

Manoa: The future is not binary

by Wendy Schultz

The Manoa method, developed by Wendy Schultz, is one of the many innovative futures methods that has emerged from Hawai'i's Futures Studies center. It is a method that is designed to maximise difference and to explore the impact of emerging

issues. Until now, however, the Mānoa process has not been well documented. I am delighted that Compass is able to publish here the first practitioners' guide to Manoa. (AC)

In the late summer of 1991, the Hawai'i Office of State Planning (OSP) engaged the Hawai'i Research Center for Futures Studies (HRCFS) to assist in developing a scenario-design component for OSP's ongoing Environmental Scanning Project (note: 'environmental scanning' is in this case synonymous with 'horizon scanning').

As is often the case with scanning projects, government officials found the monthly reports fascinating – but were at a loss as to what they should do with the information: the 'so what?' was inadequately addressed. Consequently, OSP asked HRCFS to design and facilitate a scenario building workshop that would integrate the emerging issues identified into alternative possible futures for Hawai'i. This initial use of the Manoa approach was followed two years later by two scenarios workshops for the non-profit Hawai'i Community Services Council (Schultz, 1994).

At the same time in a business far far away, Peter Schwartz was drawing upon his own experience and that of colleagues (Jay Ogilvy in particular) to write *The Art of the Long View*, which has since become one of the best-selling books on scenarios specifically, and future thinking generally. In its appendix, it describes building scenarios by identifying two key uncertainties and using them to

define four possible alternative futures. This method has since essentially colonized the practice space of scenarios construction worldwide. It is not without critics:

The best known, Richard Slaughter (2004), follows Ken Wilber in describing the approach as creating what he calls "flatland"; a set of future worlds in which "current ideologies ... were insufficiently problematized and seen as natural". (Curry and Schultz, 2009)

But this approach was specifically designed for business and government decision-makers – it takes what some perceive as the risky business of thinking about the future, and makes it more palatable by focussing on an immediate business decision, and couching the enterprise in a narrative of 'managing uncertainty.'

The Manoa approach is more a case of revelling in the opportunity spaces that uncertainties reveal.

Design

How did the Manoa approach emerge? As a staff researcher at HRCFS, I was working to respond to the initial request from the Office of State Planning.

The design criteria for this scenario process stipulated that it had to be participatory; firmly based in data; map the steps by which change diverged from the present; include multiple drivers of change; and depict

different surprising outcomes with a time horizon of approximately a generation. (Curry and Schultz, 2009)

Futures studies was still evolving

in technique. Most of the provocative images of possible futures existing in the field were the result of 'genius forecasting' – the intuitive process of one disciplined, well-informed mind grasping insights from a cloud of data about emerging change. Working with Jim Dator, I witnessed genius forecasting as a daily occurrence – but not as an easily transferrable skill, much less as a codified participatory process. The challenge was to document what was happening in all those bright and insightful minds.

My best option seemed to be taking a page, loosely, from expert systems research. I started asking various senior scholars what they were thinking – what their internal process was, as much as it could be explicitly articulated as distinct from the intuitive. In reading books depicting alternative futures, I looked for the bridge from evidence through insight to narrative.

What did they all seem to be doing? They were all chasing chains of impacts, and they were all seeing potential interconnections that both amplified – and in some cases accelerated – change by forming ecologies of emerging changes. Genius forecasters had an intuitive grasp that multiple, often disparate and disconnected changes generated implications that would intersect and interconnect further down the timeline, often with both ecstatic and catastrophic results. As a facilitator, how could I duplicate that explicitly?

The result was a process that triangulates on initial difference to maximize resulting difference: each scenario begins with at least three emerging issues from different STEEP (social, technological, environmental, economic, political) sectors. The greater the difference in the seed changes, the better – highly orthogonal starting points generate greater creativity via bisociation. Participants then explore each issue on its own, exploring what impact cascades it might generate – primary impacts, which themselves would generate an array of secondary impacts, which would in turn generate a range of tertiary impacts, and so on.

Because each scenario has at its heart sets of impact cascades, it contains an inbuilt narrative of change over time – and in-built tensions, conflicts, and sudden opportunities at points where those impacts are intersecting. The two Hawai'i beta tests demonstrated it was easy to facilitate and generated rich results. The section which follows offers a step-by-step guide.

Process

The matrix of uncertainties method, as described in *The Art of the Long View*, begins with a focal question for decision-makers: *what's keeping you awake at night?* In contrast, Manoa scenario building does not require a focus issue or critical question. Its aim is to create a growing library of alternative futures as context within which users could explore whatever issues they like. Manoa does require an awareness of change, particularly emerging issues of change. It explores the primary and long-range impacts of emerging change, and elaborates the possible outcomes of those impacts in collision. The scenario of an alternative future emerges from the gestalt of all of those changes: it emerges as a complex structure from the chaos of turbulence.

One. Identify three emerging issues of change and state them as mature conditions 20-30 years out, e.g.,

1. Personalized anti-cancer vaccines available (science / technology)
2. Soaring economic inequity and polarization (economy)
3. Hot and dry climate now common across much of the former temperate zones (environment)

These three changes should each represent a **DIFFERENT** “STEPP” category. The more orthogonal the changes are in topic and direction, the more surprising and creative the results.

Two. Create a futures wheel based on each change.

Take the changes one by one. Brainstorm five to seven primary impacts of each change; make sure you push changes to their extreme, if logical, conclusions, assuming at least 30 years of development. Then, for each primary impact of each change, brainstorm an additional three secondary impacts. Finally, if any tertiary impacts immediately spring to mind, list those as well. Do any of the impacts support or link to each other?

Three. Map the influences and interconnections. Review the futures wheels from all three trends for two or three minutes.

Post the wheels from all three trends where the whole group can see them. Cluster groups of impacts of particular interest (see Figure on next page).

Trace how the various impacts you've identified for each trend might interrelate with those on the futures wheels of the other two trends – creating **an influence or systems map**:

- What changes might amplify or accelerate other changes?
- What changes might balance or constrain other changes?
- What causal loops emerge as a result?

Creating a **cross-impact matrix** can assist in thinking through impacts of change collisions and synergies.

Four. Probe more deeply. Has your group listed a wide range of impacts, covering different aspects of reality?

- Family structure
- Community
- Economy
- Governance
- Work
- Arts and leisure
- Vices and crimes
- Ecology and the environment
- Media and community
- Transportation
- Education
- Subcultures
- Religion and myths
- Core values, worldviews, and paradigms

Use these as probes when you are brainstorming possible impacts, cross-impacts, and details.

Five. Characterize your infant scenario.

- Imagine two or three headlines that sum up the tenor of its times
- Compose a bumper-sticker phrase that captures its essence
- If this were a film or documentary, what would its title be?

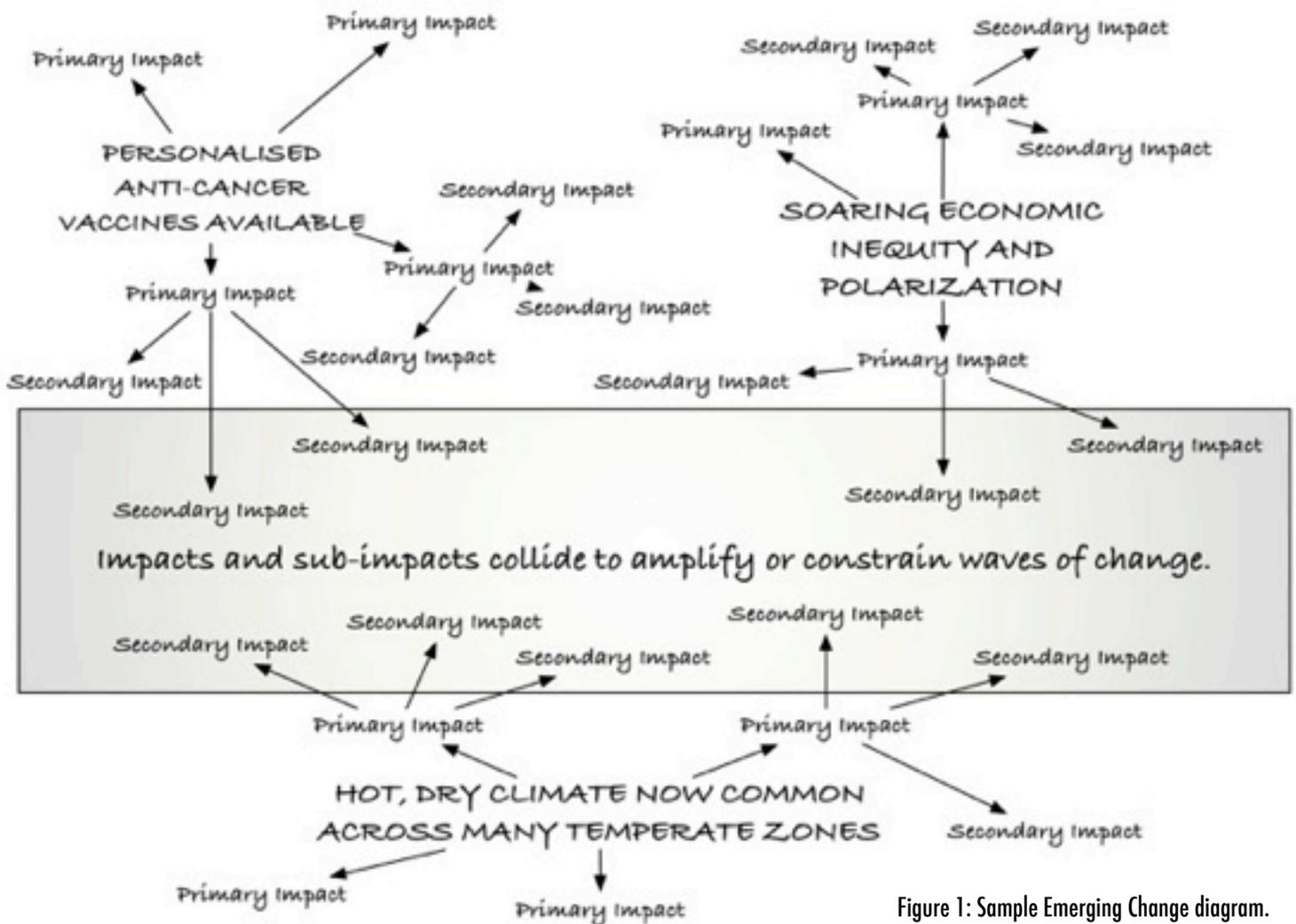


Figure 1: Sample Emerging Change diagram.
Source: Wendy Schultz

Six. Build the emerging narrative – a ‘day in the life’ is easiest.

Take at least fifteen minutes to evoke a vivid image of the future scenario your group has constructed (if the process may run beyond the workshop, appoint a volunteer to draft a narrative). The narrative should loosely link the scenario to the current present by discussing the emergence and unfolding of the initial seed changes and their impacts. Tracing the impact cascades in the futures wheels forward in time lets the scenario evolve along a timeline.

Many of the brainstormed impacts will seem to contradict each other; where possible, if they are related in some consistent fashion, a few contradictions should be allowed to remain – because our present reality also contains contradictions. The simplest story for

most people to draft is depicting a ‘day in the life’ of a character.

Seven. Doublecheck the imaginative ‘stretch’.

The Manoa approach to scenario building focusses on maximizing the degree of difference from the present, in order to obliterate blindspots created by stale assumptions, and potentially to identify what are now often called ‘black swans’. The process is directly attributable to Dator’s Second Law of Futures Thinking – *the only useful ideas about the future should appear to be ridiculous*. The process is also an engine of creativity, and so also draws on key creativity processes identified by Edward de Bono (de Bono, 2009)

- Have you **exaggerated** the possible impacts to the point of absurdity?

- Have you **challenged** your current assumptions about present conditions continuing?
- Have you **combined** changes or impacts in a way that distorts something familiar in the present?
- Have you **reversed** constraints or threats that presently exist – or **reversed** strengths or opportunities you currently take for granted?

Use these questions as provocations during brainstorming to deepen the degree of change imagined and explored.

Eight. Ask the practical questions.

Even without starting by asking ‘what’s keeping you awake at night?’, futures research must at some point connect to action. If not, it strays into the valuable but distinctly different realm of speculative fiction. So the final set of

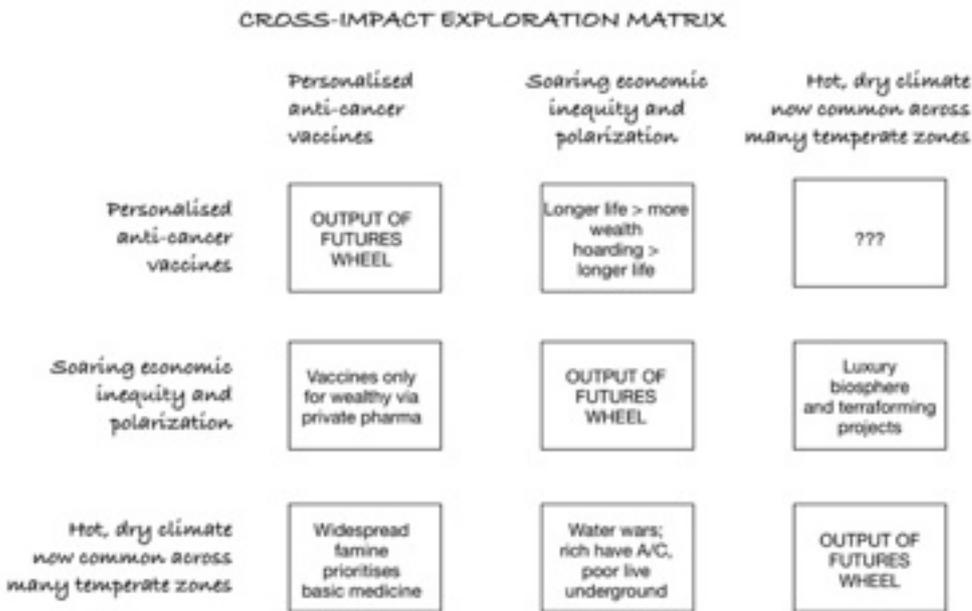


Figure 2: A cross impact matrix.

Source: Wendy Schultz

questions re-connect the futures imagination to the needs of the day, and the people involved.

- How would you describe your current activities, plans, mission, and vision?
- How would they play out in the different futures you have imagined?
- What patterns or themes in each of these scenarios most affect your mission and vision?
- Which scenario offers you the most opportunities? Which presents the most challenges?

Manoa is better suited to the Research & Development and innovation teams, as it creates divergent thinking and challenges assumptions

- How would your organization or community need to evolve or transform to thrive in each scenario? What new allies or resources would you need?

This last step is the critical bridge from potentially outrageous, imaginative, risky futures to innovation and creative present-day problem-solving.

Feedback

Since those two early projects in Hawai'i, I have used the Manoa approach hundreds of times in workshops, training, graduate futures methods seminars, and large conferences. At its most basic, it simply asks people to create at least three futures wheels from three very different changes, and then to stand back and imagine

themselves in a future where all the impacts from all three wheels exist simultaneously. The feedback is uniformly that the process is lively, buzzy, creative, fun, thought-provoking, challenging – and helps people understand the wealth of

potential in the changes emerging around us. Various evaluative works agree:

Manoa – highly elaborated, creative, lots of detail; Manoa and systems scenarios – futures wheel, cross-impact, and causal [loop] models require some training and experience to do well. (Bishop, Hines, Collins, 2007)

The participants also noted that the process itself energised the room, in contrast to the 2x2 matrix work that immediately preceded it. As participants created the futures wheels by standing up around a flipchart-covered table and working simultaneously to draw in their proposed impacts on the futures wheel, the process generated a buzz of energy and cross-talk as people added items, compared ideas, and expanded on each other's insights. It was later described as 'playful.' (Curry and Schultz, 2009)

It is better suited to the RD&I folks in a corporation than to the strategic planners, as its immediate focus is divergence and assumption challenge, and not strategic focus.

Evolution

The process has evolved over time. The first two trials were extremely basic, with impacts for each change simply brainstormed as a list, and the interconnections brainstormed using a cross-impact matrix. The next improvement was the inclusion of futures wheels to generate impact cascades. While teaching both the futures methods seminar and the systems thinking seminar in the futures grad program at the University of Houston, I began thinking about formalising the systems mapping. Christian Crews took a leap beyond that, and in his master's thesis created and trialled an extension of Manoa, "Systemic Scenarios," that used explicit identification of causal loops across the futures wheels to solve the problem of

creating narratives for each scenario (Crews, 2003).

Subsequent work has added the Verge General Practice Framework (Lum, 2014) to ensure integral depth in the futures wheel explorations, by probing for how changes affect how we *define* ourselves and our world, how we *relate* to other components of our reality, how *connect* with other people and things, how we *create* things, how we *consume* them, and how and why we *destroy* aspects of our reality. More recent examples of the Manoa/Systemic Scenarios approaches added the hero's journey archetype to elaborating the narrative, in projects for Pepsico (Schultz, Crews, Lum, 2012) and the Industrial Research Institute.

In sum, Manoa and its variants offer a creative, energising, and robust platform for scenario building that is compatible with many other futures techniques: it is an excellent base for futures method mash-ups. More critically, it comes closer to modelling how our alternative futures are actually unfolding: as emergent properties of the turbulent collisions of myriad changes and their impacts, and our complex adaptive responses to the results. The future is not binary. Our explorations of it deserve more than two axes. ◀



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