

Tapping Your Inner Futurist
**The Art & Science of
Looking at the Future**



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INNOVATION SIMPLIFIED

Resource Guide for:



Foresight Session:
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Workbook Overview

The session guide includes an overview of key concepts and strategic activities used in foresight workshops and projects:

- Foresight 101 [Era-based Analysis]
- Identifying and Monitoring Change [Horizon Scanning & Signals Team]
- Exploring Implications [Trend Cards; Force-Field Analysis]
- Communicating the Need for Change

Resource Guide Objectives

- To understand the fundamental applications of strategic foresight within business environments
- To explore growth implications of key trends and emerging issues
- To learn frameworks and techniques for applying foresight on your own and within small teams

Fundamental Stages of Foresight:

Step One Identifying & Monitoring Change

- Horizon Scanning
- STEEP Category:
 - Society
 - Technology
 - Environment
 - Economy
 - Politics
- Emerging Issues Analysis
- Indicator Analysis (Leading vs Lagging)

Step Two Exploring Implications

- Forecasts (Trend Extrapolation)
- Scenarios (Alternative Assumptions)

Step Three Communicating the Need for Change

- Visioning
- Backcasting
- Planning
- Goal Setting Objectives - Actions
- Roadmapping

Foresight: Applied in Business Environments

Foresight refers to our ability to construct images of plausible, possible, and preferable futures based on a formal study of change. It is commonly referred to as: futures studies, strategic foresight or futurism.

Foresight is used to improve decision-making toward opportunities and threats that exist beyond present-day plans and market conditions. In recent years foresight activities have started to shift from a responsibility limited to executives offices – to being practiced at the level of business units.

In the practice of foresight we apply a mixture of qualitative and quantitative techniques used to support forecasting, scenarios and visioning activities. Insights are based on a range of disciplines from sociology, economics, organizational behavior, and systems modeling.

The definition of *future* timelines vary based on clients and industry. Governments and companies involved in building and managing infrastructure and natural resources will typically plan using ten to thirty year time horizons. Companies involved in consumer products and services typically view three to seven years as the furthest practical time horizon. Alternatively, news companies, stock markets, and consumer attitudes refer to time horizons based on seconds, days or weeks ahead.

The goal of strategic foresight is to avoid single-point forecasts (e.g. predictions) and create a range of plausible outcomes (e.g. scenarios within a cone of plausibility) that help us avoid surprises and expand our ability to respond effectively when changes do occur during market transitions.

History and Evolution of Foresight

In the 20th century the new fields of economics and psychology shifted from fringe areas of academic study to major drivers of change within policy and business world. Today the two fields are integrated into *neuro-economics* and shape branding and marketing efforts across most Fortune 500 companies.

A similar fringe to mainstream transition is occurring around foresight and the study of social change. Foresight is becoming more closely integrated into formal strategy efforts and is commonly referred to as *the front-end of innovation*. The history of foresight dates back to the early 20th century.

1930s – Focus on Social Change and Role of Technology

Sociologist William Ogburn writes *Recent Social Trends* which explores the notion of a cultural lag as society adjusts to technological change of the industrial age.

1950s – Focus on Scenario-based Decision Making

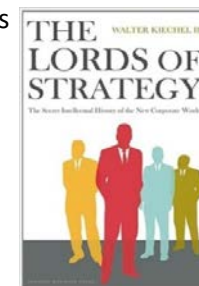
Hudson Institute Founder Herman Kahn works with government leaders to use scenario-based planning at the height of threats associated with the Cold War.

1970s – Focus on Systems Thinking and Principles of Interdependence

Authors of widely read book *Limits to Growth* use systems-based modeling to understand effects of non-linear change from the relationships of population growth, industrial production, and natural resource management.

1980s – Focus on Accelerating Change / Market Transitions

Birth of modern day *foresight* field with release of Alvin Toffler's *Future Shock*, John Naisbitt's *Megatrends*, and emergence of prominent strategic advisory firms: McKinsey and Co., Boston Consulting Group (BCG), and Monitor Group.

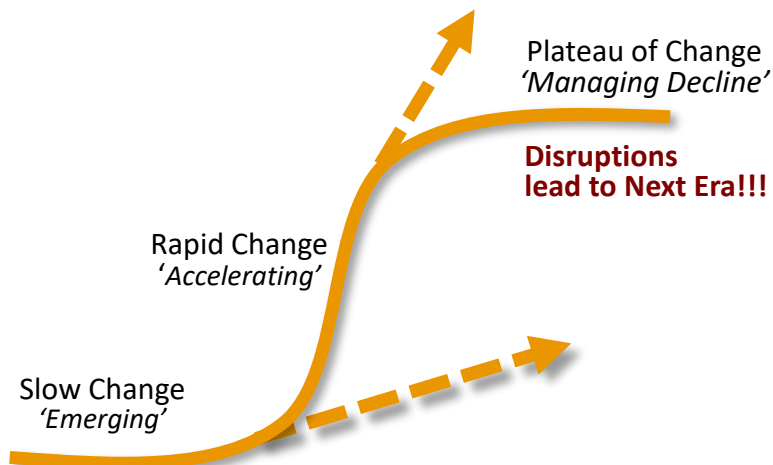


Era-based Analysis: Overview

An era is a period of time when our assumptions about how the marketplace functions remains consistent. Era-based analysis is often framed around an S-curve development model to change that describes the increase of performance (X-axis) over time (Y-axis). There are three stages of change that signal the limits to innovation within the era: slow change, accelerating change, and a plateau of change.

Businesses use S-curve models to anticipate the falling price of technologies, the rate of consumer adoption, and the eventual plateau of performance. A balanced innovation portfolio should include products/services suited for incremental innovations targeted to the current era, as well as many *small bets* on ideas relevant to the emerging era.

Performance over Time S-Curve Shape of 'Major' & 'Minor' Eras



Team Activity Goals

- To identify three (3) key differences in business strategy and market conditions across traditional and emerging eras of growth.
- To surface business assumptions that may be preserved or discarded across the *S-curve* era transition.
- To find three (3) potential *hunting ground* opportunities for future growth.

Worksheet: Era-bases Analysis of Change		futurethink
	Current Era : _____	Emerging Era: _____
Vision & Mission - Who you are, Who you serve & how.		
Problems & Solutions - Customer problems to be solved.		
Market Dynamics - Describe types of <u>competitors</u> . - Describe types of <u>partners</u> . - Describe types of <u>acquisitions</u> . - Regulatory landscape: Constraints or protective policies?		
Product & Service Cycle - What do you sell? - How do you go to market? - How fast or slow do client demands change? - What is considered innovative?		
Minor Eras - Were there small but significant platform transitions within the company or industry?		
Disruptive Elements - What elements challenge this era, and lead to changes in the company? - Are there constraints or 'limits to growth' within this era?		

[Recommended Activity Time: 30 minutes]

Current Era : _____

Emerging Era: _____

Vision & Mission
- Who you are; Who you serve & how.

Problems (JTBD) & Solutions
- Customer *jobs to be done*.

Market Dynamics
- Describe types of competitors.
- Describe types of partners.
- Describe types of acquisitions.
- Regulatory landscape:
 Constraints or protective policies?

Product & Service Cycle
- What do you sell?
- How do you *go to market*?
- How fast or slow do client demands change?
- What is considered innovative?

Minor Eras
- Were there small but significant platform transitions within the company or industry?

Disruptive Elements
- What elements challenge this era, and lead to changes in the company?
- Are there constraints or 'limits to growth' within this era?

When asked what single event was most helpful in developing the Theory of Relativity, *Albert Einstein replied*, Figuring out how to think about the problem.

Era- based Analysis: Key Takeaways

- Era-based analysis helps us to recognize threats and opportunities associated with the growth cycle of major industry platforms, products and services.
- While incremental innovation preserves assumptions of the current day business era, transformative innovation creates new assumptions designed for the emerging era of technologies, policies, and consumer behavior.

Guidelines to Consider for Era-based Analysis

Clarify Scope

Are you focusing on major or minor era transitions?
Specific divisions or whole company? Can you break apart minor eras rather than lump them together?

Discuss Spectrum of Timelines

How are you going to define the time horizons of past, present, and future?

Recognize Different Perspectives

Are you including perspectives of various stakeholders?

Integrate with Strategic Planning Efforts

Identify ways to keep this framework current as a living document and part of the strategic planning processes that exist within your organization.

Assessing Era-based Innovation Strategies

When thinking about your opportunities and threats to era-based change, consider how the speed of innovation and market adoption may be increasing or slowing down along the way to the plateau.

As we look at the limits to *incremental innovation* within the current era, what are:

- Major assumptions to be challenged?
- Metrics that seem less relevant to success?
- Sources of fear about change?

As we look at the *transformational innovation* within an emerging era, what are:

- New assumptions to explore?
- New metrics to consider?
- New needs we can create or anticipate?
- New models for piloting prototypes?

Related Era-based Concepts:

- Experience Curve (Learning Curve)
- Crossing Chasm Adoption Model (Geoffrey Moore)
- Low-end Disruption (Clayton Christensen / *Innovator's Dilemma*)
- Gartner Hype Cycle

Overview: Horizon Scanning

Horizon Scanning or Environmental Scanning describes the identification and monitoring of *change over time* that might represent a future threat or opportunity to an organization.

A balanced approach to horizon scanning includes both continuous and project-specific efforts; and is based on a wide range of inputs that come from the **STEEP** categories of change:

- **Society** (Culture and Demographics)
- **Technology** (Info, Bio, Materials)
- **Economics** (Macro/Micro; Monetary/Fiscal)
- **Environment** (Energy and Natural Resources)
- **Politics** (Legal, Regulatory)

There is one major *outcome* and one major *output* to scanning. First, we are focused on expanding our knowledge base on a cross section of domains (e.g. demographics, technology, policy). The goal is to learn about important things that challenge conventional thinking. Second, we are looking to produce outputs known as **signals or scan hits** which are evidence of change in the world that might have relevance to the future of our industry.

Signals (Scan hits) can be applied to formal strategic planning efforts—or used for less formal brainstorming on long-term implications of change using tools such as the *Futures Wheel* (or *Implications Wheel*).

Scanning: Criteria and Considerations

In general, criteria for signals should be judged on the following elements:

- Source Credibility
- Newness/Uniqueness
- Degree of Uncertainty
- Degree of Impact
- Momentum (e.g. trends converging, slowing down, speeding up)

Scanning can be applied across a wide spectrum of strategic activities. When applied to scenario thinking or customer research a *scan hit* may do one of three things:

- Confirm** assumptions of one scenario outcome
- Diminish** the likelihood of a particular scenario
- Create** a new scenario to consider



Types of Scanning Projects

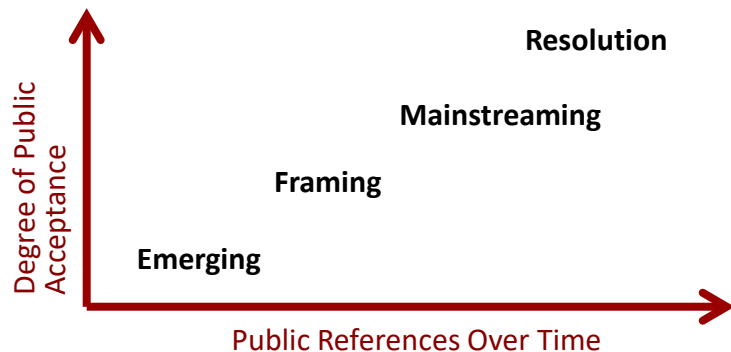
- Horizon or Environmental Scan**—a continuous or periodic survey of broad global changes
- Emerging Issues Scan**—a targeted survey of issues that will require a significant public or private policy decision
- Industry or Sector Scan**—an in-depth, industry specific survey
- Technology Scan**—specific focus on technology platforms and issues shaping culture, policy, product development, et al
- Delta Scan**—survey using primary inputs, usually from a group of experts from diverse fields
- Sigma Scan**—a summary survey of existing publicly available horizon scanning documents

Trend and Emerging Issues Diffusion Frameworks

Trends can pass certain milestones and phases of development as they become more widely felt in mainstream life or fade from public awareness. *Emerging issues* are those ideas which require a decision in the realm of private or public policy. We can think of *emerging issues* as those questions which requires us to answer: “Will we...?” or “Will we not..?” embrace X change (e.g. Genetically Modified Crops; Healthcare mandates; Privacy Standards).

This frameworks attempts to quantify the developmental stages of trends and emerging issues as they gain acceptance (or not) within society.

- **Emerging** phase indicators are usually limited to niche community discussions.
- **Framing** stage indicators are shaped by supporters/opponents.
- **Mainstreaming** phase indicators are often signaled by appearing on the cover of Time™ magazine.
- **Resolution** stage indicators are often linked to legislation or policies or consumer behavior that resolve the dilemma of “Will we embrace X change?”



Events

While most scanning focuses on trends (changes over time), we should also be focused on a wide range of events that might occur and have an impact on consumers or our industry.

Events can be categorized into one of three types:

- ❑ **Scheduled Events** are highly likely events that can lead to a change of leadership (e.g. CEO, Elected Officials), cultural focus (Olympics), or a shift in policy (e.g. Tax Codes) or in technologies (5G cellular).
- ❑ **Plausible Events** are those which we think are likely and would have an impact on our customers or industry (e.g. Healthcare Reform; Food Regulation; Supply Chains).
- ❑ **Wildcard Events** are low probability, high impact events (e.g. Crop Virus, Global Pandemic).

Scanning for Events?

While events cannot be predicted, we can scan for the strengthening or convergence of trends that could increase or decrease the likelihood of an event happening.

Events and Contingency Planning

Consider creating a description of **50 Events** to monitor and work with company leaders to develop contingency plans that make you more flexible and responsive.



Trend Cards Activity Steps:

Trend Cards are an effective way to provide quick inputs for creating loosely structured scenario platforms that can provide insights and inspiration. While typical scenario planning workshops can take hours or days to unfold, Trend Cards are a partially assembled tool that allows you to synthesize relevant drivers of change into short scenario platforms that challenge your thinking about the future.

- 1) Choose a set of Trend Cards that provides a broad set of *STEEP* category themes. You may wish to create your own *card deck*—or use pre-developed decks from companies such as futurethink or Arup.
- 2) Include a list of events that serve as source of discontinuity. Event cards provide the creative force that can bring scenario platforms to life.
- 3) Determine a simple capture format for your scenario. You may ask your team to create a “Day in the Life” story based on the trends—or a mock-up magazine cover or blog post that might be found in society in 2020.
- 4) When the scenario platform is created use a set of strategic questions to provoke thinking about how your current products or services might be threatened or allowed to thrive in this future scenario world.



Trend Card inspired scenario platforms are meant to be short stories of possible futures. They are less robust than traditional scenarios but can still be equally provocative in challenging how we see the future unfolding.

Stories can be told in both words and images. Scenario platforms **are not** supposed to be predictions, or recommendations. They should favor *open endings* rather than *happy endings*. The reader should be left with more questions than answers. This is a story platform for exploring implications of converging trends and disruptive events. Describe the world and let your colleagues build bridges to the implications for your products and services.

Sample Strategic Questions To Explore Your Stories:

Creating the stories is Step One. The real insights come from engaging your teammates in answering some challenging strategic questions. Here are a few to consider:

- What other trends and possible events might support the future described in this scenario? Or make it make it less plausible?
- What are the internal implications for our partners and business teams?
- What might our clients do differently to thrive in this future?
- How might we think differently about metrics and analytics in this scenario?
- What does our company branding and communication strategy look like in this future? Internal operations?
- Where might the story go from here? Write a few extensions of this future.
- What are signals and milestones of trends and emerging issues that we can monitor?

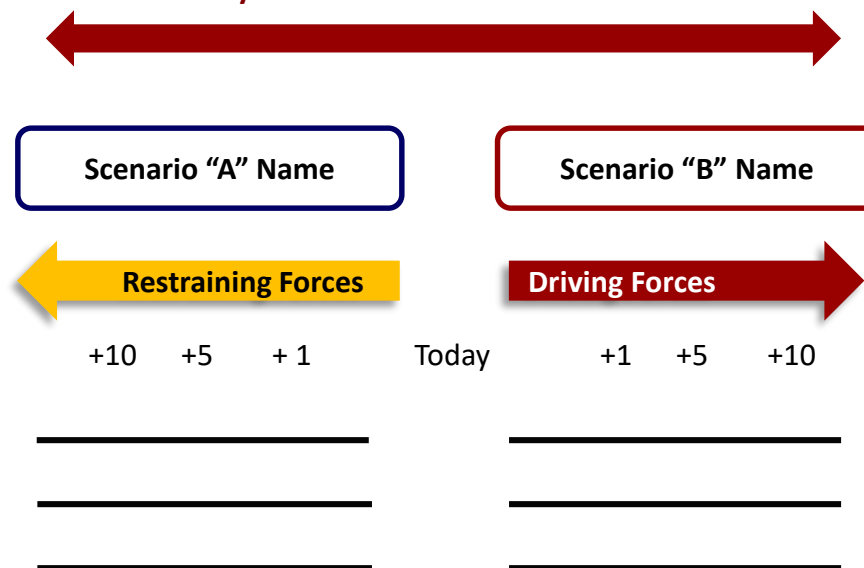
Whiteboard Activity: Force Field Analysis

We can think of Trend Cards as a quick and easy way to create on-demand scenarios. Other organizations choose a more structured multi-day scenario development processes for synthesizing trends.

How do we explore the outputs from either process?

Tools such as *Force Field Analysis* ask you to rate “push-pull” forces that might be holding the company back within a particular scenario versus driving you towards new opportunities.

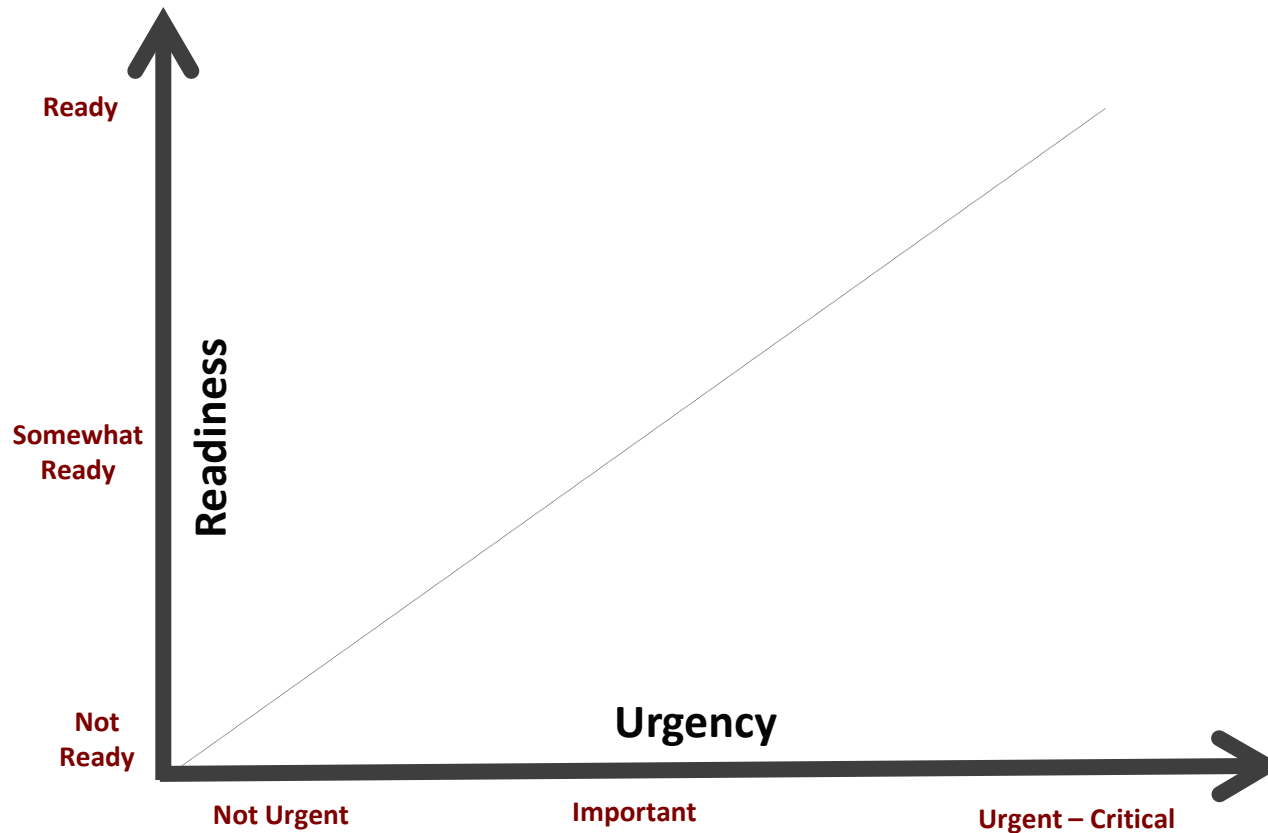
Force Field Analysis



Steps

- 1. Review the Scenario / Issue** – Have your team review the scenario – discussing the new set of assumptions you are being asked to embrace.
- 2. Describe the Forces** – Have your team write out the forces of change. Place one force on each line.
- 3. Rate it / Weight it!** – Next, have each person provide a quantitative value to each force that reflects the strength of the force. Forces of change that have strong stakeholder influence, policy support or favorable factors receive the highest weight.
Option 1 – Weight each with a number (e.g. 1-10; 1 being weakest; 10 being strongest)
- 4. Re-arrange** – On a new template average out the Rate/Weight factors then put the forces of change that have the most influence at top; weakest at the bottom. When your Force-field analysis chart is complete you will have a sense from your team how to identify challenges and opportunities.
- 5. Address Challenges & Opportunities** - The next step is to discuss strategic ways of confronting negative forces (obstacles to change) holding you back; and ways to reinforce positive momentum pushing you towards the scenario.

Survey Teams on Organizational Readiness and Urgency



Steps

1. Create and share a short list of trends and ideas likely to have an impact on your sector.
2. Provide the list and a full page version of this blank voting sheet to each team member;
Ask them to place each trend on the page based on organizational readiness and market-place urgency
3. Aggregate responses to reveal: shared assumptions on priorities; gaps in thinking across the team; and short list of areas that might require investment sooner than later (e.g. Urgent but Not Ready trends)
4. Compare insights to your innovation culture and current roadmap for new products and services

Foresight Tools, Techniques & Frameworks

Quantitative

- Trend Extrapolation
- Benchmarking
- Patent Analysis
- Systems Dynamics
- Probability Forecasting
- Monte Carlo Models

Qualitative

- Scenarios
- Backcasting
- Simulations and Games
- Genius Forecasting
- Morphological Analysis
- Role-playing
- Ambient Futures
- Casual Layered Analysis
- Futures Wheel
- Relevance Tree
- Appreciative Inquiry

Qualitative-Quantitative Hybrid

- S-Curve Era-based Analysis
- Horizon Scanning
- Delphi Survey
- Cross Impact Analysis
- Road-mapping
- Survey/Focus Group
- Agent Decision Modeling
- Data/Text Mining
- Field Anomaly Relaxation (FAR)
- Fisher-Pry Analysis

Corporate Foresight Maturity Models

Assess internal foresight capabilities for:

- Leadership
- Framing
- Planning
- Scanning
- Forecasting
- Visioning



By Terry Grim



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Notes
