

Foresight tools for chaotic times: balancing TUNA¹ with TINA² to address FUD³

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0. Abstract

This paper describes tools for working with groups to reduce discomfort in tackling the future and hence enable decision making.

Many of the foresight tools developed over the past decades manage uncertainty by creating images of qualitatively different alternative possible futures. In working with a range of clients and groups, we have realised that all-encompassing uncertainty often freezes decision making. A more practical approach balances what we know with reasonable certainty about the future, while including foresight's more usual exploration of alternative possible futures. We propose exploring relatively few trends through increasing levels of uncertainty over time, and analysing the forces that could accelerate or slow down their effects. By initially exploring the framework of forces and then tabling uncertainties and weak signals, the group experiences a lower level of FUD, while encompassing a more realistic understanding of the limits of our capability to forecast the future.

1. Introduction

This paper is about tools for working with groups to reduce discomfort in tackling the future and hence enabling decision making.

Many of the foresight tools developed over the past decades have been targeted at enabling decision makers to challenge their current assumptions and world view, by creating images of qualitatively different alternative possible futures. As we write, headlines overturn many of our assumptions almost daily. So to what extent can we as foresight professionals provide methods and tools that support decision makers in TUNA times?

In working with a range of clients and groups, we have realised that an approach may be called for that aims to reduce all-encompassing uncertainty - which is freezing decision making - by balancing what we know with reasonable certainty about the future, while including foresight's more usual exploration of alternative possible futures. The message is – some megatrends are happening and

¹ TUNA: Turbulent – Uncertain – Novel – Ambiguous: used by the Oxford Scenarios Programme in contrast to the earlier term, VUCA: Volatile – Uncertain – Complex – Ambiguous.

<https://www.forbes.com/sites/adamgordon/2016/04/06/oxford/#4d3c4b934314>

² TINA: There Is No Alternative – famously said by Margaret Thatcher about the economy.

³ FUD: Fear – Uncertainty - Doubt

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you need to know how you can respond to them – then you can face the current chaotic times and potential different futures more confidently. Offering people a range of TINAⁱ – ‘there is no alternative to...’ – trends helps people anchor in a TUNA environment.

In working with groups we focus on creating a timeline for relatively few major trends, e.g. population growth, economics, IT, biotech. We explore the timelines of the trends through increasing levels of uncertainty over time, and analyse the forces that could accelerate or slow down their effects. By initially exploring the framework of forces and then tabling uncertainties and weak signals, the group experiences a lower level of FUD,^{ii iii} while encompassing a more realistic understanding of the limits of our capability to forecast the future.

The paper is divided into five sections. After this introduction, we lay out the context for this approach within some available tool sets for forecasting, exploring paradigm changes and other uncertainties, and scenario building and exploration. The third section summarises one formulation of key exemplar trends and describes a group workshop design using megatrends, identifying the pre-requisites needed in order for the range of people in the group to be able to start to make decisions which based on balancing views of structures based on the mega trends against uncertainties. We conclude by reviewing the outcomes – based on work with INGOs, regulators and corporates - reviewing the possibilities for tools mixing trends and uncertainties in a TUNA world.

2. Methodological context

“One of the defining characteristics of our current moment is the unbelievably wide aperture of plausible political possibilities that seem to spread out before us. No matter your political persuasion, the range of potential “outcomes” that one can imagine over some middle-term horizon—say, five to ten years—seems fantastically broad in range. And this is equally true on both domestic and international fronts.”^{iv}

In this chaotic environment, what can foresight tools contribute?

2.1 Tools for forecasting, and their role

Forecasts aim for accuracy. Philip Tetlock has designed and run major experiments on the characteristics of successful forecasters. A summary of his findings is captured in the acronym CHAMP below,^v and the characteristics of Superforecasters are identified in *Superforecasters*.

Tetlock's CHAMP

Comparisons are important: use relevant comparisons as a starting point

Historical trends can help: look at history unless you have a strong reason to expect change

Average out opinions: experts disagree so find out what they think and pick a mid-point

Mathematical models: when model based predictions are available you should take them into account

Predictable biases exist and can be allowed for. Don't confuse hopes with forecasts; don't cling to old forecasts in the face of news.

The book offers practical advice on how to use the methods used by successful forecasters. However it is important to note the scope of the Superforecasters in terms of both subject matter and timescale.

Subject matter: the experimental data on successful forecasters is based on global political forecasting in the original book,^{vi} and in creating his subsequent panel of volunteers. Do the heuristics apply to forecasting of take up of technology and ensuing social change? Here, for instance, it can be argued that averaging out of opinions may mean that prudent planning is not done. Or as Steve Ballmer, then CEO of Microsoft, said, *“There is no chance that the iPhone is going to get any significant market share. No chance.”*^{vii}

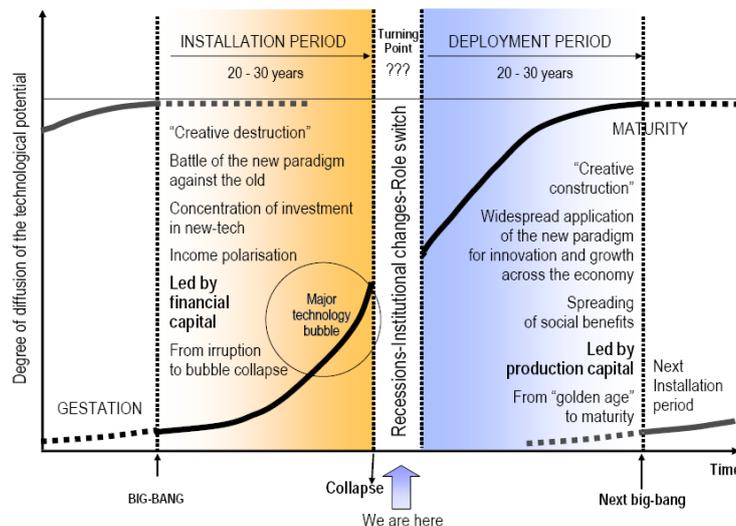
Timescale: judging forecasts is difficult unless they are explicit about the timescale. And most forecasts aren't – like Steve Ballmer's above. But we note that the experimental data about Superforecasters quoted in the book is **that Superforecasters looking out 300 days were more accurate than the forecasters looking out 100 days.**

The CHAMP characteristics are useful prompts for anybody thinking about the future – but we need to add in potential paradigm changers in chaotic times as we look beyond the next year.

For instance, in a different domain, that of global population numbers, the UN Department of Economic and Social Affairs has changed its population forecasts in two years, from 2015 to 2017, increasing the forecasted global population from 8.5 billion to 8.6 billion by 2030. This difference is more than twice the population of California. It reflects additional growth in India and Africa as public health increases longevity, a paradigm change recognised late.^{viii}

Figure 1: Waves of innovation

Due to the difficulty of social absorption of revolutions and new paradigms
EACH GREAT SURGE IS BROKEN INTO TWO DIFFERENT PERIODS



And in forecasting the effect of technology, we need to take into account the shape of adoption curves – as analysed by Carlotta Perez (see Figure 1),^{ix} who highlighted that we are at a transition point in the exploitation of IT infrastructure, as creative destruction gives way to creative construction.

Paradigm change is affecting previously forecastable domains.

2.2 Dealing with potential and pitfalls, weak signals

We have suggested that in chaotic times, with paradigm changes in many domains, forecasting – seeking the correct number – is an inadequate approach for timescales longer than a year. What tools do we have for handling this?

Scientists and technologists often claimed “The future cannot be predicted, but futures can be invented,”^x and Peter Drucker brought this thought into management thinking.^{xii} Though this idea originated in the lab, the current trends in politics – with multi-polar decision processes – means that it may be truer today than in the past. The effect of this is to increase the volatility of politics.

In 2003, Peter Schwarz^{xiii} argued that “the future is foreseeable, and that by examining the dynamics at work today we can predict the “inevitable surprises” of tomorrow.” The success of his forecasts was mixed – he predicted no end to the chaos and religious wars among the have-not nations; but also dire results from the AIDS epidemic. On the question of whether inaccurate predictions can be helpful, it can be argued that it is better to articulate potential futures than not, in order to underpin advance planning: as Eisenhower famously said, “Plans are worthless, but planning is everything.”^{xiv}

Identifying trends in time to act, create, and manage change means spotting trends before they mature. Strategic foresight attempts this via horizon scanning, specifically looking for emerging changes and weak signals of change. But that inevitably means looking for sources of transformation and turbulence; novel ideas; fringe thinking; paradigm-busting ideas.

The growth of an emerging issue of change into a full-blown trend follows a typical life-cycle S-curve (provided the emerging issue matures into a full-blown trend, instead of dissipating and disappearing), where the dependent axis is the degree of public awareness of the change, and the number of observable instances (cases) of the change, against time.

For maximum usefulness, policy-makers or planners should identify emerging issues near the origin point of the curve, allowing sufficient time for policy response. But that implies identifying and responding to the emerging issue when little documentable evidence exists -- when there may only be an N of 1. In epidemiological terms, we are looking for “patient zero.”^{xv}

But the downside of advanced warning by weak signal scanning is proliferation of uncertainty: weak signals may lead to the next megatrend – or collapse and evaporate.

2.3 Managing uncertainties ---- paradigm shift

If we file forecasting the “right” number as a challenge too far in chaotic times, what tools do we have for thinking about the dynamics of today, long term trends, and anticipating paradigm shifts?

Some shifts are indeed forecastable by examining the dynamics at work – as for instance anticipating the structural changes in the telecoms industry as phone calls gave way to data traffic.^{xvi} And it is sometimes useful to examine parallel industries, or science fiction.^{xvii}

A structured method for exploring medium term implications of paradigm shifts has been developed as the Three Horizons framework by Sharpe and Williams,^{xviii} and elaborated by Curry and Hodgson.^{xix} Participants in a Three Horizons workshop initially identify and inventory the present ‘state of play’ as the ‘first horizon’: current mental models, paradigms, operating assumptions, stakeholders, infrastructure, supply lines, policies and regulations, etc. Emerging weak signals of change and potential long-term transformations and paradigm shifts are mapped onto the rising long-term ‘third horizon’ – this includes novel visions and revolutionary ideas about the issue under discussion. Transition strategies and novel implementation pathways, as well as potential conflicts and constraints, are brainstormed to populate the ‘second horizon’ that bridges from the present of the first horizon to the possibilities of the third horizon.

2.4 Scenario building and exploration, what it can and cannot achieve

Scenarios have three frequently cited features that make them a powerful tool for understanding uncertainty and developing strategy accordingly^{xx}. The question is: how to gain these advantages without increasing FUD? The features are:

- **Scenarios expand your thinking:** by creating challenging images of possible futures. However, in chaotic times, the present itself is confused and challenging: so a way of allowing for expanded thinking, but within a framework of comprehensible factors and a structure for asking questions about them can expand the thinking.
- **Scenarios uncover inevitable or near-inevitable futures:** these futures will be the result of one or two very significant factors, which a group can explore separately.
- **Scenarios protect against ‘groupthink’:** good scenarios can provoke the “this cannot happen” response – which often is the scenario observed shortly afterwards. Bad scenarios reinforce group think: they focus on current issues rather than exploring potential new aspects of the outside worlds.

In the next section we describe a set of major global trends as a precursor to considering how working with these factors can help decision makers and groups think usefully about the future while avoiding the hurdles of extra uncertainty in chaotic times.

3. Using megatrends

3.1 Why and when to use megatrends in chaotic times?

We have laid out our reasons for using megatrends in the Introduction. Can their use bring similar benefits to other foresight tools?

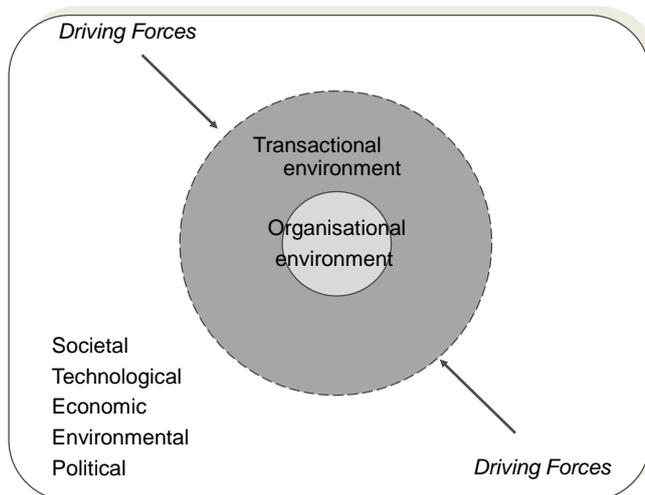
Much of the work on Foresight^{xxi} brings out a similar list to that above for scenarios, to support the case for strategic foresight in general. Can using megatrends specifically achieve similar results? In the methodology we describe, these are covered as follows:

- Expanding thinking: the stretch in timeline and the extended scope of megatrends expands thinking, see below.
- Uncover inevitable futures: discussion in a group uncovers dominant trends for their organisation, see the agenda in section 3.6 below.
- Protect against group think: unless outsiders are specifically included, groupthink is always a potential issue – see for instance work on cognitive biases^{xxii}

For all foresight tools, some practical considerations apply:

- It is important to ensure that the timing of foresight does not appear to challenge the budget setting cycle but is aligned to it - so that the topics raised can be incorporated into the planning cycle. For this purpose we build into our methodology, the identification of early indicators for trends.
- The timescale of the trends needs to extend beyond the planning horizon, so if a planning cycle is 5 years, the trends should be explored at least 10 years into the future. The set we use below goes to 2035 – beyond 2032 which will see both the US and China with new administrations.
- The scope of the trends should be wider than the parameters of business plan - see Figure 2 below.

Figure 2: Drivers of change



3.2 Exploring megatrends

Many consultancy firms and think tanks have developed sets of trends that will affect the future of their clients, often communicated via a deck of cards, e.g. Arup,^{xxiii} Roland Berger,^{xxiv} McKinsey on technology trends^{xxv} etc. Al Gore used his set of six major trends to communicate climate change to audiences worldwide.^{xxvi} Any set of trends used should be relevant to the organisation in both scope and also in timescale.

Descriptions of trends often have a false sense of accuracy: the descriptions do not consider what might deflect the trend or accelerate it.

In this article we use for illustration a set of twelve megatrends which will dominate the world to 2030.

Why twelve? There is no right number as we are attempting to pull headlines out of an interconnected system, but we find that for working with groups, twelve can cover a comprehensible and yet comprehensive spread of trends.

This particular set has been developed and updated over several years and many clients: while the structure we use to describe each trend has not changed, the chosen trends and the detailed description have. In particular, we see the role of personal aims and ambitions – particularly generational differences – as increasing in importance. But most importantly, each megatrend is described under the headings:

Description of the Driver
What effect is it having now?
In the medium term?
By 2030?
What will push in the opposite direction in future?
Critical uncertainties – range of possible outcomes
Wildcards – low probability events that could disrupt the expected mega trend
References

This allows decision makers to see the broad picture of the dominant trends and directions as well as thinking about the caveats.

3.3 An example set of megatrends

We are sometimes asked “are these the right trends to consider?” The only answer can be “a number of organisations have found them useful, but sometimes an organisation will add an extra trend or discard some as having marginal impact on them.”

These trends are global, but will play out at different rates in different parts of the world and in different industries. So they can be used to prompt a discussion: what is the impact of each on your organisation/business? And we find that this discussion allows a perspective beyond the current chaotic happenings.

- *Demographics*: Growing world population, driven by increasing longevity, especially in Africa (increasing public health and survival rates).

- *Multi-polar world*: Shifting global economic centre of gravity from post WWII structures to dispersed centres of power.
- *Economic growth*: Increasing returns to capital at the expense of labour; growing inequality within countries. Converging economies across countries.
- *Social systems*: Deteriorating social cohesion within countries due to migration, urbanisation and economic inequality, leading to unrest until “third culture” becomes the norm.
- *Limits – environment, resources*: our global environmental footprint increases with population and lifestyles. We are hitting environmental and resource limits as we test the physical systems supporting us.
- *Energy*: Energy sources are increasingly diversified and decentralised as energy mix shifts.
- *Pervasiveness of IT infrastructure*: applications in Internet of Things, Blockchain especially in financial services, smart infrastructure, virtual reality. The ownership of data is a battleground.
- *Industrial Revolution 4.0*: Increasing sophistication of machine learning and adaptive IT systems (face recognition, AI, robotics, cobots, AI journalists, automated trading, etc.): effect on jobs and skills.
- *Biotech*: Emerging bio-age (personal medicine, manufacturing in fermentation vats, bio-engineered chemical production, bio-data storage etc.): impact on food and water supply.
- *Migration*: people are on the move – economic migrants to the US and Europe, globally over 20 million displaced yearly by natural disasters and wars, also trend for migration from rural to urban areas.
- *Urbanisation*: continuing shift of population from rural environments to city life: for the first time in history, more people are urban than rural.
- *Personal aims and ambitions*: Increasing value shift across generations as Gen X exposed to greater diversity via social media and travel, resulting in growing conflict with ‘outmoded perspectives’ of older generations still in power.

3.5 Group dynamics – hedgehogs and foxes^{xxvii}

The Fox knows many things, but the Hedgehog knows one big thing. Archilochus (7th-century BCE)

In understanding the characteristics of people and organisations that can innovate, we use a description of management styles based on Isaiah Berlin’s adaptation of the quotation above.^{xxviii} As he uses it, Hedgehogs relate everything to single concrete narrative, by which everything in life is reduced to a single set of certainties. Foxes, on the other hand, distrust grand designs and absolute truths, and instead pursue many ends, often unrelated and even contradictory. They use a flexible array of insights that guide them as they experiment, play with ideas and experience, explore and, on occasion, pounce.

Recent psychological testing^{xxix} has shown that this is a valid and powerful way of classifying people. As psychologists have defined the type, Hedgehogs are people who are happiest operating within a closed problem domain, in which standard tools and focused effort allow them to compete with their peers. They are happy with the existing system or implementing a formula to change it. Foxes^{xxx} are at their best exploring new terrain and re-thinking certainties. Their goals are largely self-actualisation and they are seldom concerned to rank themselves against their peers. Foxes are suspicious of commitment to any one way of seeing an issue; they prefer a loose insight that is calibrated from many perspectives. They are tolerant of dissonance within a model - for example,

accepting that an enemy regime might have redeeming qualities - and are relatively ready to recalibrate their view when unexpected events cast doubt on what they had previously believed to be true.

Characteristics of Hedgehogs

Hedgehogs are exactly what organisations need to deliver against unambiguous tasks and tight deadlines. They were rightly prized in the operating environment which characterised much of the last century. Hedgehogs, however, are often stressed when asked to extend the borders of their current activities, to predict events and to mitigate new sources of risk.

Hedgehog types easily drop into over-confidence and over-focus. For example, many people who work in financial services can be seen as a Hedgehog-type, with blind reliance on financial models. Almost all of those who congregate around compliance – including functions like Health and Safety and risk assessment - fit this model.

A cerebral approach is extremely seductive to Hedgehogs. The bold reduction of a problem to an over-simplified model often presents itself as a rational response to a challenge. It points to a set of practical and conceptual tools with which the typical Hedgehog feels at home. A group of Hedgehogs together may descend into 'group think' – particularly when the situation is stressful and the Hedgehog has reached his or her bounds – and a defended orthodoxy can come to reign in a company, a political movement, religion or nation.

Characteristics of Foxes

Foxes enjoy neither unambiguous tasks with tight deadlines nor perform well at them. Foxes excel at tasks which extend boundaries or are ambiguous; and consequently will frequently encounter Hedgehogs at their worst. Competent Foxes need a framework in which to operate that prevents them being undermined by, or coming into conflict with, Hedgehogs. It is Foxes, however, that are needed for renewal - the end point of the renewal processes cannot by definition be completely defined at the beginning.

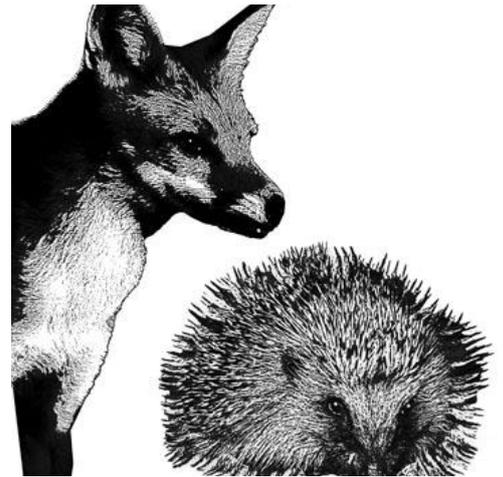
In any Management Team there will be Hedgehogs and potentially a few Foxes. The Hedgehogs need to know that this is a defined process and how this thinking is contributing to their day job.

3.6 A sample agenda

The agenda for a one day workshop to support strategic thinking through focusing on a framework of global megatrends needs to

- allow time for Hedgehogs and Foxes to share perspectives
- provide Hedgehogs with process comfort through clearly defined steps and outcomes
- for Horizon 1 thinkers – managers juggling resources and deliverables – to be able to communicate to Horizon Three thinkers who are spotting potential paradigm shifts.

This agenda has been used with organisations across the public, private and NGO sectors and groups ranging from 6 to 30 participants. It assumes that the twelve drivers of change have been circulated in a suitable format to all participants a week beforehand.



Perhaps a word on hygiene factors:

- No workshop can deliver good results in rooms without natural light or where the walls cannot take white-tack for flip charts or where the heating system cannot cope or where there is no facility for drinking water. These sound obvious but for Hedgehogs, well facilitated processes in decent surroundings are essential.
- Using pre-printed rather than hand drawn templates has a strong effect in reducing discomfort in discussing futures;
- Using chosen colour codes and shapes of stickies for participants to write on, and pens that have a tip which creates legible writing, means that capturing the working sheets using a camera allows for their posting and sharing.
- The timings of the event should be clearly briefed beforehand, and kept to, including breaks!

And a word on participants – diversity is helpful – age/gender/ethnicity/time in the organisation/Hedgehogs and Foxes, possibly some friendly outsiders. This can reduce groupthink and also seems to reduce the negative tendency that groups can exhibit, with a focus on problems rather than opportunities.

The tools built into the agenda below form a coherent set. A report of a study which used this format for the first workshop was published by the European Commission in support of its Horizon 2020 3rd Strategic Programme.^{xxxii}

The five tools that we have combined are:

- Looking back. We ask groups to look back twice the time horizon that we are looking forward. This is based on research in anticipatory anthropology^{xxxiii} and lets groups use their personal experience (or Google for the younger participants) to bring out the characteristics of the business environment and factors that have changed it over the years.
- Deck of twelve trend cards as described above: this deck is circulated virtually beforehand as a pdf and also provided in printed form for each group member. These are important for providing a framework for Hedgehogs.
- Three Horizons as described above, a well-described and intuitive framework and process to which Hedgehogs can relate.
- Explicitly tackling the three questions which explore uncertainty, viz
 - What will push in the opposite direction in future?
 - What are the critical uncertainties – the range of possible outcomes?
 - What might be wildcards – low probability events that could disrupt the expected megatrend?
- Early indicators, important for letting the group think about signs of change visible now through brainstorming what headlines they might see in the next few months. This is really helpful in creating a shared language without scenario images (see below).

Agenda

<i>Time</i>	<i>Activity</i>
9:30	Welcome from organizer, rehearsal of reasons for the day, share desired outcomes among participants, outline of timings and breaks
10:00	Looking back to year 2000 – how should we describe the environment for the organization then? Use colored stickies to capture. Use a different color of sticky on which to write events that have changed the environment, and as third color for trends that have
10:15	Put on preprinted wall chart and compare
10:30	Megatrends – brainstorm – which of these are most important to our organization? what have we missed?
11:00	Standard Three Horizons steps – Horizon One and Three before lunch – use color coded stickies and good pens as above!
Lunch	
14:00	Horizon Two – the most intensive discussion, as it impacts the current planning cycle
15:00	Divided into syndicates, each tackling three or four megatrends to explore the three questions about uncertainty: use a preprinted template for each group to write ideas: feedback around the room
16:00	Early indicators: syndicates work on “their” trends, add to template and then share.
16:30	Plan next steps, feedback using a preprinted wall chart with a scale 1 to 10 and group members encouraged to add comments as well as their perception of the value of the workshop and how far it has met their desired outcomes (1 is low)

4. Outcomes using megatrends

4.1 Expanding thinking:

The agenda shows how we expand thinking with a stretch in timeline beyond the budgeting or planning horizon and the extended scope of megatrends.

One aspect of expanding thinking, that working with trends can underpin, is the realisation that they are relevant to now.

- Decisions are often taken with a clear view in the rear mirror. By understanding trends, these decisions can be better based and may have longer life.

- In looking to decode what is happening, the articulation and tracking of early indicators is useful as they are specific events which could appear in headlines. The discipline of imagining these sharpens the antennae of the organisation.

“We realized that our future depended on the health and characteristics of the economy, so that is what we focused on understanding and developing.”

CEO, Professional Services firm

4.2 Uncover inevitable futures:

The agenda shows how discussion in a group can uncover dominant trends for their organisation, liners bearing down, which have not been considered. This could be because the trend is not included in business planning. Futurists can help spot opportunities from these liners where operational managers may focus on risk.

“Our image of our clients was of a rural economy, the understanding that more than 50% of the world’s population live in cities and this is increasing made us rethink many of our approaches.”

Strategy Director, International NGO

4.3 Protect against group think:

The agenda shows how the Three Horizons method brings out a discussion of what could cause a paradigm change. This is in the context of an evidence base, so if groupthink is one way and evidence is the other evidence has a chance! This is not what can happen with scenarios, where often one scenario is labelled “it can’t happen” and not explored.

But, unless outsiders are specifically included, group think is always a potential issue.

“We used the scenarios for discussing business strategy with investors but the trends were used to rethink our people profile.”

Finance Director, Corporate

4.4 Create a shared language

We have experience of the use of trend cards vs. scenarios after several projects as a medium for shared language and understanding.

At two organisations, the management team had not been able to build scenario thinking into their strategy. The team in a workshop the next year then explored trends using Three Horizons and created a shared language which underpinned their strategic thinking.

“We were able to agree on what we were talking about through using megatrends and discussing their implications and also what could modify their evolution.”

Planning Manager, Central Government Department

In several organisations, trend cards have been generated as a stage of scenario development. At one organisation, the trend cards were used to define an agreed vocabulary. At another, scenarios were used internally and trends with clients.

It is clear that Hedgehogs relate to megatrends and find them useful. They suspicious of scenarios with exotic names and are more comfortable with the narrative describing a trend.

What trend narratives are less capable of doing are creating a compelling image.

At a firm in the IT industry, two scenarios were created to describe the competitive environment and the culture of customers. The names were *Coral Reef* – customers found IT fascinating and enjoyed it – vs. *Deep Sea* – customers knew little and cared less except that it should keep going. Several years after the scenarios were developed, the names were still used by staff in the firm to characterize customers.

5. Conclusions

Our aim was to evolve a toolset which combined an exploration of strong global trends with some awareness of the associated uncertainties.

Tools for the exploration of strong global trends are widely available – we used Three Horizons in this example as we were interested in expanding the thinking in timeline and scope

To create awareness of the limitations of foresight capability we include with the description of each megatrend, thoughts about three questions:

- What will push in the opposite direction in future?
- Critical uncertainties – range of possible outcomes
- Wildcards – low probability events that could disrupt the expected mega trend

During the workshop we discuss early indicators for each.

We think that this combination provides a professional approach to helping decision makers to improve their decisions by taking into account possible futures as well as the past.

Additional references to work in:

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<https://www.mendeley.com/research-papers/economy-tina-back/>

<https://www.mendeley.com/research-papers/complexity-tina/>

ⁱ Wylie, Ian. 2002. "There Is No Alternative To...", Fast Company, 6.30.02 at <https://www.fastcompany.com/45027/there-no-alternative>

ⁱⁱ Young, P Allan, J. (2012). Effective Decision-Making: Managing Fear, Uncertainty and Doubt - ProQuest. *Franchising World*, 44(1), 63–34. Retrieved from <http://0-search.proquest.com.library.regent.edu/docview/1532994407?pq-origsite=summon&accountid=13479>. "Fear, uncertainty and doubt, known as the FUD concept, was coined in the 1970s by computer architect Gene Amdahl when he left IBM to start his own company. Amdahl later accused the prominent technology corporation of using FUD tactics to scare consumers into sticking with "safe" IBM products instead of purchasing competitors' products. It's important to remember that FUD or the fear of failing, uncertainty of the future of a business, and doubting one's own abilities is a normal human response and is natural in business environments. As franchisors and leaders, they can help franchisees turn FUD into a positive force by helping them learn to engage their fears and see them as a motivational tool."

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