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Development of a Process to Turn Plausible Scenarios into On-Ground Action

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Abstract: Scenario planning is a method that is often used to examine plausible futures. Scenarios and strategies abound but their use tends to be limited to the core of people involved in developing or sponsoring them. There appears to be some difficulty in translating scenarios into wide-spread action 'on the ground'. Among the potential reasons for low levels of scenario use are problems of scenario scale, visualisation and exploration. Our aim was to examine whether a change of scenario scales and a novel system for visualising and exploring plausible futures could better engage people in their own futures. We describe the modified scenario-workshop process that we have developed, and report on examples where components of the process have been used in practice.

Keywords: Scenario Game, Scenario Planning, Futuring, Community Engagement

Introduction

THE FUTURE IS uncertain, but is not a chance event. Rather it is shaped by the concerted efforts, or lack thereof, from key individuals, groups and organisations. In this first decade of the 21st century, there are big challenges and opportunities facing industries and communities. When considering how the future may unfold, individuals and groups face enormous challenges in trying to make sense of the plethora of information that comprises the "big picture"—such as world markets, energy, technological change, social innovation, migration, political change—and the "small picture"—such as land prices, housing, regional services, enterprise needs and community facilities. Scenario analysis and planning is a methodology that is increasingly being used to assist people to navigate through the socio-bio-economic milieu in which they operate and on which they impact.

Scenario analysis and planning is used to the develop plausible scenarios for the future (Schwarz 1996). Scenarios are not predictions, but are a way of exploring plausible futures and of learning from them. The scenario planning process is flexible, but consists of several key steps; identify the focal issues or decisions; determine the driver forces and key factors that influence the focal issues; rank the key factors and driving forces in terms of their importance to the success of the issue and their uncertainty and identify two or three that are most important and uncertain; develop scenarios based on the positive and negative expressions of the most important drivers, fleshing out the scenarios based on the other drivers/forces and put them into a narrative form (Schwarz 1996).

Scenario planning has primarily been viewed as a strategic planning tool for corporations, organisations, and government agencies to advise high-level thinking and policy (e.g. Na-

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tional Intelligence Council 2008; Westhoek et al 2006; Cork et al 2005; Dunlop et al 2004). This specific and limited use of the approach was not intended by its developers and there are examples of scenarios being developed for and by participants from a community (e.g. O'Connor et al. 2005).

Irrespective of whether they are developed for a high-level audience or a community, attempts to extend scenarios beyond the core of people involved in developing or sponsoring them is often limited to the publication of a report describing the scenario story lines (e.g. Future Fuels Forum 2008; O'Connor et al 2004). Scenario story lines, or 'future histories', capture the main elements of each scenario, how they are perceived to have come about and how they are similar or different from one another. Story lines are an easy way to present the main elements of a scenario, but they rely on the imagination of the reader to visualise them, they do not indicate how the impacts of the scenario are expressed across time and space, and they are not immediately useful.

We have developed a modified scenario planning process that incorporates the development of scenarios and scenario story lines with a simple game-workshop process. This enables scenarios to be placed in the context of the region of interest and, through the game process, lets people participate actively in testing assumptions about regional futures. The game facilitates visualisation of the outcomes associated with different strategies and scenarios and thereby can focus potential action on the ground. This ability to translate scenarios into action addresses the comment all too often heard with regard to them; "Interesting, but so what?".

The Scenario-Workshop Process

We have developed a modified scenario-workshop process that combines a condensed form of scenario planning and representation of scenarios in a simple, paper-based game. The game is then used in workshops at which critical next steps or specific actions are identified. An important part of the approach is that the level of complexity decreases over the course of the process while the number of people involved increases (Figure 1). The active participation of a wide range of decision makers in terms of rehearsing decisions, finding gaps in knowledge and exploring alternative futures is a key aspect of the process.

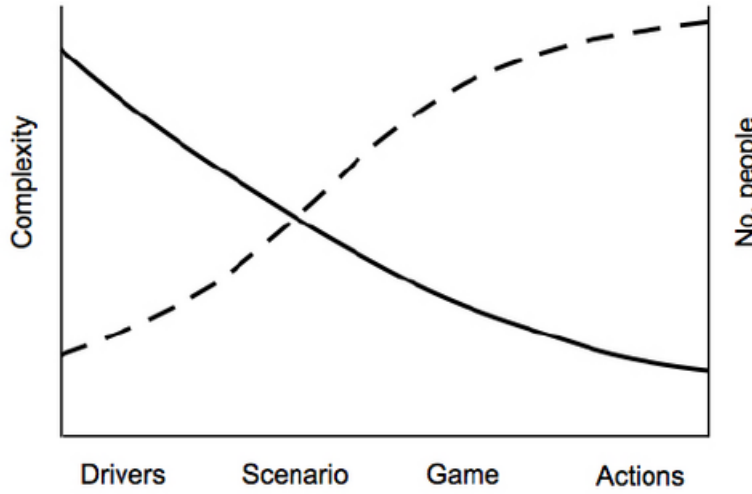

Figure 1: Schematic of the Scenario-workshop Process Indicating the Decreasing Complexity (Black Line) and Increasing Participation by the Target Audience (Dashed line) as the Progress Develops

The first component of our process is a condensed form of scenario planning in which each scenario session is completed in a single, one-day workshop. Representatives from within and outside an industry or community are gathered to explore the future and to develop plausible scenarios related to the issue and timeline. The one-day design is intended to allow otherwise busy and committed people to contribute and to participate in a future planning process in an effective and efficient manner. The resulting scenarios are then used in the next component of the process; the scenario game.

The scenario game is at the heart of the process. It enables the visualisation of scenarios in an interactive, game-based form. More detail on the scenario game and its development is provided in an accompanying paper at this conference (Beurle et al 2009) and elsewhere (Fisher *et al* in preparation). In summary, the game consists of a series of fictitious maps representing aspects of the industry or community for which the scenarios were developed, showing change through time. The game enables participants and the groups as a whole to explore plausible futures for their industry or community in a visual manner and at a manageable scale.

The crucial third component of our approach, and the one that separates it from past and current approaches, is the integration of the scenario game in a workshop process. The interactive nature of the workshops and the game around which they are built is the key to this innovation. This process not only enables participants to visualise the scenarios in the context of a space that reflects their own region, but involves them as active participants in the simulated decision-making which delivers future outcomes.

Testing the Scenario-Workshop Process

We have tested the components of this scenario-workshop process in situations with industries and communities in Australia and the United States of America (USA). The condensed form of scenario planning was used in a recent project with the Australian grains industry. A scenario game was developed based on scenarios for the Avon River Basin (ARB) in Western Australia (WA) and was tested in a series of workshops throughout that region. Further testing of the game and associated workshop process has also been carried out in the Midwest and southeastern regions of the USA.

Three, one-day scenario planning workshops were conducted in August and October 2008 at locations in each of the three grain growing regions of Australia identified by the Grains Research and Development Corporation (GRDC). Representatives from within and outside the Australian grains industry gathered to explore the future and to develop plausible scenarios for grain farming enterprises in their region. Four scenarios, exploring how the industry future might unfold in a 20-year time horizon, were developed in each region. The work is described in more detail elsewhere (Beurle and Fisher 2008).

A simple, paper-based scenario game depicting a representative three-shire area of the ARB (O'Connor and Fisher 2005) was piloted at ten workshops in 2006 (Fisher et al in preparation). The game was developed based on scenarios for the ARB (O'Connor et al. 2005). The workshops, which were held at locations across the region, involved 216 participants, most of whom were residents of the wheatbelt (86%). More than two-thirds of the participants attended the workshops as employees of state or local government (36%) or as representatives from the community or private citizens (40%). The age range of the participants was typical of the region and there was an even gender mix (Fisher *et al.* in preparation). Participants were asked to complete questionnaires immediately before and after playing the game. In the workshops the participants explored the regional aspiration for the future (the vision) out in the year 2050, and how communities and people could work together in new ways to move towards that preferred future. At each workshop, specific and collective actions were identified for the overall wheatbelt region, and the specific sub-regions represented.

During 2006–2008, similar workshops were conducted in the USA across the Midwest and in Florida. The wheatbelt scenario planning 'Futures Game' was used at these one-day workshops. The workshops were conducted in southwest Wisconsin (120 participants, one workshop), Iowa (320 people, three workshops) and in Florida (48 participants, one workshop). The workshops in Wisconsin and Iowa involved elected officials and community and business leaders from smaller communities, while the one in Florida involved workforce and regional economic development leaders and specialists from across the USA. In each workshop the scenario game was used to illustrate the impact of today's decisions on the future and as a stimulus to explore the regional/workforce aspiration for the future. A simple feedback sheet after the workshops sought people's responses to four questions regarding the scenario game; 'Have you participated in scenario planning before?', 'Did you find it a valuable way to explore future consequences of decisions?', 'Would a local version of this game be useful for developing 'Futures Thinking' in your community / region?', and 'Did you find it a challenging and enjoyable exercise?'.

Findings

Scenario Development

Our condensed version of scenario planning was conducted in much the same manner as longer versions of the process. At each workshop the participants reviewed and discussed the global, national and regional forces that could impact on the grains industry. They then identified key drivers that they considered likely to shape the future of farm enterprises in their grain farming region and rated them for the 'importance' in shaping the future of the industry and 'uncertainty' regarding the driver's future level, impact, or both. Clusters of key drivers, 'scenario shaping clusters of drivers', were then identified and used as axes to define four quadrants, or scenario 'spaces'. Four, plausible scenarios were then developed, one for each quadrant.

There were striking similarities in the four scenarios that were developed in each of the three grains regions in Australia (Beurle and Fisher 2008). The scenario shaping clusters of drivers or axes that were used to form the scenario 'space' were similar. One of the axes was Industry adaptation to changing physical 'environment', Farm Profitability and Farm Profitability and Industry Capacity for the Northern, Western and Southern regions respectively. The second axis was External operating environment, Responsiveness to external environment and Environment and Policy respectively for the Northern, Western and Southern regions. Between the regions, the scenarios in the same scenario 'space' were also quite similar (even down to having similar names in some cases).

Table 1: Pooled Responses by Workshop Participants in USA Regarding the Value and Usefulness of a Scenario Game Developed for the WA Wheatbelt. Five Workshops were Conducted in Wisconsin, Iowa and Florida Involving a Total of 488 Participants. These Responses were not Sought at One of the Workshops Involving 60 Participants. *Participants at the Florida Workshop (48 Participants) were Asked to Answer Questions 2–4 on a 1–10, where 1 = not at all; 10 = very Valuable. For the Purposes of Pooling the Data, Ratings of 6 or Higher were Used as an Indication of 'Yes' (88–98% of the Responses were 8 or Higher)

Question	Yes*	No	Total Responses	Total Possible Responses	% yes (of Responses)
1. Have you participated in scenario planning before?	71	176	247	328	29
2. Did you find it a valuable way to explore future consequences of decisions?	243	4	247	328	98
3. Would a local version of this game be useful for developing 'Futures Thinking' in your community / region?	234	11	245	328	95
4. Did you find it a challenging and enjoyable exercise?	240	6	246	328	98

Scenario Game and Workshop

Of the 216 workshop participants in WA, 75% responded that they thought that the scenario game would 'be useful for developing futures thinking in your enterprise/community/industry'. Pre- and post-workshop questionnaires indicated that playing the game altered the participants opinions regarding the future of the region (Fisher *et al* in preparation). Comments from workshop participants about the game such as "interactive and realistic in the way it echoed the real world", "useful for shires to model their strategies", "very scary that decisions at one point can impact for a decade to come", "I felt we [this region] were going OK until we [my group] played the game", "sometimes decision-making is not as simple as it looks or as clear as it appears; this is a great review process for people making decisions all the time" and "good in software", indicate the impact of the approach.

Ninety-five to ninety-eight percent of the participants at the workshops in the USA found the scenario game to be a valuable way of exploring the future consequences of decisions, thought a local version of the game would be useful and thought that the scenario game was a challenging and enjoyable exercise (Table 1). The participants were also encouraged to make anonymous comments regarding the scenario game. The comments referred to the usefulness and/or enjoyment of the game, the mechanics of the game, views on a local version and the game as a challenge (Table 2).

Discussion and Conclusion

Components of the scenario-workshop process have been tested in structured workshops in Australia and the USA and feedback from these workshops, which involved hundreds of people from across various regions and backgrounds, suggest that the process has value in creating and presenting scenarios in a visual manner. Game-based, decision simulation systems are used in fields as diverse as military tactics and training, business strategising, virtual share-market competitions, and emergency service response (e.g. Ikeda et al. 2004, Kleindorfer et al. 2001 and Bah et al. 2006). Developments in these fields have attempted to deliver either (a) infinitely configurable, very costly and complex scenario modelling, or (b) capacity building and group engagement in decision-making that is disconnected from the real-world context. The game that we have developed incorporates elements of both of these aims, but in a simple tool that is used in a participatory manner.

The main evidence of the usefulness of the scenario-workshop process is the feedback from participants regarding the scenario game. An important part of our overall approach in translating scenarios to action is building on from the game to explore the regional aspiration for the future. In both WA and the USA this was then used to identify specific and collective actions for the overall region and specific sub-regions. This work has contributed, at least in part, to follow-up activities that have occurred in these communities, such as the sharing of resources at the local government level in WA and the identification of a new industry based on renewable (wind) energy in Midwest USA.

Table 2: Selected Written Comments by Workshop Participants in USA Regarding the Value and Usefulness of a Scenario Game Developed for the WA Wheatbelt. Five Workshops were Conducted in Wisconsin, IOWA and Florida Involving a Total of 488 Participants

Broad Category	Sample of Comments
Usefulness and/or enjoyment of the game	"best hands-on game I have participated in", "fun exercise that made it simple to see how decisions we make impact the future", "loved it!! Great way to bring people together and think!", "this scenario game differed from others I've done, but very interesting. Could be a valuable resource at all levels of community development – rural and urban", "fun to do – great way to exchange ideas with each other", "great experiential learning opportunity", "really great at getting groups to discuss pros and cons of various options"
Mechanics of the game	"more info needed to make better decisions", "well thought out tool", "needed a little further info on decisions", "you needed more information to make better decisions", "this wasn't really scenario planning; that is a misnomer. It forces people to frame decisions narrowly which I think is a disservice to decision making. Making yes/no decisions quickly is not the best process", "scenarios were too simplistic and I feel do not reflect the usual number of variable the average community decision involves", "it's a little short and the examples were hard to understand. But the concept and to see the results is very valuable", "great process", "excellent way / method / tool to get people thinking about the challenges", "what a great tool to think outside of the silo of our own world", "excellent tool – fun too!!", "well thought out and can be extremely beneficial to help people begin to think regionally", "excellent interactive and thought provoking"
Views on a local version	"how can we adapt this to our community?", "a local version would be easier for participation in these groups", "excellent experience – love to see this done for a section of Iowa", "this exercise would be very valuable in our community that lacks vision & direction & makes knee-jerk reactions", "using the game with local considerations would be very powerful", "unfortunately it was easier to do this as a 'hypothetical exercise' instead of a tangible exercise because it wouldn't be as east to detach oneself from very real public outcries / criticism that would exist regardless which scenario was chosen", "excellent 'light thinking' process and viewing others views for any community. Local version would be great working tool for ALL age groups", "a fantastic activity that could be applied to ANY community /county. A great way to bounce ideas off others at the time. This would be very valuable to use in our community", "wise way to engage group in decision making "regional" mindset without any skin in the game. Local version may be too personal for objective participation of players", "local version – but with more information – these decisions were too simple"

The game as a challenge	"scary how each small decision (especially without a vision to strive for) has such an immense impact", "stretches the mind – Outcomes show how decisions have ramifications long into the future", "very challenging – my concern for a local version is that it might be too real. We could relate local elements to the Australian game without it becoming personal", "definitely forced you to think about the inter-dependency to other events and elements","the interplay among participants helped me see a variety of perspectives that could occur in my community. In the comfortable setting we were able to evaluate 'hot topics'. The valuable part was seeing the ramifications of our decisions", "great game – hard to choose between questions for decision making as there was no in-between"

The scenario-workshop process increases the 'reach' of scenarios beyond the people involved in the development and/or sponsoring of the original scenario planning. This involvement of a greater number and greater diversity of people whose plausible future is portrayed in the game is a key to encouraging on-ground action. In the workshops in the WA wheatbelt participants were encouraged to discuss their preferred future. This discussion and resulting alignment focused attention on what steps needed to occur to move towards that preferred future.

The key to these next steps is the scenario shaping clusters of drivers; and in fact reveals the 'levers and dials' that can be used to leverage the system. Tracking the key drivers then helps people to identify how the future may be unfolding in reality. There is a natural tendency for people to attribute a greater likelihood to one scenario or another, or aspects of it/them, but it is neither appropriate nor accurate to do so. In fact the danger in assigning probabilities to scenarios is best illustrated by the misuse of climate scenarios (Morgan and Keith 2008). What may be considered to be unlikely outcomes could easily come to fruition. We use the alternative scenarios as a means of testing the robustness of any 'next steps'.

Generally, scenario planning processes are run over several days, weeks or even months. Our condensed form of scenario planning was completed in a single, one-day workshop. The one-day scenario workshop design relies on sufficient background information being presented to enable realistic and informed evaluation by the participants. It also requires participants who are broad-minded, free-thinking and collectively and individually can bring their thinking to the identification of the key drivers and to the development of the scenarios.

An important outcome of the scenario development for the Australian grains industry at one-day, participatory industry workshops was the similarities in scenarios across the country. This can be viewed in both a positive and a negative light as it is indicative of a similarity of thinking in the Australian grains industry. This suggests that many initiatives or actions that are under-taken in response to these scenarios will have applicability across the country. However, it also indicates a high level of similar thinking, perhaps to the extent of 'group think'.

Our scenario-workshop process has been trialled under 'real world' conditions of developing a community vision for sub-regions and identifying critical first steps to work towards them. It has been shown to have potential and applicability amongst a diverse audience from both industry and community in various regions in two countries. Thus far we have tested each component of the scenario-workshop process, but it is yet to be tested in its entirety.

This will be addressed in current and future work in Australia, the USA and elsewhere, but results to date suggest that the scenario-workshop process can be applied to a range of locations, circumstances and situations.

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