
Success and failure using scenario planning to enhance organisational longevity

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Abstract: Scenario planning has been linked to increased organisational ability to adapt to changed in the environment. The connection between scenario planning and organisational learning, awareness of the environment, human resources development (HRD), crisis readiness and management, and strategic planning are presented. The paper concludes despite many anecdotal cases and claims that scenario planning can help increase organisational survival, there is a lack of sufficient empirical research to support these claims.

Keywords: scenario planning; organisational longevity; crisis response; strategy development; learning human resource development; living company.

Reference to this paper should be made as follows: Weitzman, F. and Chermack, T.J. (2013) 'Success and failure using scenario planning to enhance organisational longevity', *Int. J. Technology Intelligence and Planning*, Vol. 9, No. 2, pp.81–92.

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1 Introduction and background

Scenario planning has been linked to human resource development as a tool that can be used to enhance leadership development (McWhorter et al., 2008), and develop future organisational capabilities that enhance organisational performance (Chermack and Swanson, 2008). Scenario planning has the ability to transform individuals' mental models (Glick et al., 2012), and enhances organisational capabilities to recognise changes

in the business environment in time for the organisations to adjust (Chermack, 2003). Central to organisational development is the view of the organisation as a living entity that can learn, and take action based on accumulated knowledge (De Geus, 2002). The following paper explores the different points of view presented in the literature around the success and failure using scenario planning, and explores the connection between successful implementation of scenario planning and organisational longevity. The paper concludes that while there is some anecdotal evidence of a relationship between scenario planning and organisational longevity, there is no clear theoretical framework that connects these two constructs, nor is there reliable empirical evidence to connect scenario planning and organisational longevity.

2 Problem and research questions

Scenario planning emerged during the 1960s in several places almost simultaneously. Kahn's Hudson Institute, the Stanford Research Institute, and Royal Dutch Shell Company have all engaged in similar activities that sought to identify possible futures and learn about the meaning of these future to their environments and business models (Chermack, 2011, pp.6–8). The Royal Dutch Shell Company has often been used as an example of successful integration of scenario planning into the company's culture (Chermack, 2011; De Geus, 1988; Wack, 1985a, 1985b). A successful integration of scenario planning into organisational culture is not guaranteed. Chermack (2011) noted that a single attempt at scenario planning, could result in failure, and subsequently listed 10 process risks, and 10 content risks to successful implementation of scenario planning within an organisation (pp.218–226). However, it is unclear whether these alone would help us understand why some organisations have great success using scenario planning, and other organisations do not. Could there be some characteristics that may indicate organisational readiness to engage in scenario planning that could maximise scenario planning effectiveness, and help illuminate the phenomenon of success and failure in using scenario planning?

The Organisation Development literature (Cummings and Worley, 2008; McLean, 2006) has made it clear that change can be difficult to manage, and that often it is fruitful to consider indicators that members of an organisation are ready for the change process (Lewin, 1951). McLean and Egan (2008) positioned scenario planning as an organisational development method of interventions, and argued that scenario planning can be a method by which to help drive organisational change.

The objective of this literature review, analysis, and synthesis is to identify some characteristics that could indicate readiness for scenario planning, with an ultimate goal of increasing the odds of scenario planning success. Successful scenario planning is indicated by generation of more than one strategic insights, and more than one iteration of scenarios that help change the participant mental models about their business environment (Glick et al., 2012; Wack, 1985a). The following research questions guided the inquiry:

- What does the published scenario planning literature indicate are the factors for success and failure of scenario planning?
- What are the implications of organisational longevity to an organisation's ability to benefit from scenario planning?

3 Method

This paper is a literature review, analysis, and synthesis. Therefore, the next sections present what is known and published in the literature regarding factors related to scenario planning success, and organisational longevity.

Using the key words 'Scenario Planning' as search criteria yielded 416 results on Amazon, and 370 results through a library search at a major research university. Further search through Sage Publication, using the same key words in the search string, found 64 items. A second method filtered reference lists in five books: *The Sixth Sense* (van der Heijden et al., 2002), *Scenario planning in organisations* (Chermack, 2011), *The living company* (De Geus, 2002), *The fifth discipline* (Senge, 2006), and *Analysis for improving performance* (Swanson, 2007). Each of the resulting items was filtered for content related to the two research questions, and distilled to 28 remaining papers, and books that contained material relevant to the research questions.

3.1 Scenario planning success and failure

The literature is vague about what constitutes *success* or *failure* using scenario planning. Chermack's (2011, pp.16, 17) Performance-based scenario planning linked success to improved performance, van der Heijden (2004, p.146) linked success to organisational survival, Moats et al. (2008, pp.400, 401) described success in terms of improving efficiency and effectiveness of crisis response, and Korte (2008) linked success to organisational adaptability to an array of possible features. Scenario planning failure was described as the opposite of success, or failure to adopt scenarios that have been already constructed when the time to use them has come. The following sections will illuminate the recurring themes in the literature surrounding the various aspects scenario planning, and the success criteria associated with each perspective. Suffice it to say that in general, scenario authors agree that success can be described as changing the mental models of key organisational stakeholders, by allowing them to develop the ability to think beyond what was possible for them before engaging in scenario planning (Chermack et al., 2006; Hansen, 2006; Wack, 1985b).

Based on a critical analysis of major and surrounding scenario planning works, four themes emerged to form a method of categorising scenario planning activity. These were

- 1 scenario planning as an iterative process
- 2 scenario planning as a response to crisis
- 3 scenario planning as strategy development
- 4 scenario planning as a learning tool.

These are described with detailed reference to relevant literature, followed by their implications for organisational longevity.

Scenario planning as an iterative process. The literature supported the notion that scenario planning, either as a human resources development (HRD) learning tool, or as an organisational learning tool, is an iterative process that is presumed to be successful if done continuously. Through this iterative process some scenarios survive, while other are discarded or replaced with different scenarios (De Geus, 2002, pp.58, 59; Korte, 2008, p.181; McLean and Egan, 2008, p.168; Moats et al., 2008, p.418; Senge, 2006, p.322;

van der Heijden et al., 2002, p.230; van der Merwe, 2008, p.236; Wack, 1985b). Chermack (2003) argued that this iterative process can help illicit futures that may not be aligned with an *official future*, including some less appealing scenarios that otherwise would not have entered the initial analysis. Chermack explained how these less appealing scenarios, should be given the same weight and consideration as other scenarios in order to help maximise the benefits from the construction and use of scenarios (p.109).

Chermack's (2003) view that a single attempt at scenario planning may uncover only superficial, or *known* scenarios, was in alignment with Wack's (1985b, p.78) characterisation of *First Generation Scenarios*. Wack argued that these scenarios are aimed at developing an understanding of the environment, while the *Second Generation Scenarios*, which he described as *decision scenarios* (p.76), were better suited for taking action. De Geus (1988, p.71) outlined a similar construct to Wack's *first generation scenarios*, which De Geus described as scenarios that managers were already aware of intuitively, without the need for the scenario planning exercise. The lackluster results of the first iteration of scenario planning was also observed by van der Heijden (2004) where he described the strategic options that fall out a single attempt as "...perceived as unsurprising" (pp.156, 157).

Scenario planning as response to crisis. Scenario planning and Scenario Based Training have been described as two methods by which organisational leaders learned about their environment, and mitigated the effects of crisis (Moats et al., 2008). Success in using scenario planning in this context was aligned with crisis response efficiency and effectiveness (p.400). Cases where failures in transferring scenarios envisioned by the planners into actions were the source of the failure to act effectively and efficiently during a crisis (pp.413, 414). It was argued that one of the major obstacles to using scenario planning in crisis avoidance, mitigation, and response was the hesitance to accept and evaluate all scenarios irrespective of probability of occurrence (p.418). A second limitation for success with scenario planning was the challenge in establishing scenario planning as learning tool, not as a predictive set of tools (p.418). The third limitation for success with scenario planning was the lack of alignment between the stated purpose of scenario planning and the managers' mental models, a misalignment that was exacerbated if an organisation attempted scenario planning as a one-time effort instead of a continued effort (p.418).

Moats et al. (2008) were aligned with the Pollard and Hotho (2006) position around scenario planning and crisis management (p.727). Pollard and Hotho linked scenario planning through strategy development to crisis management, by delineating the similarities between crisis management and strategy development. Pointing out that the evaluation of strategy through scenario planning techniques was inextricably linked to the way organisations evaluated the environment under crisis, Pollard and Hotho positioned scenario planning as an intermediary instrument between strategy development and crisis management (pp.729, 730). The connection between scenario planning, strategy development and crisis management was corroborated with De Geus' (1988) view of crisis as a catalyst for centralisation of control that he considered to be a process that tends to makes things worse in times of crisis (p.71).

Scenario planning as a strategy development. Van der Merwe (2008) described strategy development as a thinking exercise heavily based on systems thinking. The ability to see the multi-layered complexities of the world was described as a deeper way to perceive reality at the *event level* (p.220). Van der Merwe linked strategy development to

“...a continuous learning process” (p.218) where he argued that scenario planning was a powerful instrument to this end. Using scenarios as a strategy development method has a wide range of applications. Van der Merwe listed eight types of scenario planning methods that can be employed to achieve a wide range of desired outcomes. From testing the effectiveness of organisational decision making process, to advanced techniques for leadership development, van der Merwe argued that the depth and broad application of scenario planning methods can be harnessed to continuously engage the decision makers’ minds and make strategy development an iterative process (p.236).

Chermack (2003) described how mental models act as a framework that informs decision making. Chermack’s view was aligned with van der Merwe’s discussion of strategy development. Chermack connected the learning process to strategy formulation through mental models that informed strategy development (p.420). Chermack described the process of problem definition as a process of optimal decision formulation that is encapsulated by a mental model that is resting within the contextual understanding of the environment (pp.413, 415). Chermack’s use of mental models provided a foundation for scenarios as a contextual link for strategy development, a construct that van der Merwe referred to as strategic conversation which was part of strategy development (van der Merwe, 2008, pp.221, 222).

De Geus (2002) noted that decision making was a learning process (p.57). Together with Chermack’s description of mental models (2003) and van der Merwe’s (2008) strategy development, De Geus’ view on decision making provided support for a continuous learning cycle where mental models inform decision making, and decision making is in essence strategy formulation (De Geus, 2002, pp.58, 59). It was argued that the process of strategy evaluation, as a foundation for the continuous strategy development, should avoid assigning probabilities to each scenario (Burt and Chermack, 2008, p.289; Goodwin and Wright, 2001, p.8) as this could lead to overreliance on misleading mental models for decision making stemming from cognitive simplification process (Bradfield, 2008, p.202).

Scenario planning as a learning tool. Learning by experiencing possible futures, thus creating memories of these experiences, is at the core of the scenario planning method. (Chermack and Swanson, 2008, p.138).

The process of learning from mistakes was a way by which organisations survived and developed over time (McLean and Egan, 2008). McLean and Egan argued that when organisational leaders paid attention to the implications of the learning that emerged through scenario planning, scenario planning served as a leadership development tool. The implication of scenario planning as a learning tool was described as the versatility of scenario planning in developing individuals and organisations (pp.249, 250). McWhorter et al. (2008) recognised the implications of scenario planning as a leadership development tool. Central to the discussion here, McWhorter et al. (2008) discussion of scenario planning as a team development intervention tool, reinforced the view that leadership development was a learning process, and scenario planning was an effective way to enhance leadership development as a form of learning.

Korte (2008) extended the learning capability with scenario planning discussion beyond the individual and group learning, and included organisational and industry level learning. Korte argued that a plausible set of scenarios, coupled with specific action plans, was a powerful motivator for learning at the organisational level (pp.188, 189). Korte argued that this motivator could help increase organisational awareness of the

changing environment that in turn could help deflect unwanted outcomes of change by preparing the organisation for the inevitable change in the environment (p.189). Korte argued that scenario planning at an industry level was possible only in matters that affect the industry as a whole. The implication of Korte's view was the understanding that the natural competition within the industries was an inhibitor to learning that limited the sharing of ideas and strategies between organisations. Scenario planning was best utilised as a learning tool that affected the organisations at the industry level and provided a method through which all members of the industry could benefit (pp.191, 192).

3.2 *Summary*

Having presented and described the major categories of scenario planning activity, a seemingly important connection to organisational longevity emerges. The major connection that can be considered a byproduct of all of these categories is an intent that scenario work ultimately enables organisations to anticipate uncertainty and avoid significant financial loss, decline in organisational health, and ultimately avoiding bankruptcy. A more precise discussion of five specific links between scenario planning and organisational longevity are described in the following sections.

3.3 *Organisational longevity implications for scenario planning*

Success and failure of an organisation can be measured by its longevity (De Geus, 2002). De Geus described an organisation as a living organism that values self-preservation much like other living beings. De Geus argued that everything an organisation does is an outcome of cumulative knowledge that it has learned about its environment. Organisational learning was, according to De Geus, an awareness of the organisation to its business environment, and the formulation of strategy to respond to changes that have been recognised in the business environment.

A successful organisational interaction with the environment was linked to overall longevity, and using scenario planning as an instrument for environmental exploration was advocated as an effective way to increase the organisational capability to anticipate and respond to changes in the environment (Chermack, 2011; De Geus, 1988, 2002; Pollard and Hotho, 2006; Senge, 2006; van der Heijden, 2004). The implication of the organisation's ability to anticipate and respond to changes in the business environment was that it would increase organisational longevity, through the iterative use of scenario planning as a tool to increase environmental awareness.

De Geus (2002) provided a platform from which the search for connections between scenario planning and organisational longevity was possible. Five key themes resulted from a critical analysis, review, and synthesis of the scenario literature. These were

- 1 organisational longevity and learning with scenarios
- 2 organisational longevity and awareness of the external environment
- 3 organisational longevity and developing human resources
- 4 organisational longevity and crisis management with scenarios
- 5 organisational longevity and viewing the organisation as a living entity.

These themes are described and expanded below in detail with reference to relevant works in each category.

Organisational longevity and learning with scenarios. Learning is a critical process for organisational success (Chermack and Swanson, 2008; De Geus, 2002; McWhorter et al., 2008; van der Heijden, 2004). The ability to learn about the environment enables an organisation to become highly responsive to changes, and become more precise in their response to environment (van der Heijden, 2004). The interaction with the environment as a method of learning was described by van der Heijden (2004) as a way of knowing by participation (p.150). Van der Heijden constructed a model that separated strategy and learning into two ways by which an organisation navigated through the business environment. Van der Heijden argued that organisational survivability is not a matter of getting everything right, but rather a process by which knowledge is continuously tested and results are interpreted and corrections are made (pp.148, 149). Van der Heijden argued that an adaptive organisation, is a learning organisation and that scenario planning is a key component of organisational learning. Viewing organisational learning as an evolutionary process, van der Heijden linked organisational longevity to learning through scenario planning (pp.157, 158).

De Geus (2002) argued that living organisations took actions as a result of decisions that came out of the process of learning about the environment (p.201). De Geus claimed that learning by making decision was an ineffective way to experimented with the future of the organisation. The traditional way of learning through assimilation of knowledge, was less effective in organisational environment, as it was ineffective in class room setting. De Geus contrasted learning by assimilation and learning through accommodation, the latter, he argued, was transformational in the same way that an intense military training course changes how a person viewed the environment. De Geus argued that learning by accommodation transformed the internal structure of the organisation, and linked this transformation to organisational longevity (pp.59, 61).

Scenario Planning as a learning activity aligned well with De Geus' argument that one of the most effective ways of learning was through the process of play (pp.63, 70). De Geus outlined how scenario planning was a form of play that has been used effectively in military style war-games, and computer simulations that sought to emulate a virtual reality that helped children learn about the physical world outside of the simulation, and made an argument for using similar methods of learning in corporations.

Organisational longevity and awareness of the organisational environment. It is argued that scenario planning was a method by which an organisation could become aware of its environment (Chermack, 2011; De Geus, 1988, 2002; van der Heijden et al., 2002). Increased environmental awareness is described as a necessary component needed to produce viable scenarios that could help enhance organisational survival. Giving equal weight to all the scenarios that emerged through the scenario planning exercises was accomplished by avoiding assigning probabilities to scenarios, which helped increase the acceptance of scenarios that could have been uncomfortable to accept otherwise (Goodwin and Wright, 2001, p.8). Goodwin and Wright (2001) described the development and choice of scenarios and the affect it had on organisational survival. In this context, the connection between environmental awareness as a mediator between development, use, and application of scenarios and increased organisational survival was made by connecting these three constructs into one theoretical frame work.

Exploration of the environment through scenario planning is not without risk. Bradfield (2008) and Chermack (2011) came to similar conclusions that various group dynamics could limit the scope and reach of scenario development. Environmental influences through media, the influence of recent events, and time constraints of scenario planning sessions were the key elements that Bradfield (2008, pp.209, 210) listed as limiting factors of scenario planning effectiveness. Chermack (2011) developed a nested model illuminating how planning systems, performance systems, and work teams are positioned within the organisational contextual environments (p.63). The implications to environmental awareness were that scenario planning was an effective instrument but only if the development of scenarios resulted in scenarios that are meaningful to the organisational interaction with the environment. This meant that the experience gained through the iterative scenario planning process increased the organisational learning about the environment, which in turn increased organisational survivability.

Organisational longevity and developing human resources. Swanson (2008) made the connection between developing human resources through scenario planning, and organisational awareness that increases organisational longevity. Organisational survival depended on the choice that organisational leaders made. Under the best of circumstances, organisational leaders were able to recognise and interpret the changes in the environment and guide the organisation through troubled times (Wack, 1985b). Using scenario planning as a leadership development method was identified as a way to enhance strategy development (McWhorter et al., 2008). The implication is that scenarios can be used to enhance leadership skills by making organisational leaders more effective in recognising changes in the environment, and using this awareness to affect changes within their organisation thus helping the organisation survive and adapt to changes in the environment. De Geus (1988) argued that learning, and specifically learning faster than the competition, is the only true competitive advantage in an environment that is characterised by constant change. In a chapter dedicated to learning, De Geus (2002) compared organisations to living beings and argued that only living beings can learn (pp.15–74). McWhorter et al. (2008) agreed with De Geus' (2002) view and argued that scenario planning can accelerate organisational learning described as the cumulative learning of all the individuals within the organisation. Van der Heijden (2004) connected organisational learning to organisational survival (p.148), a point he addressed more explicitly in his discussion of organisational learning through HRD (van der Heijden et al., 2002, pp.156–158). Van der Heijden (2002) argued that continuous learning with scenarios increases managers ability to manage with uncertainties, which can help develop the right set of actions from the organisation thus transforming learning into action and increasing organisational survival.

Organisational longevity and crisis management with scenarios. Moats et al. (2008) discussed in great detail the various uses of scenario planning and scenario based training in crisis management. Several points of view were presented on the consequences of lack of vision, lack of problem solving abilities, and the implications to theory and practice of scenario planning. Scenario planning was positioned as a method by which organisational leaders can explore their environment in order to mitigate the impact of disasters, and manage crisis. The efficiency of emergency responders increases through using scenarios as a method to enhance decision making (pp.397, 398). Ignoring unlikely scenarios based on probability of occurrence, failing to use scenario planning as an iterative process,

and failing to position the process as a learning exercise lead to sub optimal results that would hinder organisational ability to properly respond to crisis and disasters (pp.417, 418). It was argued that scenario planning was an effective tool for the development of robust crisis response plans, which was linked to overall organisational survivability and resiliency in times of crisis.

Goodwin and Wright (2001) approached scenario planning as an organisational response to changing environment through multi-attribute value modelling that sought to rank possible scenario based on a decomposition analysis of desired business outcomes (pp.8–13). This approach was useful in developing scenarios for crisis response by ranking *loss mitigation* as a preferred outcome, and following the multi-attribute analysis to derive the most efficient scenarios that would support this objective. Combined with Moats et al. (2008) approach, the process suggest by Goodwin and Wright can help rank and prioritise scenarios not based on probability, but based on relative ranking of alignment of various scenarios to desired outcomes. Goodwin and Wright (2001) argued that the more scenarios that are considered, and the closer they are associated with the optimal outcome, the higher the likelihood of proper organisational response to crisis may be, and the better the chance for organisational survival.

Organisational longevity and an organisation as a living entity. De Geus (2002) argued that the lifespan of a Fortune 500 company is very short when compared to the average life span of people. Furthermore, De Geus pointed out that a life expectancy of about 40 years for companies of considerable size is very short (p.2) when compared to companies that have lived for hundreds of years. De Geus argued that sensitivity to the environment, strong corporate identity, tolerance to activities at the margins of the organisation, and financial conservatism were the common attributes of long lived organisations (pp.6, 7). De Geus stated that the purpose of any organisation, much like a living being, is first and foremost self-preservation that allows the organisation expand its activities. This initial challenge, it would seem, is to achieve a measure of survivability that would allow an organisation to grow. De Geus argued that success is measured in longevity, not just economic success. The path towards longevity was laid out by De Geus as a learning activity that unlike economic success was included in the four attributes of a long lived company. Scenario planning, as an instrument of developing environmental awareness was described by De Geus as a planned learning activity (De Geus, 1988). De Geus argued that this activity was the only true competitive advantage that a company had, and much like a living being, it helped increase the organisation's chances of survival (pp.200–202). These constructs by De Geus were cited in Chermack (2011), McWhorter et al. (2008), Moats et al. (2008), Pandey and Chermack (2008) and van der Heijden (2004) as fundamental theoretical frame work that supports the interactions between scenario planning, environmental awareness and overall the survival of an organisation.

4 Results

The scenario planning literature contains consistent themes related to the success and failure of scenario planning, as well as conjectures and claims that scenario planning can be a mechanism for helping organisations live longer. While the literature results include

numerous claims to support these conclusions, it should be noted that few of these claims have been studied rigorously and move beyond anecdotal observations. This section summarises the major themes from the scenario planning literature related to the research questions.

4.1 Success and failure with scenario planning

A single pass at scenario planning hinders success (Chermack, 2003; van der Heijden, 2004; Wack, 1985b). Scenario planning was linked continuous organisational learning, and positioned scenario planning as an effective method that can facilitate organisational learning and development. Scenario planning was described as an invaluable method that can be used to develop organisational response and planning for crisis and disasters, a method that can help reduce loss and increase the efficiency of first respondents' decision making capabilities. Failure in this context was described as ignoring scenarios that were developed, or failing to follow scenarios that were already developed when crisis occurred (Moats et al., 2008). As strategy development, scenario planning is an effective method to guide strategy development and evaluation (Chermack and Swanson, 2008; De Geus, 2002; Pandey and Chermack, 2008; van der Merwe, 2008). The risk associated with a limited application, or single attempt at scenario planning was described as overreliance on incorrect mental models, or not fully being able to modify stale mental models (Bradfield, 2008). Scenario planning was an effective learning method for leadership development and organisational learning (McLean and Egan, 2008). Scenario planning was described as a versatile learning method that can be applied at the individual level and industry level (Korte, 2008; McWhorter et al., 2008).

Implementation of scenario planning across multiple levels of the organisation was considered as a critical component of success while limiting scenario planning to a single pass, or to a single area within an organisation threaten the effectiveness of scenario planning.

4.2 Organisational longevity and scenario planning

Organisational learning increased organisational survivability. The exploration of the environment through scenario planning was viewed as a high leverage method to increase organisational awareness, and as a leadership development strategy (McWhorter et al., 2008). The connection between organisational survival and human resource development was linked to potentially unlimited return on investment while creating a sustained competitive advantage (Torraco and Swanson, 1995). The link between the organisational longevity and the use of scenarios as a evolutionary process that was inextricably linked to strategy development (van der Merwe, 2008), crisis response (Moats et al., 2008), HRD (Chermack and Swanson, 2008), and leadership development (McWhorter et al., 2008) all of which are part of a living company that contains all these elements. De Geus (2002) describe the company of the future as an organisation that can, through its human resources, protect its own health by mobilising its members' knowledge of their environment. Scenario planning was a central learning and development method that helped the accumulation and synthesis of organisational knowledge about the environment in which organisations lived and operated.

5 Conclusions, implications for HRD research, theory, and practice

Scenario planning increased organisational survival by developing enhanced organisational learning about the environment in which it operates. Scenario planning was described as a method that could reduce mistakes, increase responsiveness, or increase organisational capability to recognise changes in the environment. Scenario planning was linked to organisational longevity through the development of human resources at various levels of the organisation. However, it was not clear on how the process by which an organisation becomes aware of its environment, gains the capability to benefit from scenario planning, and uses this capability to increase organisational survivability evolved. There was no well-developed theoretical frame work that could support empirical studies that would seek to illuminate the evolution of an organisation through different levels of environmental awareness as a mediator between organisational longevity and the organisational ability to use scenario planning successfully. Organisational success with scenario planning remains anecdotal and is described through a few case studies primarily through the experiences of the Royal Dutch Shell Company. There is much needed research to establish the connections between longevity, environmental awareness, and the ability of organisations to employ scenario planning successfully.

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