. Placing the needs of the client first and helping an organization learn and its members develop the capacity to address their own challenges can be much more impactful than engaging the client with a pre-packaged solution or a pre-determined, off-the-shelf
process. Had I tried to enter the relationship as an expert knowing all the answers, or as a doctor with a prescription at the ready, especially without having the benefit of a longer-term interaction with the agency and its actors, the immune system of the organization would have rejected both myself and my solutions; even in the unlikely event that the solutions were suitable in the first place. But as the engagement progresses, there may be times where it is appropriate to act as an expert or doctor, develop publishable knowledge as an action researcher, or share insights from ethnographic observations. The shifts in roles would be indicated by what would be most helpful to the client in a particular situation.

6. Conclusion

I argued that Edgar Schein's process consultation is part of the solution of a persistent challenge; the perceived lack of relevance and impact beyond academia of management research. Process consultation can help with this challenge because it is engaged scholarship par excellence. From its inception the aim was to help client organizations through a process of sustained engagement, co-designed interventions, and understanding challenges from the client organization's perspective.

I drew on my engagement with the National Aeronautics and Space Administration since 2013 to discuss how process consultation may be employed to develop impactful research. I outlined key elements and values of process consultation; the agency's strategic challenges; the process of engagement; and actors' perspectives on the interventions and the relationship. Based on the insights gained from this long-term engagement, I discussed process consultation as a helping process; the building of trust as both an outcome and an enabler of engaged scholarship; long-term helping as an engagement mode of pragmatic bricolage; and dilemmas in the engagement process and how underlying principles can help with these dilemmas. I conclude here with some guidelines on how to conduct impactful research via process consultation and on research dissemination to a wider set of audiences.

Table 3 below outlines guidelines for conducting impactful research using process consultation, and their rationale. The guidelines include the importance of conducting prior research on the focal organization, conducting engagement workshops during process consultation, being ready to take on the roles of expert or doctor when requested, preparing to grapple with dilemmas arising from differing perspectives and goals, and maintaining ongoing coordination with the sponsor.

Table 4 below outlines guidelines for disseminating research with broader audiences, and their rationale. The guidelines include the desirability of developing joint applied publications, (joint) scholarly publications, ensuring that the client organization has ongoing access to research outputs, employing outputs in subsequent interventions, and balancing critical distance with practitioner perspectives.

Ultimately it is up to each researcher whether to pursue relevance and impact beyond academia through their work. Under current institutional arrangements, and despite recent developments favoring impact, we can still have very successful careers via rigorous (not necessarily relevant) research that only has bibliometric impact. However, I believe that since we work in management schools, and with management being an applied discipline, it is not only beneficial but also essential for us to engage with the practice of management and to try to produce knowledge that is relevant to the concerns of practicing managers. This does not mean abdicating a critical perspective or the ability to maintain a healthy distance in relation to what we observe, research and teach. Indeed, a better understanding of practice via engagement can only enhance our ability to make a difference in directions we believe a difference should be made.

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<th>Guideline</th>
<th>Description</th>
<th>Rationale</th>
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<tr>
<td>Conduct prior research</td>
<td>Research the organization prior to entering the field. Read beyond academic publications.</td>
<td>This can demonstrate to the agents you interact with that you value the</td>
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<td></td>
<td>Learn about key junctures in the organization's history that may have shaped the current value</td>
<td>relationship enough to learn about the organization and are willing</td>
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<td></td>
<td>system</td>
<td>to customize your interactions and feedback to them (rather than using a</td>
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<td></td>
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<td>off-the-shelf model). Also you can use your knowledge as an input to</td>
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<tr>
<td>Conduct engagement workshops</td>
<td>Hold deep engagement workshops to share applied knowledge that is relevant to the client's challenges. Design workshops based on client inputs</td>
<td>interpret primary data. Such workshops can help the client organization</td>
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<td>Be an expert or doctor when requested</td>
<td>When the client requests it, share your expertise in terms of the “expert” or “doctor” models.</td>
<td>gain relevant ideas and models to address issues, help the client develop</td>
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<td></td>
<td>Models and ideas shared can be based on your own research, published review or applied publications. This process may require substantial original work in order to diagnose the situation and frame research insights into an applied format that can be useful to practitioners</td>
<td>longer term competencies, and also give you as a researcher access to</td>
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<tr>
<td>Prepare to grapple with dilemmas</td>
<td>At various stages of the process you will encounter dilemmas that arise from interaction of different perspectives and goals. Aim to address these dilemmas as far as possible</td>
<td>useful primary data. Taking the role of “expert” or “doctor” when requested increases both your legitimacy and also trustworthiness as someone who is both ready to be helpful (willing to do the work needed) and also able to be helpful (has or can access the knowledge needed). Being perceived as useful and trustworthy means the client may in turn take you behind the scenes and offer access to rare primary data. Addressing dilemmas to reach workable understandings is necessary in order to minimize underlying tensions that arise from different perspectives and goals. Conversations about dilemmas can offer added insights. Finally, addressing dilemmas is necessary in order to maintain an ongoing productive relationship with the organization.</td>
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<tr>
<td>Maintain ongoing coordination with sponsor</td>
<td>Keep a close, ongoing relationship with your sponsor (the organizational agent who is your main contact and facilitates access and broader interactions). Learn about ongoing challenges and co-design workshops and other interventions</td>
<td>Doing so means that your engagements can remain relevant to the client's issues, that trust-building is enabled, and that you can gather longitudinal research data that is faithful to the agents' perspective.</td>
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Table 4
Guidelines for knowledge dissemination with wider audiences.

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<th>Guideline</th>
<th>Description</th>
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<tr>
<td>Develop joint applied publications</td>
<td>Work with selected agents in client organization to develop joint applied publications. Develop key ideas jointly, and share drafts at different stages of writing to prompt conversations and receive further inputs. You will likely have to frame and write most of the publication since writing for publication is usually not a strength of practitioners.</td>
<td>This process achieves multiple goals. It crystallizes learning from process consultation and associated interventions. Such learning and applied models that arise from it can be useful to focal organization in terms of competency building and for political reasons (confirming the usefulness or working with you). They may also be useful to broader sets of practitioners.</td>
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<td>Develop (joint) scholarly publications</td>
<td>Aim for a portfolio of publications from long-term engagements. Scholarly publications are a key part of the portfolio. You may co-develop such publications with practitioners to the extent that they would like to be involved and to the extent that their involvement would be useful. This is a process of judgement.</td>
<td>Scholarly publications are necessary to satisfy performance and promotion requirements for scholars in the current institutional context. Further, scholarly publications based on deep insights from the field may offer novel perspectives to established theory.</td>
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<td>Ensure client organization has access to outputs</td>
<td>Take steps to ensure that the client organization receives and has ongoing access to all research outputs, whether they are applied or scholarly.</td>
<td>As the organization takes ongoing initiatives, agents will be able to draw on such publications. This process can help the building of longer-term competencies and can also help to maintain the relationship between you and the organization over time.</td>
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<td>Employ outputs in subsequent interventions</td>
<td>Employ outputs, both applied and scholarly (after the necessary translation process) as appropriate in subsequent interventions with client organization or with other organizations.</td>
<td>Doing so allows the client organization to see and to engage with the learning that has crystallized from the process. This learning is by definition relevant to the client organization, and resulting models are likely to be relevant to other organizations. Finally, such outputs enhance legitimacy of the researcher.</td>
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<td>Balance critical distance with practitioner perspectives</td>
<td>A key dilemma here, especially with applied publications, is the need to balance the critical distance that goes with good scholarship, with the involvement and perspectives of practitioners. Be ready to encounter and work on this type of dilemma.</td>
<td>Addressing dilemmas to reach workable understandings is necessary in order to minimize underlying tensions that arise from different perspectives and goals. It is also necessary in order to maintain an ongoing productive relationship with the organization.</td>
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Rogers, C. (1942).


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