

Key Steps of Scenario Planning and Analysis

A general introduction

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Introduction—What is Scenarios Planning and Analysis?

Scenario planning and analysis is a tool of strategic planning which takes the uncertainty of future developments into account. Organizations that use scenarios acknowledge that the world in which their decisions will play is uncertain and largely out of their control. It is a process of creating alternative futures based on knowledge, research and imagination. Scenario analysis involves using alternative futures as devices for thinking and assessing current and future strategies and actions. Current and planned strategies or actions can be “wind-tunneled” using the scenarios. During this step the scenarios are used to develop robust strategies (ones which might work in all scenarios), along with specific strategies for a single scenario. Scenarios can also be used to add flexibility into strategies and actions by using them to understand where challenges exist and what actions might be useful to improve outcomes.

Scenario analysis is a process in which multiple points of view are gathered and shared to create alternative views of the future. It benefits from the involvement of a diverse group of stakeholders and knowledgeable parties. The future is not predictable and scenarios analysis **is not** a process of “getting the future right.” Scenarios are best used as a device for “learning one’s way forward” as they help in heightening the awareness and potential meaning of unfolding events. It puts decision makers in a position to be proactive versus reactive to events that matter in the future of their organizations.

There are certain circumstances when using a scenario-based approach to management decision-making is particularly useful. They include:

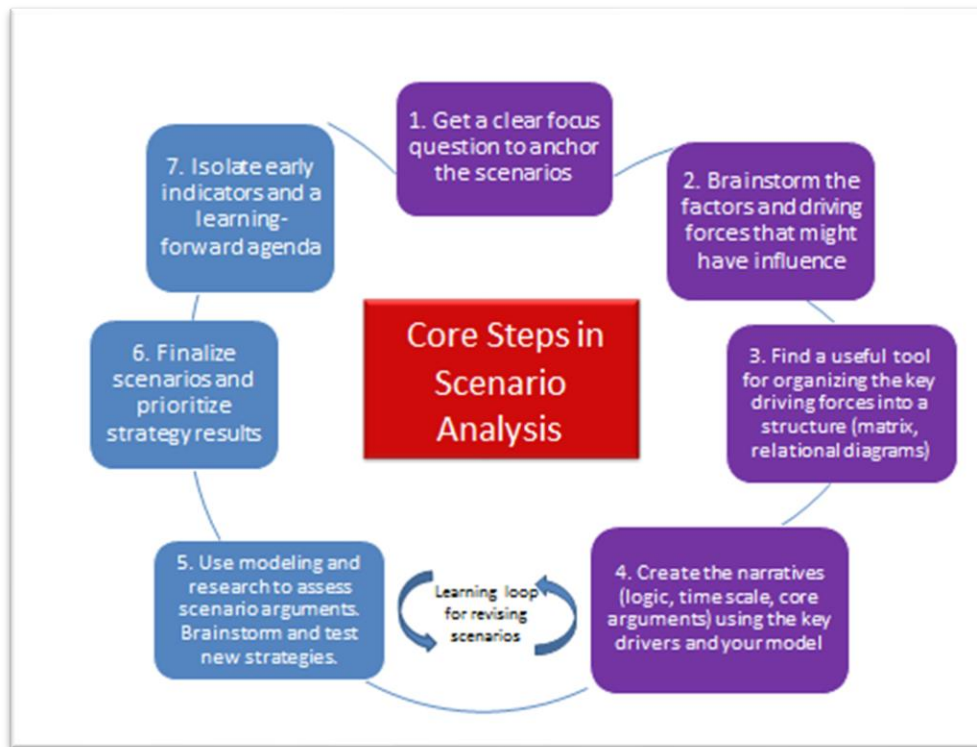
- The decisions or issues at hand are highly uncertain and involve a range of complex factors which the company cannot control and which will play out over time
- There is a clear question about the future in which expert opinions and research are not sufficient due to the evolving and complex nature of the underlying issues
- The area where management decisions are needed is evolving over time and a process that supports learning and engagement will be valuable.

What are the core steps for creating scenarios?

Good scenario practice includes the key process steps described below. These steps lay out an organized and inter-connected process that can be applied to a wide range of issues. These steps can be learned and perfected over time as using scenarios benefits from practice; scenario planning is both skill and art. Facilitators of the process must maintain open and supportive attitudes.

To get the most value out of scenario practice all of the steps below should be completed to some degree, especially the steps involved in using the scenarios as devices for assessing potential strategies and actions. The power of scenario analysis comes to fruition when decision makers can see how different conditions impact what options should be pursued and how they might be pursued with more adaptability and flexibility. The essential work in each step is explained below.

Figure 1



The Focus Question

The focus question of a set of scenarios establishes as clearly as possible “what about the future do we want to know?” A short clear question is best (normally starting with the words “what will” or “how will”). Fuzzy questions harm the process and lead to confusion. The basic question should pass the elevator speech test (can be stated clearly in a few sentences that a person can understand). As an example for a set of publicly available scenarios created for the U.S. Environmental Protection Agency the focus question was: **“How might the U.S. energy environment evolve over the next 20 years?”**¹

The focus question serves as an anchor through the remainder of the scenario process because it establishes what is relevant. Once the scenarios are created it is useful to quickly look back at the focus question to see if several potential answers are possible based on the different conditions in each world.

Scenario planning can benefit from interviewing key decision-makers and stakeholders prior to starting the process to get input on the most useful focus for the work. These should be open-ended perspective-gathering interviews (resist data gathering) where the results are held in confidence. Interviewees should be informed that their answers will not be for attribution so that they might speak more freely and openly. Interview questions should focus on how interviewees see key decisions and uncertainties in the areas the scenarios will be about. Some questions that draw out lessons from past similar situations might also be useful. A general set of starting questions might include:

1. In thinking about the issue at hand, what question might cause you to wake up in the middle of night?

¹ The full report is available from the U.S. EPA website. Search for energy scenarios. The title of the report is, “Energy Strategy for the Road Ahead.” The report was completed in 2007.

2. What are the key decisions do you think the organization needs to make concerning the issue?
3. If events unfolded in such a way that our organization was very successful, what might need to occur?
4. What lessons from past experiences do you feel might shed light on how we might address this issue going forward?
5. What are two or three big uncertainties around this issue that cause you some concern?

Brainstorming Key Driving Forces and Factors

With a clear question established, the next step involves assessing the wide range of factors that might influence unfolding events related to that question. This is where open thinking and imagination are important. To ensure this step is thorough it is useful to check for key drivers in the following areas:

1. Social and cultural/values changes
2. Technological changes
3. Economic change
4. Environmental change
5. Financial market changes
6. Political changes
7. Regulatory and Legal changes
8. Demographic shifts
9. Market changes (the market the organizations exists within)

Within a particular industry how the areas above are defined in detail can vary widely. For example what market changes mean for Citibank may be very different from what they mean for the Walt Disney Company.

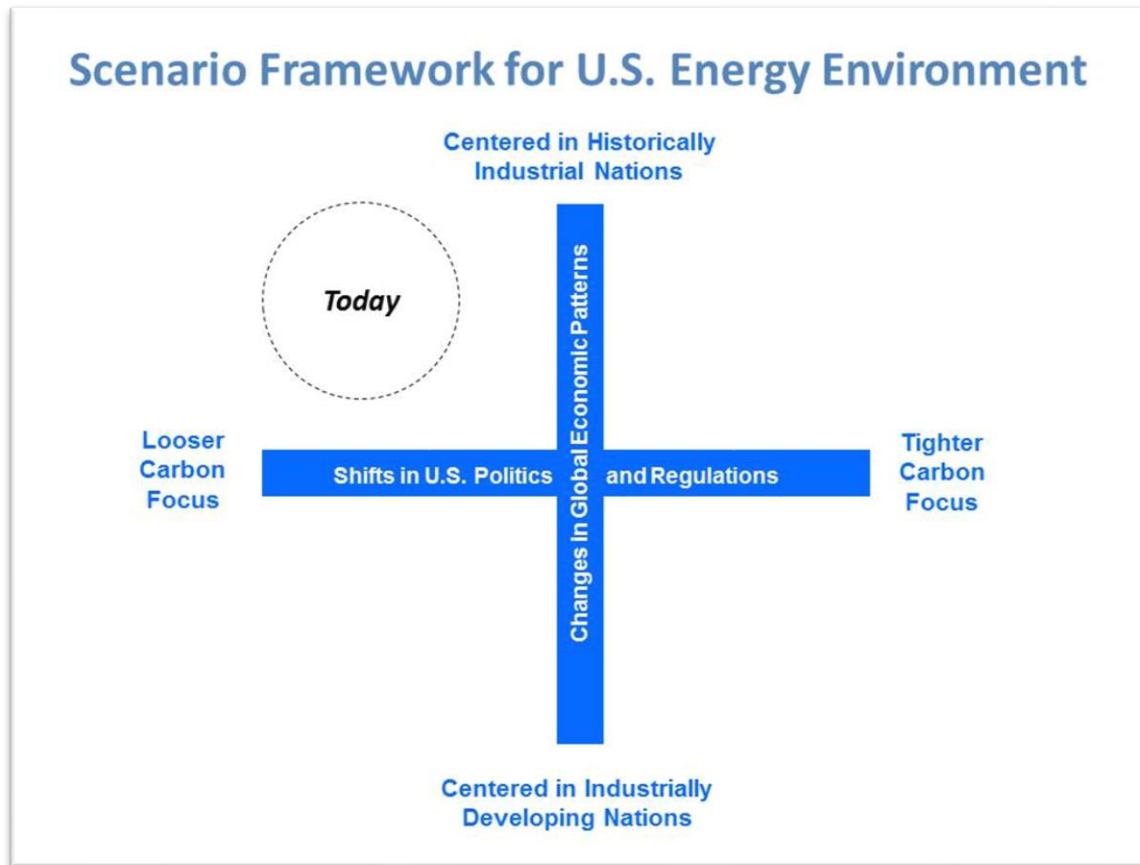
Using a diverse group of stakeholders and knowledgeable persons the above list can generate a wide range of ideas. These need to be captured and retained because they will establish detail about what participants mean about the forces that might be relevant. All participants should be encouraged to put forth and share their ideas with the group as this contributes to a positive group dynamic. When facilitating this step a “yes, and” approach is more useful than a “yes, but” approach in encouraging participation.

Organizing Tools and Maps for Scenarios

Very often the previous step results in over 100 ideas. These ideas need to be organized into 6-9 key categories. This is best done by knowledgeable participants who can group the ideas into related categories and give the categories descriptive names. These are then referred to as the **key scenario drivers**.

The key drivers can be used in various ways to create an organizing tool that results in a moderate number (3 to 5 is a good number) of scenarios. A widely used tool is a two-by-two matrix using two of the key scenario drivers. Two key drivers are selected by participants as simultaneously **most important and most uncertain**, and become the **major scenario drivers** that define ranges of uncertainty which defines a scenario matrix. Shown below is a scenario matrix from the U.S. EPA report referenced above.

Figure 2



The matrix thus defines at a high level the way uncertainty may play out for those two major drivers. Participants define a range of uncertainty for the major drivers by suggesting polar or contrasting directions of change the major driver might take over the term of the scenarios. The quadrants of the matrix defined by the two major drivers set the overall parameters which define the scenarios. It allows participants to see four different worlds in one diagram and aids in communicating their distinctive differences.

When selecting a set of axes during a scenario process it is vitally important that the two selected variables be as unrelated as possible (very little correlation). In practice if one vector is related to some aspect of supply and the other some aspect of demand, the resulting matrix will have integrity.

Other common tools for defining high level scenarios are system diagrams showing various potential relationships among the major drivers. Two key drivers can also be used to create a graphical space where different areas of a graph correspond to high level descriptions of key conditions that define the scenarios. This is the "artistic" part of scenarios and benefits from trying different ideas and reflecting on their explanatory power. Pictures can be powerful tools at this stage. The point is to have a way of seeing all of the scenarios at a high level so the key differences are understood.

Writing Scenario Narratives

Scenario narratives are based on the ideas created in all of the previous steps. They are stories told over an agreed upon time frame (normally at least the time sufficient for one market or investment cycle for

the organization). Their purpose is to tell a story that ties key events and ideas from the previous steps into an organized narrative with a beginning, middle and an end. Depending on the organization and its culture the form of the narratives can lean toward the straight-forward and analytical, or more free-form leaning toward the emotionally charged. This is as much art as science.

A good technical process for writing a scenario narrative is to include some aspect of how the major and key drivers play out in each time period. Description of likely development related to the two major scenario drivers is a good place to start. From there elements related to the other key drivers can be weaved in an internally consistent manner. The idea is to show how the drivers relate over time in a plausible manner that is consistent with the higher level context of the world established by the major drivers. **(Warning—the real world is not always plausible so stretching for some creativity can be helpful if there is openness for it within the organization. Internal consistency can also be in the eye of the beholder. If some stretching can create challenging worlds against which the organization might usefully plan, they should be considered.)**

Scenario narratives can benefit by embedding research that supports their core arguments. Research and relevant data can add to the explanatory power of the narratives. If the scenarios are used to drive alternative quantitative analyses (for example for investment analyses) those results can also be embedded in the narrative to add explanatory power (more on this in the next section below).

Research and Quantitative Analyses with Scenarios

The previous steps can be augmented by research in various ways. Research can be performed in advance of or in tandem with the leadership/stakeholder interviews which help to establish the focus for the scenarios. Research can be shared prior to and during the brainstorming work. Research, as mentioned above, can be embedded in the scenario narratives.

Quantitative analyses using scenarios involves understanding how key input variables in models change based on the different conditions described in the scenarios. For example if the scenarios have different economic conditions then economic variables (interest rates, costs of capital, inflation rates, GDP growth rates, etc.) can be changed to match the conditions in the scenarios. Varying inputs will lead to different quantitative results (for example in an investment analysis what different returns may be under the different conditions of the scenarios).

Modeling and research can drive each other in a learning-loop. Often the purpose of the scenario analysis might be to make investment decisions, utilizing modeling of key factors if models are in place (or can be created). Modeling results can raise questions that benefit from further research. Research can suggest what measures are most appropriate for model variables within the various conditions in the scenarios. This give-and-take allows the analysis to contribute to a deeper understanding of why results might vary (what variables have the most impact on model results).

Finalizing Scenario Analyses

An analysis using scenarios is final once the questions and decisions that gave rise to the work from the beginning are satisfactorily answered. Results are prioritized and shared with decision-makers and key stakeholders. Strategic options analyses using scenarios can be organized as follows:

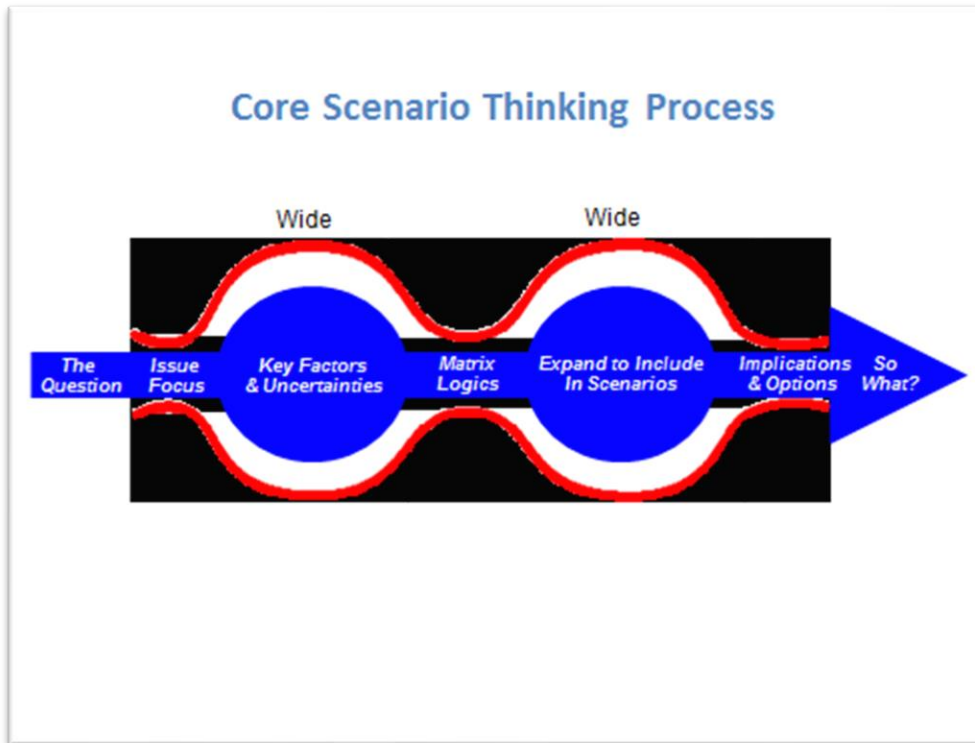
- Present the options that are robust (work well in all of the scenarios)
- Present the options which work well in particular scenario (can be pursued depending on the appetite for risk in the organization). These are called contingent options. These options can be

held in a pro-active way so that if conditions emerge in which they might be successful they can be pursued expeditiously. These options might also be pursued with pre-considered off-ramps.

- Scenarios can also be used to generate ideas for building flexibility into strategic options. The scenarios can suggest different conditions in which an option may have to perform. Assessing that information can help augment an option so that it might perform across a wider range.

The essential thinking process behind the scenario steps above is shown below.

Figure 3



Creating and Using Early Indicators with Scenarios

Early indicators are events that - from the point of view of decision-makers and stakeholders - might portend important effects or impacts on the strategic interests and plans of the organization. The scenarios can help interpret the meaning of those events by giving them context.

From the scenario process all of the drivers created during the brainstorming process can point to areas to look for early indicators. In addition, just thinking through the scenarios in an open brainstorming mode might also suggest early indicators. Sharing the scenarios with persons outside the original scenario team might also allow others to suggest early indicators.

Early indicators can be assigned to contingent strategic options so that decision-makers can have a sense of when key events might trigger opportunities to move on them. This can support a more proactive way of managing strategic decisions. Discussing unfolding events which may be early indicators can be a useful long term follow up exercise for stakeholders.

Good Scenario Practice

Scenario analysis should be checked against the following to assure good practice:

- Targeted on areas of importance and on significant decisions
- The Focus Question has a clear focus (area and time frame)
- The scenarios are challenging and diverse
- The group of persons involved in creating the scenarios is as diverse as possible (including different professional backgrounds, areas of expertise and thinking styles)
- The scenarios have clear and plausible arguments in their stories
- The scenarios help generate useful strategic options
- The scenarios support financial/quantitative modeling (when useful)

Poor scenario practice is essentially failing to take good care in the areas listed above:

1. Starting the process without a clear focus.
2. In many cases creating interesting narrative stories about the future is confused with scenario analysis. Creating such stories can be an interesting exercise but are not often based on a thoughtful process derived from the wider range of drivers that might influence the future (some important areas are often over-looked).
3. The steps involved in using those stories for strategic options analyses as explained above are also not completed.
4. Complete scenario analysis and planning involves using the alternative worlds to create information that helps decision-makers.

Properly used scenarios can be a powerful tool for managing strategy in an uncertain environment and to support businesses in making more thoughtful and pro-active decisions. This tool can be useful to any organization as it seeks success in fast changing and highly complex business markets. It can be useful as a tool for: creating and testing strategic options; engaging teams of internal managers (with qualified external experts if needed) in understanding and planning for change; assessing and managing risks in strategy development; and providing a basis for focusing research that supports the strategy-making process of the company. It can be used in a customized manner to support management teams in the executive and operating parts of a company.

Scenarios can also be used by public organization seeking thought-leadership influence within an industry. The core steps are the same, but more attention is given to evaluating potential events and strategic responses and to communication activities to share the ideas and insights from the work. When used in this manner the scenarios are used to generate discussion, ideas and potentially new policies that might influence the future direction of an industry. The U.S. EPA scenarios referenced herein were such an effort. The more the scenarios are shared with key stakeholder groups and others with influence the more powerful the results will be.