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Editorial

Improving scenario methodology: theory and practice, introduction to the special issue

A B S T R A C T

In this Introduction, we review the logic that underpinned our earlier call for papers and compare and contrast the papers selected with those selected for a similarly-themed special issue of this journal that was published in 2013. We demonstrate changing research emphases and concerns and then go on to review the contents of the eighteen selected papers that comprise the current special issue.

1. Introduction

In the call for papers for this special issue, we invited papers that focused on the scenario method in its widest sense, documented the current status of its application and use, and analyzed its future potential and prospects. Specifically we invited papers that considered the scenario method with a focus such as:

* Critical theoretical considerations of the method and its rationale
* Review of the use of the technique in specific applied areas, including evidence of impact on decision making and policy making
* Analysis and critical evaluation of variations in applications of the scenario method in different contexts, e.g., moving beyond the typical application of exploring the external environment for large corporations to applications that encompass scenario planning for, say, governments, industries, or smaller-scale organizations
* Empirical studies comparing scenario method variants, or comparing some variant of scenario method with alternative approaches (e.g., forecasting)
* Novel elaborations of the method and critical appraisal of these - for example combinations with the Delphi technique and combinations with inputs from social media
* Consideration of future prospects for the technique

Our call for papers for the special issue was underpinned by the conference on "*Improving scenario methodology: theory and practice*" held at Warwick Business School, Coventry, UK on the 14th and 15th December 2015. At that conference, sixty papers were presented and some were submitted for consideration for inclusion in this special issue. Other papers were submitted for consideration in response to the call for papers that appeared in TFSC at around the same time.

We received a variety of papers that responded to these methodological considerations and also provided critical reflection on the application of scenario methods across a variety of organizational and business contexts. In selecting the papers that we present here, we have sought to provide a broad and inclusive overview of current 'hot topics' in academic research. In addition, many of the papers include case study analyses of practical applications of the new methodological improvements.

The papers include those focused on: explicating aspects of the scenario development process; scenario method enhancement; combination of scenario method with other future-orientated or decision-focussed methodologies, and; improving decision making. These foci contrast with the foci that were prevalent in the earlier special issue of this journal on scenario methodology that appeared in 2013. In that special issue, the foci were on combination of scenario method with the Delphi technique, the role of scenarios in strategy development and evaluation, the interplay of actor motivations and behaviours within scenario storylines, best practice in scenario interventions within organizations, and use of scenarios in horizon scanning for weak but important signals of the future. Only one of the current papers (see Cairns et al., 2017) uses Delphi as a component of the scenario development process and the use made is now seen as somewhat matter-of-fact - rather than as ground-breaking, as it would have been seen in 2013.

In fact, the section of this special issue on "*Method Combination*" now illustrates the extent of effort expended in seeking useful combinations of methodologies. Combination topics include real options (see Favato and Vecchiato, 2017), systems dynamics modelling of an organization's

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capabilities and resources (see Kunc and O'Brien, 2017), and technology road-mapping (see Hussain et al., 2017). Similarly, the topic of using scenarios to aid strategy development and analysis has, since 2013, received the attention of much research and is only dealt with here in the paper by Lehr et al. (2017). Attention now is on the use of scenarios to prompt decision making in multi-organizational interventions (see Cairns et al., 2017; Bourgeois et al., 2017; Rhisiart et al., 2017 in the Section on "*Scenarios and Decision Making*").

The previous special issue's section on actor motivations and behaviours is taken up, in part, by two current special issue papers (see MacKay and Stoyanova, 2017; Heinonen et al., 2017). Best practice issues are taken up by the Section on *"The Scenario Development Process"* (see the papers by Rowland and Spaniol, 2017; Burt et al., 2017; O'Brien et al., 2017; Fuller, 2017; Lang and Ramirez, 2017; McKiernan, 2017) but the practice issues raised are now somewhat broader and more process–oriented than the papers that appeared in the earlier special issue. Horizon scanning is not a topic within the current issue and this area of interest has been replaced, in part, by a focus on other types of scenario *"Method Enhancement"* – including expanding scenario content/coverage in energy use scenarios (see Kishita et al., 2017; Samadi et al., 2017) and, importantly, development of an axiom-base for what has been, to date, a practitioner-derived tool (see Derbyshire, 2017).

We hope that you find our selection of paper interesting, informative and challenging.

2. The scenario development process

The papers in this Section are practice focussed and provide insights into: required facilitation skills; indicators of the likely success of an ongoing intervention process; appreciation of the organizational context; importance of relationships between those involved in the intervention process, and; the cognitive requirements of scenario thinking.

Rowland and Spaniol focus on the phases of a scenario process – specifically on the transition between scenario creation and scenario use in decision making. These authors argue that the transition between phases can be managed by a facilitator and that linear phase/step/stage diagrams of the management process dominate the scenario literature. Nevertheless, in practice, the transition between phases is commonly an iterative process that is a product of explicit or implicit negotiation between facilitator and scenario team participants. Using a detailed case analysis, these authors document this negotiated process of co-production.

Burt et al. (2017) analyze the ongoing "strategic conversions" that can be facilitated by a scenario intervention within a single organization, as participants make sense of the future. Tensions and divergence between scenario team participants can act to facilitate or preclude changes in perceptions. These authors develop the concept of an "openness disposition" – which is defined as an individual or organizational ability to engage with multiple views of the future, rather than retain a singular viewpoint or seek early closure on an issue. The recognition and acknowledgment of "not knowing" in the face of ambiguity and uncertainty can be uncomfortable for some managers. These authors use a case study analysis to illustrate their conceptualizations.

O'Brien et al. (2017) focus on how to facilitate between-workshop activities in a case study of food futures for the geographical region around the city of Birmingham in the UK. They analyze the use made of social media - in particular Twitter – to facilitate both the live reporting of workshop activity and conversations between workshops. In many public sector scenario interventions, the workshop activity can be interspersed and take place over several months of elapsed time, and, in such cases, social media can aid the development and communication of scenario content to both participants and outsiders. Their case analysis revealed that social media was utilised most by those involved in the core scenario team but can encourage wider participation and enhance the salience of a scenario project – but that the achievement of success in such outreach needs to be carefully thought-through by the central team.

Fuller (2017) argues that scenario planning activity in an organization is an example of an often intermittent intervention, whereas other "anticipatory" systems are in continuous use, in parallel, but may remain un-integrated, e.g., material and human procurement, new product development, borrowing and saving, etc. All these systems and activities both anticipate future states and change the current state based on their anticipations – so called reflexivity. Individuals and organizations make decisions in the present, based on their predictions of the future. In short, predictions and imaginations of the future have a causal impact on present-day decisions. As such, any thought about the external future cannot, in Fuller's analysis, be treated as separate from consideration of an organization's present-day options and activities. Anticipation of the future is already implicit in an organization's everyday practices.

Lang and Ramirez (2017) analyze the ability of scenario interventions to prompt the development of new "social capital" both within and between organizations. By social capital is meant novel networks and trusting relationships that bring new information and shared systems of meaning amongst the network's membership. The authors argue that scenario activity is a learning process, through which new social capital is built. Further, scenario activities (e.g., scenario team membership) can be deliberately structured so that social capital building is enhanced. The authors analyze the building of social capital links in three case studies - with a particular focus on the impact of scenario activities that reach beyond those directly involved. They demonstrate that the building of scenarios enables participants to learn about and accept the alternative perspectives of others in a 'safe' learning space. Shared language is developed and the different functional area of an organization can become more connected and so provide future points-of-contact. Within scenario team participants, trust can develop and lasting relationships established. Learning together enables the creation of this social capital.

McKiernan (2017) focuses his paper on the Intuitive Logics scenario development method and argues that this approach shapes most futures work. His conceptual paper provides a rigorous analysis of current research in neuroscience that could underpin process improvements in scenario development methods. This research has shown that different regions of the brain are activated in the acts of remembering and in future imagining – episodic recall and mental simulation, respectively. Scenario thinking involves both types of cognitive activity at different stages of scenario development. McKiernan (2017) pays particular attention to likely individual and age-related differences between scenario team members, in terms of such mental capabilities and the practical development of scenario storylines. One key issue is the degree to which detailed, near-term, scenarios that are based on the cognitively easier recollection of the past may, inappropriately, seem more plausible than those scenarios with longer time-horizons.

3. Method enhancement

The papers in this Section provide an axiom base for scenario development, show the importance of understanding the perspectives of actors who are part of the scenario storylines, and demonstrate how extant energy scenarios can be improved.

Derbyshire (2017) demonstrates that the axiom-base of Shackle's (1979) 'Potential Surprise Theory' (PST) directly supports normative use of the Intuitive Logics scenario development method. By "normative", is meant that that use of the Intuitive Logics method is the optimal way of making