Enhancing horizon scanning by utilizing pre-developed scenarios: Analysis of current practice and specification of a process improvement to aid the identification of important 'weak signals'

Emily Rowe[a], George Wright[b],[*], James Derbyshire[c]

[a] *Warwick Business School, University of Warwick, UK*
[b] *Strathclyde Business School, University of Strathclyde, UK*
[c] *Centre for Enterprise and Economic Development Research, Middlesex University, UK*

A R T I C L E   I N F O

A B S T R A C T

This paper documents the Intuitive Logics scenario planning process and its relationship with horizon scanning activity in order to evaluate the separate and joint usefulness of these methods for anticipating the future. The specific objectives of this paper are to: (i) *identify* and *differentiate* scenario planning and horizon scanning methodologies (ii) *discuss & evaluate* their analytic underpinnings, and (iii) *critically appraise* their separate and combined value and effectiveness in relation to enhancing organizational preparedness for the future. Our analysis culminates with specifications to (iv) *enhance the identification of 'weak signals'* in Horizon Scanning by utilizing a systematically broadened range of both negatively-valenced and positively-valenced scenario story-lines.

1. Introduction

Foresight activities are designed to push the boundaries of human perception and engender long-term critical thinking as individuals envision desired states, formulate strategies to address the consequences of current actions, and identify and avoid negative futures (Slaughter, 1995). In order to anticipate important shifts and events, organizations must continuously scrutinize and have deep knowledge of the driving forces that influence environmental changes, and better understand the associations, dynamics and interactions between these (Martelli, 2014). Similarly, they must be able to identify emergent patterns still in the infancy of their emergence, separating out those considered to signal important future changes from those merely representative of randomness or 'noise'. However, while it is therefore essential to consider and prepare for futures for which there is some present evidence, and for which presently-existing driving forces might therefore be identified, it is also important to consider potential futures which are *not* leaving any evidential trace in the present – the latter being the most profound source of uncertainty, representing so-called 'unknown unknowns'.

Scenario Planning (SP) is a strategic foresight tool that is designed to explore and anticipate change, by challenging planners' beliefs and perceptions (Ringland, 2006; Schwartz, 1996; Van Der Heijden et al.,

2002). It is claimed that the approach has many cognitive, strategic and competitive advantages (Meissner and Wulf, 2013; Postma and Liebl, 2005; Ramirez et al., 2013). SP facilitates a consideration of the future that is embedded in present evidential circumstances, but does not confine consideration of the future to a straightforward projection of these present developments as, for example, forecasting might. Instead, it facilitates consideration of how developments that begin in present evidential circumstances might play out in different ways such that present circumstances are transformed in some way, leading to a future that is very different from the present (Derbyshire and Wright, 2017).

Horizon Scanning (HS) also eschews the attempt to create *projections* of the future; it instead aims to continuously and objectively explore, monitor and assess current developments and their potential implications for the future (Miles and Saritas, 2012). The HS approach has been integrated with the scenario planning approach to engender continuity and give on-going purpose to scenario narratives (Ramirez et al., 2013; Schoemaker et al., 2013). Practitioners argue that their integration provides greater benefits, enhances preparedness and increases value for organizations, than does either in isolation. The present paper seeks to evaluate these claims by providing a review of scenario planning and horizon-scanning processes in order to determine their individual and combined success and value in practice.

The paper concludes by setting out an approach to enhance the

identification of 'weak signals' in Horizon Scanning by utilizing a systematically broadened range of both negatively-valenced and positively-valenced scenario storylines, leading to a fully combined and integrated scenario planning and horizon scanning approach to consideration of the future. Essentially, the scenario process is used to identify potential weak signals that might be presently evidenced through horizon scanning if the scenario were indeed representative of an emergent, potential future.

2. Scenario planning

2.1. Intuitive Logics

Scenario planning (SP) is a collaborative process to envision alternative future environments, articulate their implications, test the logic of long term plans, strategies and policies (O'Brien et al., 2007; Ringland, 2002; Schwartz, 1996) and, ultimately, prepare for impending change, using plausible and consistent narratives about the future (Porter, 1998). In this view, a single scenario gives one view of the future - whereas multiple scenarios depict a number of prospects and deepen the focus, expression and understanding of possible changes and developments (Fotr et al., 2015; O'Brien et al., 2007; Schwartz, 1996). By considering multiple possible scenarios, recognition is given to the indeterminate and emergent nature of the future, in contrast to forecasting-based approaches to consideration of the future, which often simply extrapolate on the basis of present and past trends.

The Intuitive Logics (IL) approach to SP is without dispute the most used and documented scenario approach. According to Martelli (2001), the majority of practitioners favour this approach as it is flexible, capable of identifying emergent patterns, generates new ideas, makes use of any available information about the future, and can be used in any organization, context or setting. In its many methodological variations, the approach can be conducted in as few as six steps (Ringland, 1998; Ringland, 2002; Ringland, 2006; Schwartz, 1996), or as many as fourteen (Godet, 2000; O'Brien et al., 2007), with some activities focusing purely on scenario development and others emphasizing the additional development of strategies that are robust against the range of constructed scenarios.

The IL approach is usually conducted in a workshop setting and, according to Martelli (2014), there are as many ways to conduct the IL approach as there are practitioners. Despite this, there are some common activities that are performed in the process (O'Brien et al., 2007; Ringland, 2002; Schwartz, 1996). These are graphically depicted in Fig. 1:

Problem definition: In this stage, the purpose of the SP exercise is defined and participants brain-storm to identify key uncertainties and pre-determined elements of the future.

Scenario development: In this stage, planners derive themes to outline scenario logics and develop reliable and credible descriptions of events by causally linking the driving forces in a plausible and consistent manner. This is seen as the heart of the scenario process, since strategy development and future plans hinge on the credibility of scenario narratives.

Strategy development: After scenario development, planners evaluate current and in-development strategy against the developed scenarios. The entire process is designed so that, at every stage, participants' perceptions are challenged.

2.2. Perspective-broadening effects from scenario planning

Practitioners and academics imply a host of cognitive, communicative and cultural benefits that result from the use of scenarios, arguing that it encourages organizational change by leveraging different opinions to create a shared view of the present and future (Mason and Herman, 2014; Schoemaker, 1995; Van Der Heijden, 2005). SP is professed to improve awareness as it promotes strategic thinking in terms of systems and interactions (Martelli, 2001), raises complex questions and discussions (Fink et al., 2004; Van Der Heijden, 2005), fosters creative foresight to rethink strategies and plans; especially in times of accelerated or anticipated changes (O'Brien et al., 2007), helps organizations cope with sudden shifts by accumulating knowledge and integrating it into the future actions (Peterson et al., 2003; Vacík et al., 2014); by allowing them to leverage internal resources, competencies and capabilities, especially if an unfavorable future were to materialize, reduce cognitive biases, enhance organizational learning, and improve the quality of decision making (Bradfield, 2008; Haeffner et al., 2012; Meissner and Wulf, 2013; Schoemaker, 1993) by emphasizing the need for flexibility in uncertain environments.

2.3. Potential perspective-narrowing effects from scenario planning

According to Mintzberg (2003), and in contrast to the implied positive effects discussed above, SP can limit an organization's ability to be responsive as it encourages managers to observe and wait for pre-conceived events to unfold; thus an organization and its managers may be unable to recognize and act on unexpected changes that have not been considered, limiting ability to prepare for the future. If the organization perceives that the future will only unfold according to their derived scenarios, then there may be increased vulnerability to surprise events (Mason and Herman, 2014; Ringland, 2002), which is the opposite of SP's intended purpose. Here, the organizational focus may be on the most likely or favored scenario. So, instead of opening minds and perceptions, SP interventions can act to narrow views of the future (Derbyshire and Wright, 2014; Neugarten, 2006). Further, the identification of essential components of the scenarios (driving forces, uncertainties and trends) can be influenced by the scenario developers' most recent experiences (Derbyshire and Wright, 2014; O'Brien et al., 2007; Ringland, 2002; Schoemaker, 1995; Wright and Cairns, 2011; Wright et al., 2013), leading to so-called 'recency bias'. The result may be easily-conceived but unsurprising scenarios that do not consider a broad range of futures. Indeed, most writers agree that a quality SP process is dependent on the facilitator's skills (Giaoutzi and Sapoio, 2013; Martelli, 2001) and the ability to recognize when bias from recent experiences will influence SP activities.
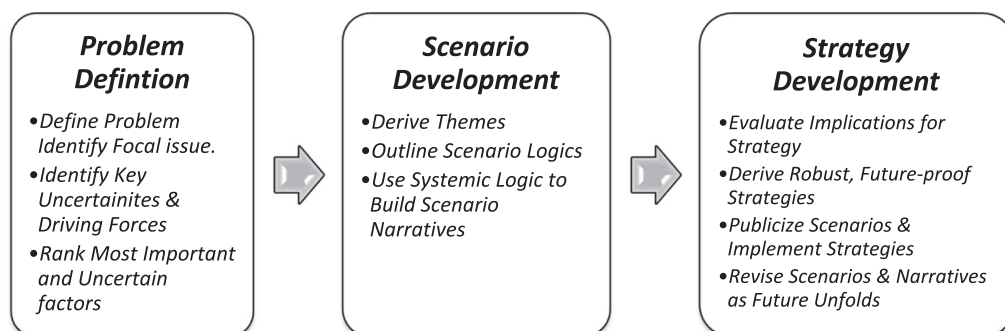

Fig. 1. Intuitive Logics process (Adapted from O'Brien et al., 2007; Ringland, 2006; Schwartz, 1996).

Problem Defintion
- *Define Problem Identify Focal issue.*
- *Identify Key Uncertainites & Driving Forces*
- *Rank Most Important and Uncertain factors*

Scenario Development
- *Derive Themes*
- *Outline Scenario Logics*
- *Use Systemic Logic to Build Scenario Narratives*

Strategy Development
- *Evaluate Implications for Strategy*
- *Derive Robust, Future-proof Strategies*
- *Publicize Scenarios & Implement Strategies*
- *Revise Scenarios & Narratives as Future Unfolds*