



From my perspective

Prospective thinking; scenario planning meets neuroscience



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ABSTRACT

The Intuitive Logics (IL) scenario planning process is grounded in the work of Hermann Kahn and Pierre Wack in the 1960s and 1970s. Its broad adoption and sustained use over 50 years have taken it beyond the typical management fashion or fad. It has helped shape the strategies of many types of institutions and organisations. The process encourages individuals to recall past events and to imagine future happenings. But, little is known about neither how they do this nor the contextual conditions that shape how they do it and how they might do it better. Recent developments in cognitive psychology and neuroscience have had success in several management domains e.g., marketing, information systems, leadership, economics and finance. However, little attention has been paid to their application in strategic management and, in particular, in scenario planning. The paper provides a critical coverage of the pertinent cognitive sciences literature and explores opportunities for co-joint research between scenario planners and cognitive psychologists that might help to further foster and support the IL process.

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1. Introduction¹

Scenario planning (SP) has progressed beyond fashion. Systemic practical coupling with strategic planning, broad adoption across the organisational spectrum and sustained academic research has moved it beyond the tight ‘bell shaped’ curve of the management fad (Abrahamson, 1991; Gill and Whittle, 1993). Now, it is embedded firmly in strategic management discourse and praxis (Cummings and Daellenbach, 2009). But, its continued and increased utility will depend on continuous innovation (see, for example, Bradfield et al., 2016). In exploring a cognate field to inspire such innovation, this paper acknowledges the scholarly call for more inter- and multi-disciplinary work in management studies and SP studies in particular.

In this reflection, the unit of analysis is the ‘intuitive logics’ (IL) scenario process. Stemming from the work of Hermann Kahn at the RAND Corporation and the Hudson Institute in the 1950s and 1960s (Kahn, 1960, 1962), the IL process was imported into Royal Dutch Shell² in

the late 1960s. This mainly qualitative approach was an intellectual challenge to the highly quantitative forecasting approach embodied in the Unified Planning Machinery³ that embraced the organisation throughout the 1960s and into the early 1970s (Kleiner, 1996). After significant internal development and varying success levels, senior planning group staff later promulgated the benefits of scenario planning to the broader worlds of consultancy⁴ and academia e.g., Schwartz, 1991 (Global Business Network) and Van der Heijden, 1996 (University of Strathclyde).

Normally, the IL process progresses from the stage of Diagnosis to that of Scenarios to Strategy Process, by way of the stages of Data Collection, Analysis, Synthesis, Exploration of Key Issues, Scenario Building, Scenario Writing, Scenario Testing, and Refining (see Fig. 1 and the accompanying Table 1—for a fuller description of the stages). The stages are linked and there is some circularity in the process through feedback loops. These feedback loops have the hallmarks of a creative process

¹ I am grateful for the supportive feedback from 4 anonymous reviewers and from the special issue editor in chief, George Wright. In addition, Anil Patel provided critical commentary on the scenario planning sections and Mike Anderson provided advice and critique on the cognitive psychology and neuroscience sections. I am indebted to them both.

² Ted Newland imported the scenario ideology into Shell, where it was refined with Henk Alkema, Pierre Wack and Napier Collins, amongst others influential members of Group Planning (Bradfield et al., 2005; Patel, 2016; Wack, 1985a, 1985b; Wilkinson and Kupers, 2013).

³ “In 1965 Royal Dutch Shell put into service what it called the Unified Planning Machinery (UPM), a computer-driven system meant to bring more discipline to the company’s cash flow planning. This kind of rational, model-based financial forecasting was very much in vogue in the 1960s. But before long, Shell’s top executives realized that many of the commitments they had to make extended well beyond UPM’s six-year time horizon—and that even within that horizon, UPM tended to get a lot wrong.” (Wilkinson and Kupers, 2013).

⁴ Though, the US Department of Defense, Stanford Research Institute (now SRI) and Battelle had incorporated scenarios into their strategy work before; in these early adopter days, the various actors knew each other well and influenced the various developments co-jointly e.g., Schwartz was at SRI, then Shell then GBN.

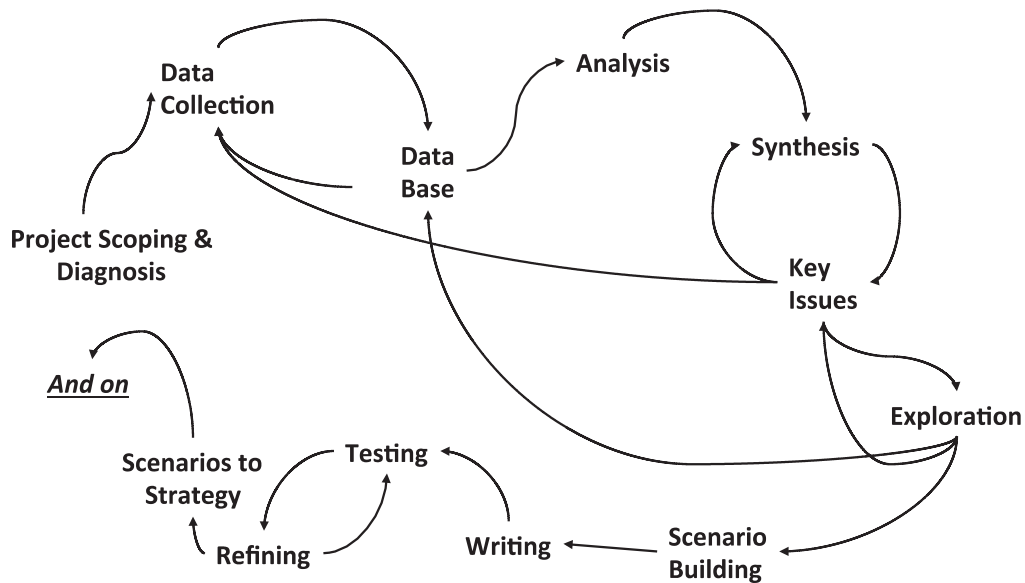


Fig. 1. The Intuitive Logics scenario planning process.

(Poincare, 1913; Weisberg, 1993) by inclusion of ideas generation, artful facilitation, scientific modeling, the weaving of novelty with surprise and practical utility. This combination of art in expression and illumination combined with the science⁵ of cause and effect modeling has proven powerful and effective in exploring the varied future contexts for many kinds of institutions and organisations. But, like most creative processes, dysfunctions are embodied within its stages, e.g., failure (Hodgkinson and Wright, 2002), discontent (Livingstone et al., 1997; Miron et al., 2004), job dissatisfaction (Zhou and George, 2001), and dislikes of innovative behaviour and destructive conflict (Janssen, 2003, 2004).

Despite these limitations, the IL process still shapes most qualitative futures projects, and its use has spread to include other organisational issues e.g., the influencing of social and political agendas, the fostering of learning and development and the assessment of organisational risk. But, finding further process improvements through incremental innovation within existing knowledge boundaries and frames is difficult to achieve. An exploration of previously unexplored domains may provide more fruitful results. Essentially, the IL process offers individuals an opportunity to imagine longer futures than they would do normally. Yet, little is known about the cognitive processes of how they do this and what the contextual conditions are that shape how different individuals do it. Promisingly, recent research in neuroscience has examined how people remember the past and imagine the future. It has begun to uncover the neural networks deployed by different people under different conditions (Schacter et al., 2015). This paper marries elements of this promising new arena together with the IL process in order to offer opportunities for innovation in the exploration of prospective thinking.⁶ These include the notion of ‘futures rehearsals’, the

use of strong, data collection filters and the design of groups in scenario workshops.

Operational definitions used in this reflection are included in Table 2. Three further sections follow this introduction. The next section examines critically the cognitive sciences literature, looking both at their natural domains and where they have informed the business and management agenda. Section 3 provides six opportunities for co-joint research between scenario planners and psychologists, in an attempt to improve the IL process through innovative activity. This section includes a short vignette that illustrates both stages of the IL process and how further research might influence the process. A summary and conclusion follows that highlights the likely main impact of the cognitive sciences domain on the IL process and offers up a research challenge to social scientists.

2. Cognitive sciences⁷

2.1. Perceptions and cognition

Managerial perceptions and their effect on environmental decoding and associated strategic action have a progressive pedigree in strategic management (Kaplan, 2011). Originating in social psychology (see, for instance, Fiske and Taylor, 1984) and acting as a counterbalance to the dominance of the assumptions and prescriptions of industrial economics, scholars engaged increasingly with interpretative linkages from the cognitive sciences to strategic management (e.g., Huff, 1982; Spender, 1989; Walsh and Fahey, 1986). Specifically, the view that environments were determined exogenously was challenged and the process by which the perceptions and frames of managers in shaping them in an endogenous way, came to the fore.⁸ External complexities required decoding through managerially constructed ‘frames’ (Daft and Weick, 1984) that act as simplifying filters, and so help overcome limits to comprehension (March and Simon, 1958).

Early investigations⁹ into how managers perceive elements of their environment, especially intra-industry rivalry (McGee and Thomas,

⁵ This combination of art and science is unusual amid techniques in the strategy arsenal. The exploration of the effects of each individually, and together in combination, on scenario planning is an unexplored avenue—ripe for research. The introduction of the cognitive sciences in this paper is one approach to articulate the linkage from science to arts, especially in terms of organizing effective scenario workshops and building more creative scenarios. However, there is little evidence in the scenario planning literature, nor anecdotally amongst academic and practical scenario players, of any rift between researchers steeped in one background or another; as CP Snow alluded to in his 1959 REDE lecture, when he lamented on the gap between these “Two Cultures”.

⁶ Prospective thinking is similar in nature to the parallel concepts of pre-factual thinking (Sanna, 1996) and forethought (Bandura, 2001) in that it involves people creating simulations of future events and working through their consequences for themselves and for others. On the other hand, rehearsals can be both past and future orientated as training in the experience of a recent experience or scene setting of people, places and objects for future imaginings.

⁷ This section is informed by discussions with Mike Anderson, Professor of Psychology at Murdoch University.

⁸ Though Hermann Kahn and Pierre Wack had worked on the assumption of endogeneity of environments many years before in their pioneering scenario work (see Wack, 1985a, 1985b).

⁹ For reviews of the field in the early days, see Walsh (1995), and Hodgkinson (1997).

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