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Social foundation of scenario planning

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ABSTRACT

In this article, the authors establish that models of scenario planning typically involve a series of phases, stages, or steps that imply a sequenced (i.e., *linear* or *chronological*) process. Recursive models, in contrast, allow phases to repeat, thus, incorporating iteration. The authors acknowledge the concerns voiced in futures studies that while models based on practical experience are common in the literature, forming a theoretical basis for why those practices work is often considered elusive. This includes models that imply linearity and those that accommodate iterativity. With theory from science and technology studies (STS) on knowledge production, the authors explain transition from one phase to the next and iteration between and within phases based on *social negotiation*. To this end, the authors examine the interplay between the "scenario development" phase and the "scenario use" phase of a planning process with a non-governmental organization in Denmark. The upshot for facilitators is practical insight into how transition between phases and phase iteration in scenario planning can be identified, leveraged, and, thus, managed. The upshot for scholars is a related insight into why scenario planning is a kind of laboratory for futures studies wherein the future is experimented upon.

1. Introduction

Review of the literature demonstrates how, with rare exception, models of scenario methods that are based on phases, stages, and steps imply a *linear* and *chronological* process. Some scholars observe and allow phases to repeat, thus, accommodating and incorporating iteration. In futures studies, scholars voice the concern that while models based on practical experience dominate the literature, forming a theoretical basis for why those practices work is often considered elusive. (Rowland and Spaniol, 2015). This concern applies to models that imply linearity and those that accommodate iterativity. With theory from science and technology studies (STS), the authors explain transition from one phase to the next and iteration between and within phases based on *social negotiation*. This explanation is adapted from the so-called "laboratory studies" literature about knowledge production and how socially negotiated consensus is achieved regarding "truth" during a scientific controversy.

To focus analysis, the authors examine the transition between the "scenario development" phase and the "scenario use" phase through a case study at a non-governmental organization in Denmark. The authors demonstrate how some group-based interactions appear to facilitate the shift from the scenario development phase to the use phase, while other interactions appear to facilitate the iterative shift from the scenario use phase back to the development phase. Therefore, the underlying factor predicting transition between development to use and use back to development is socially negotiated consensus. Participants may establish consensus among members of the group with regard, for example, to the perceived "readiness" of the development stage of planning. The inverse is also suggested; during the scenario use phase, consensus regarding the status of a scenario – as ready or not – can also be called into question.

The authors underscore the foundational notion – imported here from STS – that no developed scenario is ever definitively "ready for use" and, likewise, no developing scenario is ever definitively "too premature for use." There is no inner quality of any scenario that makes it ready or not. Thus, to repeat, the underlying factor that facilitates transitions between development and use – or any phase, stage, or step – is socially negotiated consensus regarding the perceived status of the current phase for the practices associated with the subsequent phase. The upshot for facilitators is practical insight into how transition between phases and phase iteration can be identified as a matter of social negotiation, leveraged, and, therefore, managed. To this end, the authors adapt five techniques from literature in STS for managing transitions between phases.

The upshot for scholars is a related insight into why scenario planning is a kind of laboratory for futures studies wherein the future is experimented upon (van der Heijden, 1996). In fact, recognizing the scenario method as "experimental" is inspired by claims from within futures studies. The scenario method is a *planning tool* for organizations;

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however, according to Ramirez et al. (2015), it might also be a *research tool* for testing theories, building new concepts, and gaining insight into alternative and innovative possibilities. The authors take the next logical step. By taking Ramirez et al.'s (2015) point literally, they empirically examine the scenario method with the same sorts of theoretical concepts used to study other "experimental" settings, namely, scientific laboratories. Research from STS, most notably from the sociology of science (Bourdieu, 1975; Gieryn, 1999; Merton, 1973) and laboratory studies (Knorr-Cetina, 1983; Latour and Woolgar, 1986; Lynch, 1985), prove to be fertile ground for such an endeavor. Also, in closing, the authors wish to underscore that they review two vast literatures; they had to be selective and acknowledge that some readers will be dissatisfied.

2. Phases, stages, and steps

While scenario planning dates back to the Second World War (Morgan and Hunt, 2002; van der Heijden, 1996), Wack's (1985a, 1985b) influential *Harvard Business Review* articles are, according to Wright (2004: 5), widely recognized "as the starting point for any scholar interested in the use of scenarios-in-practice." During the 1970s, leadership at Royal Dutch Shell was no longer satisfied with machine-assisted planning strategies that computed single-point forecasts and, as a result, experimented with constructing narratives of multiple futures by acknowledging and modeling the role of uncertainty. Ever since, according to Jefferson (2012: 186), "[m]uch of the discussion of past scenario development in business has centered on [practice-oriented models indicative of] Shell's pioneering work in the 1970s."

Thus, at least since Zentner's (1982: 22) "Scenarios in Forecasting," Linneman and Kennell's (1977: 142) "Shirt-Sleeve Approach To Long-Range Planning," or MacNulty's (1977) "Scenario Development for Corporate Planning," scenario planning has been modeled after practical experience and, according to Ramirez and Selin (2014: 63), typically articulated in terms of "phases or stages or steps." For example, O'Brien (2004) and others (e.g., O'Brien and Meadows, 2013: 643) use phases; their model consists of "[a] preparatory phase where the purpose and focus of the exercise is agreed and driving forces are identified," "[a] development phase involving the development of the scenarios," and "[a] use phase when the scenarios are used for their intended purpose," thus, illustrating neatly Martelli's (2001: 57) foundational claim about building scenarios and their use later on, namely, that "the latter [phase] could not exist without the former [phase] as its necessary and logical premise." Bradfield et al. (2016: 61), in contrast, use stages and steps; the model they present – "Intuitive Logics Standard Approach to Scenario Development" – consists of eight stages, and inside those stages are steps. Inside "Stage 2: Determining the driving forces," for example, there are four seemingly chronological steps; consider, for instance, that "Step 1: Initial list of driving forces" is unlikely to precede "Step 2: Review of initial driving forces" (Bradfield et al., 2016: 61, 63). Thus, even steps nested in stages have an outwardly chronological character.

The scenario method has two essential phases, according to Martelli (2001), development and use. The relationship between those phases has been articulated in at least two ways in the literature. Scholars can *either* see scenario use as the logical end (i.e., chief outcome or goal) of development *or* see scenario development as an end in itself (rather than the means to some other end), the former being more accepted by scholars in futures studies as compared to the latter. In fact, scholars often openly reject the notion that scenario development can function as anything other than as a means, although they do not always agree to what end(s). Godet (2000), for example, suggests that the value of development is contingent upon use later on, in particular, use that results in action; "[a] scenario is not an end in itself," Godet (2000: 19–20) writes, "it only becomes meaningful when its results and implications are embodied in real action." Durance and Godet (2010), years later, would re-specify the relationship between development and use with new emphasis on how development (the means) informs decision-making in the present (an end); "a scenario is not an end in itself," Durance and Godet (2010: 1489) write, "[i]t only has meaning as an aid to decision-making in so far as it clarifies the consequences of current decisions." This brings Durance and Godet (2010) more in line with what is possibly the most traditional view on these matters held, for example, by Kahn (1971) and others (Kahn and Wiener, 1967), with emphasis on how anticipation shapes present-day decision-making. For Kahn (1971: 150), scenario planning is "decision-centered" in so far as scenario development is focused on identifying and charting forthcoming decisions. Using "a set of alternative futures and scenarios," Kahn and Wiener (1967: 6) write, "one may see better what is to be avoided or facilitated, and one may also gain a useful perspective on the kinds of decisions that may be necessary." Likewise, "[t]he scenario is a specific thinking tool strongly focused on decision-centered analyses," Kahn (1971: 150) writes, "designed to aid the imagination, stimulate creativity, and reveal "novel possibilities" which would otherwise go unnoticed." After all, as Mach (1976 [1897]: 452) claimed more than a century ago, "oftentimes, the thought experiment precedes ... [actual action] and prepares the way for it."

The apparent analytical advantage of rejecting development as an end in itself appears to be associated with a *linear* or *chronological* view of the planning process. Building on Godet's (2000: 19–20) insight that scenarios become "meaningful when ... embodied in real action," Aligica and Tarko (2015: 179) state, "any deliberate real action of importance has to be preceded by a thought experiment that anticipates the possibility of its outcomes and implications." The inverse also appears to be true. If development fails to render useful outcomes, the logic goes, then development is effectively not yet over, or, more critically, that the development stage was unsuccessful as a whole, and, thus, a failure. To wit, Wack (1985b: 147) writes, "[i]f the scenario process does not bring out strategic options, previously unconsidered by management, then it has been sterile." Thus, scholars conclude that scenario development, no matter how effective – and no matter how much perceived value-added it lends to firms that plan ahead (Coates, 2000) and regardless of the fact that it garners relatively more academic attention than the other planning stages (O'Brien and Meadows, 2013) – is not an end in itself. Likewise, effective scenario use appears to be contingent upon quality development beforehand. Ergo, based on the literature, one may tentatively conclude that scenario development and use are related chronologically. This implicit, linear model, which is likely shared by practitioners of scenario planning and scholars of futures studies, is not the only model. In the next section, the authors examine iteration of phases in scenario planning.

3. Iteration in scenario planning

Although phase, step, and stage diagrams dominate the literature, scholars also accommodate for iteration. For example, in Schoemaker's (1995: 30) step-based model, the final step confronts the practitioner with a proverbial acid test, asking, "[a]re these the scenarios that you want to give others in the organization?" and then responds, "[i]f yes, you are done. If not, repeat the steps and refocus your scenarios the way an artist judges the balance and focal point in a painting. Half of this is art, half is judgment." This is a basic form of iteration in scenario planning. The steps are followed in more or less lock-step; however, if, by the final step, the scenarios are not deemed to be sufficient for sharing with others, then the multi-step process repeats, conceivably, with the previous efforts in full-view to inform the process as it re-occurs.

Scholars have developed metrics for those "use or iterate" dilemmas, which, like Schoemaker's (1995: 30) model, come at the end of an otherwise linear process; these include: scenarios deemed implausible, especially if new questions, variables, or types of unknowns are identified (Peterson et al., 2003); scenarios deemed no longer useful due to time-decay (van der Heijden, 2005: 18); scenarios deemed "immature" (Kloss, 1999: 81); scenarios deemed too "unpalatable" for or by the user (van der Heijden, 2005: 239); scenarios deemed "failures" in that