Scenario-Based Workforce Planning

Executive Summary

There are a variety of tools and approaches available for organizations to use in planning and developing their workforce. Scenario-based workforce planning is one of those methods. As an executive or manager involved in strategic planning or as a human resources (HR) professional, using scenario-based workforce planning can improve the organizations effectiveness.

This guide provides some recommended steps to help with your agency's workforce planning process. It is organized into the following sections: (1) background and uses for scenario-based workforce planning and (2) how to apply scenario-based workforce planning. A list of additional information about scenario-based workforce planning is also included.

What is scenario-based workforce planning?

Scenario planning is a method used during the strategic planning process.

Scenarios are developed in the form of stories with characters and plots to illustrate possible futures in a compelling manner. They encourage decision makers to imagine possible future events in the environment.

> *Scenarios are stories about the future that help people break through mental blocks and assumptions.*
>
> Ringland, 1998, p. ix

Why use scenarios in workforce planning?

The purpose of scenario-based planning is to help develop information to plan for unforeseen and foreseeable events. Helps leadership make informed decisions about how to best (strategically and methodically) allocate resources, train staff, etc. in preparation for what lies ahead. Scenarios assist leaders with planning for the future by developing options for what may lay ahead.

Many organizations create and use scenarios to encourage more flexible, diverse thinking about their futures and create awareness and readiness. Organizations use scenarios to help organizational members:

- Envision possible and plausible future conditions
- Shift their thinking about the external environment
- Consider how future conditions will affect their organization

> **The Mont Fleur Scenarios**
>
> Planners used the scenario methodology to explore possibilities for transforming South Africa at the end of apartheid. In 1991, a group met at the Mont Fleur Conference Center in South Africa to create scenarios about what the country could look like in 2002. The group compiled 30 possible stories about the next decade and reduced these to 4 that were plausible and internally consistent.

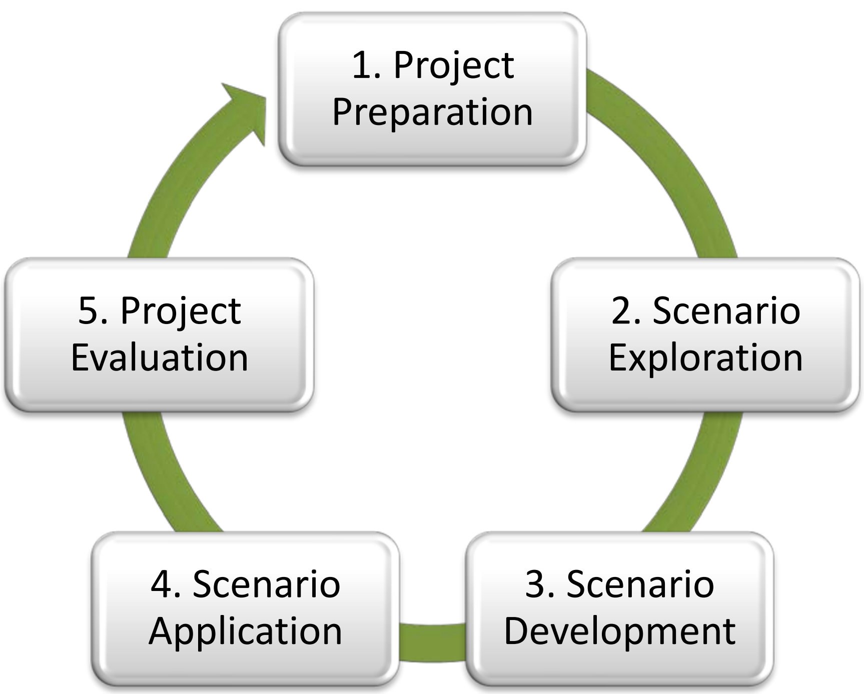
- Think of alternative responses
- Imagine the consequences of actions and decisions
- Develop long-range plans and contingency plans
- Assess ramifications for workforce and competency requirements
- Develop skills gap closing strategies
- Develop anticipated budgeting requirements

Organizations can test the viability of workforce plans against scenarios to identify weaknesses in their plans. They can compare workforce requirements for different scenarios to find similarities and dissimilarities in workforce needs and develop a reasonable range of plans

Qualitative planning techniques, such as scenario planning, can help organizations go beyond merely extending trends based on past quantitative data.

How do you develop and use scenarios for workforce planning?

In the following, we focus on five key steps to scenario-based workforce planning.



Step 1.

Project Preparation

- *Identify the purpose of the scenario project.* If you do not already know, start by finding out why the originator or sponsor for the project wants to use scenario planning.

  This phase may include interviews, meetings, or a workshop with project sponsors and other stakeholders and a review of reports and documents. Key questions include:

  - What has motivated interest in using scenario planning?
  - What is the key issue or question that is the project's focus?
  - What decisions have to be faced?
  - What are the biggest uncertainties?
  - What are the expected outcomes for the scenario project?
  - What do sponsors and stakeholders expect to get out of it?

  Scenarios need to have a central purpose or question, or they will lack focus and internal consistency. The focal question puts scenarios into context (Chermack, 2011; Ringland, 1998). Researchers report that a "lack of purposefulness" is a major reason for scenario project failure. Thus, establishing a clear purpose and focal decision or question to guide the project is an important step for improving the likelihood the project will succeed (Chermack, 2011).

  In the case of workforce planning, example focal questions may begin with something like, "What size and type of workforce will we need in the future to fulfill our organizational strategy?" or "What workforce plans will make us more flexible and agile in responding to a range of likely alternative future scenarios?" The Australian Public Service (APS, 2011) frames a question that may be a useful focal point: "What does your organization need from its workforce—capacity and capability—to deliver its business outcomes now and into the future?"

- *Build the scenario team.* Scenario planning is a participative group process. Select a team that represents the organization and lends credibility to the project and its results. The process of interviewing stakeholders and selecting team members can help you build organizational support for the project. Involve key decision makers directly and on an ongoing basis.

  Participants should include people with a thorough knowledge of the agency and its issues (Ogilvy and Schwartz, 2004). The team should include people who are unorthodox and challenging thinkers from inside and outside the organization. The team should be diverse and reflect differing:

  - Levels, perspectives, and roles
  - Cultures
  - Intellectual disciplines and functions
  - Programmatic functions
  - Strategic and core/operational functions

Some questions to consider when forming a team include:

- Who has the leadership and facilitation skills to lead the team?
- What individuals have the creativity and openness to envision and create alternative future scenarios?
- What different parts or functions of the organization need to be included to develop a broad and realistic understanding of how scenarios will affect the organization and workforce?
- Who has the writing skills to complete scenarios?
- Who has the availability and motivation to commit to being part of the team?

- *Develop a project plan.* The plan should build agreement between the project leader and organizational decision makers. The following checklist can help you develop a complete project plan

Check if Completed	Project Plan Element
☑	Identify the purpose and focal question of the scenario project
☑	Clarify the expected outcomes of the scenario project
☐	Select and develop measures you will collect during the project to assess achievement of the expected outcomes
☐	Determine the estimated scope of the scenario project: How far into the future do sponsors want the scenarios to project? (Agencies may want to use political cycles to consider how far out to explore.)
☐	Specify resources the organization is investing in the project
☐	Identify team members and their roles on the team
☐	Develop a timeline with specific deadlines

Example 6-Month Project Timeline

Time Period	Step
Weeks 1-4	Round up relevant literature; conduct a series of interviews; book a site for workshops; select the team; develop and finalize a project plan.
Week 5: **Workshop 1, Day 1**	Articulate the focal issue (1 hour). List key factors and environmental forces (3-4 hours). Prioritize forces and settle on an official future (inductive approach) or scenario matrix (deductive approach) (2-3 hours).
Week 5: **Workshop 1, Day 2**	Discuss second thoughts about skeletal scenario logics (1 hour) Elaborate one scenario with the entire team, from beginning to middle and end (1-2 hours). Break up into smaller groups that each elaborate one of the other scenarios. Have experienced note takers record the ideas. (4-5 hours).
Weeks 6-10 **(4 weeks)**	Conduct interim research and reflection while writing scenarios. Research qualitatively (through interviews) and quantitatively (through analyses and forecasts) to develop credible scenarios.
Week 11: **Workshop 2 (1-2 days)**	Bring the scenario team back together to present, critique, and revise draft scenarios. Identify questions to be used for exploring the implications of each scenario on the organization and its workforce.
Week 12: **Workshop 3 (2 days)**	Explore implications of each individual scenario for the organization and its workforce. Answer the question, “So what?” based on all of the scenarios as a set. Record results of the discussions.
Week 13	Have team members review the notes on the results from the discussions to ensure they correctly represent the results.
Weeks 14-16	Have assigned team members develop a draft report.
Weeks 18-19	Ask other team members to review the draft report.
Week 20	Have assigned team members revise the draft report.
Weeks 21-23	Have assigned team members develop a briefing.
Week 24-25	Have other team members review and revise the draft briefing
Week 26	Deliver the report and briefing to sponsors or to the next level for review.

(Based in part on Ogilvy & Schwartz, 2004, and Chermack, 2011.)

Step 2.
Scenario Exploration

- *Conduct workshops to develop scenario logic.* Scenario exploration is about selecting scenario logic. The aim is to identify a number of plausible future scenarios (combinations of possible events) that will vary in their impact on workforce demand.

  Typically, two-to-four full-day workshops are used to build scenarios. The number and length of workshops needed varies based on the number of people involved, size of the organization, and degree of complexity of the issues involved. A team with six-to-twelve members will provide different points of view without become unwieldy or diffusing responsibility for tasks too much. It is useful to have some time between workshops for reflection.

  Allow the team to spend the first hour discussing the key decision that faces the organization and questions to ask about it. Sometimes, team discussion leads to a change in the focal decision or question. Throughout scenario exploration and creation, keep sight of the purpose for the exercise and the focal question.

  Experts provide different advice on the number of scenarios that a team needs to develop. Chermack (2011) suggests at least two and no more than four scenarios, which is the range in which most experts' recommendations fall.

  However, others (e.g., Ringland, 1998) report that:

  - Two scenarios allow two very distinct situations to be developed—but they should not just be a "high" and a "low" or a "bad" and a "good" version of the same basic scenario.
  - Having three scenarios—low, medium and high—is not useful. People just end up focusing on the middle as the "real" forecast
  - Four scenarios encourage vision and divergent thinking

  In contrast, Royal Dutch Shell's Executive Vice President for Talent and Development (Mercer, no date) said they develop multiple scenarios and look across their business to see what skills they have, need, and are likely to need. Typical scenarios include the "base case" based on the business plan, a "high case" based on the assumption that all known projects go ahead and optimization projects happen sooner, and a "low case" that assumes business growth is minimal. They model these 5-to-10 years into the future. For example, they look at what would happen if they recruited at 10% a year or if there was no recruitment for the next 15 years.

- *Select a deductive or inductive approach.* You can approach scenario planning deductively or inductively. The number of scenarios you choose to develop may depend on the approach you take to scenario development. Deduction moves from the general to the specific. Induction is moving from the specific to the general.

  In scenario planning, the deductive approach starts with prioritizing a list of key factors and driving forces to find the two most critical uncertainties.

In contrast, the inductive approach has two variants (Chermack, 2011; Ogilvy & Schwartz, 2004):

- The group brainstorms “emblematic events” or plot elements and spins larger stories around them, or
- The group identifies the “official future” and then looks for ways the future might deviate from it.

With any of the approaches, the scenario team will spend time in a workshop brainstorming issues the organization faces. This should be led by a person experienced at facilitating the brainstorming process who is also objective (e.g., from outside the organization). The facilitator should prevent participants from immediately disparaging ideas, write the ideas on flip charts, and tape the charts to the walls to refer to later. The team should look for driving forces and key trends that will drive the scenario plots. Members should group items that overlap and combine duplicates (Ogilvy & Schwartz, 2004). In the following sections we describe each approach in more detail.

Pros and Cons to Deductive and Inductive Scenario Planning Approaches

	Pros	Cons
Deductive Approach	• More common • More structured • Helps cut through complexity • Can contribute to community building in the organization by providing workshops involving joint reflection	• May not be as well suited to organizational cultures that are used to creativity and innovation
Inductive Approach	• The simplest approach to scenario planning • More systematic if one uses the “official future” variant • Good when specific staff are dedicated to strategy as their core function	• Not as well suited for inexperienced scenario users because it is less structured • Requires more group discussion, patience, and debate to reach a consensus • Less systematic and requires more imagination to use the “emblematic events” variant

(Based in part on Chermack, 2011.)

- *Option 1: Use a deductive approach.* The deductive approach typically features workshops, ranking exercises, and a 2 × 2 matrix (Chermack, 2011). This approach helps cut through complexity. Have the scenario team start by brainstorming a list of key factors, or driving forces, for future workforce needs. The team should then proceed with ranking the factors according to their impact on the organization and their uncertainty of occurring. For example, the team may rank organizational restructuring as having higher impact than the implementation of a new program because the restructuring will affect the whole organization, while the new program will only affect a part of the organization. The team should develop scenario logics by selecting factors that are high on both rankings. Scenario logics are the general frameworks or outlines of the scenario plots.

  One-half or full day can be spent on brainstorming major forces the organization is facing that are related to the focal questions. Ringland (1998) recommends that teams identify two types of forces:

  - Internal forces – What is going on in the organization or local environment that could influence the success or failure of the decision?
  - External forces – What are the driving forces in the macro-environment that will influence the organization or local environment?

Possible Drivers of Workforce Needs for Government Organizations

Internal Drivers	
Plans	• Strategic plans • Business plans • Budget forecasts/budget statements • Planned new programs • Planned new technology • Planned agency or departmental restructuring • Current and planned service arrangements • Changes in management
Performance	• Organizational performance • Customer feedback • White papers or suggested reforms
External Drivers	
Political	• Change in administration • Government directions, policy, and initiatives • Future service demand • Taxation

Social	• Demographic changes that alter community needs and expectations or the profile of an organization's workforce • Lifestyle trends • Consumer attitudes and opinions • Educational changes • Changes in values • Nature of work • Aging population/retirements • Geographic population shifts and mobility • Attitudes to work • Income distribution • Client-focused service delivery • Pipeline data (e.g., educational attainment) • Bureau of Labor Statistics workforce projections • Realistic supply of skills
Economic	• Financial environment (national and global) • Interest rates • Unemployment • Exports and imports • Industry demand for products and services
Technological	• Improvements in technology for service delivery or business processes • Technology legislation • Access to technology • Communication channels
Environmental	• Seasonal or weather issues • Climate change and global warming • Pollution control • Use of natural resources
Legal	• Emerging cases • Legislation and regulations • Health and safety • Employment law

(Based in part on Australian Public Service (APS), 2011.)

After identifying the forces or drivers of future workforce needs, have the team rate their likely impact on the organization and their degree of uncertainty.

While ranking impact, team members can use sticky notes to order the forces horizontally on a wall from lowest to highest. The sticky notes can be placed from lowest impact on the left to highest impact on the right. Ranking may take one-half to a full day (Chermack, 2011). The group should consider which forces are most likely to define or significantly change the nature or direction of scenarios, and how important a force is to the organization (Ogilvy & Schwartz, 2004).

When the team is done with both rankings, they can be combined in a matrix with impact on the horizontal axis and uncertainty on the vertical axis. Forces in the top right quadrant that have both high impact and high uncertainty can be used as the key factors for scenarios (Chermack, 2011).

Another way to approach this task is to have the scenario-planning team select one internal and one external factor, with two levels on each factor to create the 2 x 2 matrix. Have them create four scenarios based on the four quadrants. The internal axis has a factor the organization can control, and the external axis has a factor that the organization cannot control (Human Capital Institute, 2010).

As an alternative to using sticky notes to rank order forces, give every participant 25 poker chips to assign to the forces on the list. This can help narrow the focus to the two most critical. These become the axes of the 2 x 2 matrix. Using a matrix helps ensure that scenarios are different in a logical, non-random way based on the top scoring key factors (Ogilvy & Schwartz, 2004).

Although three axes can be used, instead of two, three axes or dimensions may make it harder to communicate scenario logics to others who were not part of the process. Experts note that groups have greater difficulty discussing or remembering more than four scenarios. A Federal agency project that developed 10 scenarios resulted in too many to be meaningful—their distinctions were too blurred. Those who fear losing complexity by settling on only two factors should be reassured that they will add complexity in as they flesh out scenarios (Ogilvy & Schwartz, 2004).

- *Option 2: Use an inductive approach.* One inductive approach is to have the team brainstorm different scenarios. The goal is to develop stories that are based on major events or innovations ("emblematic events") that have dramatic implications (Chermack, 2011). In this approach, have the group start with events or plot elements and spin larger stories around them.

  Using the second inductive approach, known as the official future approach, have the team start with the future that decision makers really believe will occur and then develop radically different futures. The "official future" is a term used to denote a desired future that has been "selected" by senior management. It is usually a plausible, non-threatening scenario with stable growth and no surprising changes from the environment, but it may reflect fears that the company is in trouble (Ogilvy & Schwartz, 2004). It is often the surprise-free, status quo future (Chermack, 2011). This may also be called the "no change future state."

Annual reports, forecasts and other analyses are also useful for identifying the official future. An official future scenario may be developed by trending out, or extrapolating, current workforce statistics and developing a scenario around them. It can provide a baseline against which other scenarios are compared.

Interviews can be highly useful for the inductive approach (Chermack, 2011). For example, interviews with 10-15 top managers in different parts of an organization can be used to identify key drivers, using questions such as:

- What will the future look like in 10 years?
- Where will the organization be in 10 years, and how will it get there?
- Where might our forecast be wrong?
- What keeps you up at night?

After conducting interviews and defining the official future, have the team brainstorm variations to the official future based on possible, but surprising, changes to the key driving forces. Understanding the driving forces of the official future can help determine how to vary it to develop alternative scenarios. The team should explore how interactions between key forces may produce unexpected outcomes and different scenario logics (Ogilvy & Schwartz, 2004). Groups may produce variations on the future (Australian Public Service, 2011; Human Capital Institute, 2010).

A possible future	Something that could happen and is not impossible to imagine
A plausible future	Something that could realistically happen and may be worth considering
A probable future	Something that may be likely to occur and may be an extension of a current reality and quite predictable
The preferred future	Where the organization would like to go
The targeted future	A future that may be an offset of the preferred future, but it can be realistically achieved. It can help drive gap analysis and action planning

The APS (2011) advises organizations that they will usually need no more than three scenarios that vary in their impact on workforce demand. These should include the “known path” or “baseline” and “alternative futures.” In refining and filtering scenarios, the APS suggests moving from the possible to the plausible to the probable.

In contrast, the U.S. Department of Energy (2005) recommends that four scenarios should be created:

- A best case scenario
- A worst case scenario
- The most likely scenario
- The preferred scenario

One study (Human Capital Institute & Aruspex, 2008) reported that companies thinking strategically tended to follow three primary steps:

1. Quantitative Futuring: Articulating the future and what the workforce for it would look like were a steady state likely to continue
2. Qualitative Futuring: Identifying potential alternative business futures (“scenarios”) and the capabilities and demographics to deliver the business strategy to meet each scenario
3. Targeted Futuring: Analyzing the resulting content and fine tuning it to develop a targeted future with a measurable plan of action

Thus, this approach seems to include a no change future state based on extrapolation of current trends, development of alternative futures, and selection of one future scenario that the organization wants to target. This targeted future is a similar concept to that of the official future, although as a result of the scenario planning process it may have modified the official future to include improvements.

Step 3.
Scenario Development

- Finalize selection of scenario logics. When following Chermack's (2011) deductive approach, the scenario team should develop the scenario logics by selecting issues ranked high on both impact and uncertainty to build a scenario matrix. Issues ranked low impact—high uncertainty require further research because of the high uncertainty ranking. High uncertainty rankings simply mean that the eventual outcomes of these issues are unknown. Even though the group has agreed that their impact is low, it is worth conducting some extra research because of the issues' potential volatility. Finally, issues ranked high impact—high uncertainty are considered the critical uncertainties. These are the issues that have the potential to fundamentally shift assumptions for strategy. These critical uncertainties are used to construct the scenario logics in this approach. One develops scenarios by combining two critical uncertainties.

  When following an inductive, official future approach, have the team identify the scenario that will be the official future or known path and make it the main focus of the workforce plan (APS, 2011). The other plausible scenarios will become alternative futures. The team should analyze the impact on future workforce demand of the official future, as well as the alternative futures. By analyzing the impact of the alternative futures, the organization can respond more quickly to rapid changes from the official future to the alternative future. Consider looking at possible scenarios that would take the organization above and below their known path for the number of staff and mix of capabilities required. In addition to the impact on workforce demand, these techniques will help to assess the likelihood, consequence, and mitigation strategy for each alternative future identified.

  A word of caution: Some experts express concern about overemphasizing a known path or targeted future. Ogilvy and Schwartz (2004) suggest that one should not just check the most likely scenario plots or assign probabilities or likelihoods to the scenarios. They recommend not fixating on just one desired scenario and being in denial about other possibilities. If managers identify one as the most likely scenario, it may not challenge decision makers' mental maps. That would defeat the purpose of scenario planning (Ogilvy & Schwartz, 2004).

> *Scenario logics should be plausible, challenging, and relevant. They must be plausible in that they can potentially draw from data and facts and present an acceptable view of the future. They must be challenging in that they can assemble events and facts in a way that challenges the current mental models. They must be relevant in that they relate to the key issues that have been expressed during the project and draw on managers' real concerns.*
>
> Chermack, 2011, Kindle locations 2579-2580.

- *Fully develop the scenarios.* Once the group has chosen the scenario logics, have it populate each scenario with a storyline or plot. The scenario team may want to break up into sub-teams responsible for each of the scenarios. Writing may be best done by an individual (Chermack, 2011).

You may wish to label the matrix extremes and develop a narrative for each quadrant. In the narrative, the team should describe the situation and impacts on the organization, its ability to execute strategy, and its workforce (Human Capital Institute, 2010). Simple plots and a short list of characters help managers understand, use and communicate scenarios (Chermack, 2011).

Each scenario needs a narrative with a beginning, middle, and end. Questions useful for developing narratives include (Ogilvy & Schwartz, 2004):

- How did the world get from the present to the new scenario situation?
- What events are necessary to get to the end of the new scenario?
- What characters live in the scenarios?
- What institutions, nations, or companies are drivers?

Scenarios need to be absorbing, convincing stories with believable plots to be effective. Each scenario should have a newspaper headline or name that describes its essence to aid memory. It can be useful to have an "elevator speech" or short summary describing each scenario to help communicate it (Ringland, 1998).

Common plots include winners and losers, good news versus bad news, challenge and response, and evolutionary change (growth or decline) over time. Others include revolution/dramatic change, disaster, economic cycles, infinite growth, lone ranger against evil/corruption, generational, epic, impossible mission, coming of age, doing the right thing, perpetual change, or a wild card scenario that does not fit neatly on a 2 x 2 matrix (Chermack, 2011; Ogilvy & Schwartz, 2004).

Some common scenarios faced by the public sector may include (Australian Public Service, 2011):

- Implementation of a new piece of legislation requiring an internal organizational restructuring
- Introduction of a new policy
- New policies arising out of an unexpected election outcome
- The ending of function due to a change in who is responsible for it (i.e., privatization of a service or function)
- Reduction in funding resulting in a reduction in workforce affordability

Each scenario needs to present data to support its story line in a surprising and interesting way. Members or sub-teams may need to gather more information on the driving forces in each scenario, as well as what is uncertain and what is inevitable. Such research might include questionnaires, observations, surveys, documents, strength-weaknesses-opportunities-threats (SWOT) analysis, forecasts, trend analysis, and internal interviews to understand dynamics of the internal and external environments. Involve those who will use the scenarios and internal leaders from different functions and levels of the company, as well as individuals with a high degree of organizational knowledge. Explore social, technological, economic, environmental, and political forces (Chermack, 2011).

Team members should talk through the scenarios and give each key factor and trend some attention in each scenario, then weave the pieces together in the narrative (Chermack, 2011). The interplay between the key factors ultimately shapes the scenarios, but the other significant environmental factors from the brainstorming phase are used to develop the plots. The group can look at other factors and trends and ask, “What is the value of this variable in each of the scenarios?” Each should be given some attention in at least one scenario, and some, such as the predetermined elements, may show up in all of them (Ogilvy & Schwartz, 2004).

Each scenario needs a summary, a slide deck, and, perhaps, a glossy booklet with images. A timeline with memorable incidents can be a useful graphic. Graphics are important for communication—pages of small type with a lot of detail and no explanation of the essence of the scenario will not communicate as well (Ringland, 1998). The more involved managers get with the scenarios, the more likely they are to understand their implications (Ogilvy & Schwartz, 2004).

Step 4.
Scenario Application

- *Scenario application techniques.* This phase is concerned with how to use scenarios for workforce planning. Although many companies use scenario planning interventions, most emphasize scenario development rather than application. The development of scenarios can be fun, but their value for strategic planning is in their application. The time and effort spent on scenario development should be mirrored in scenario application and use (Chermack, 2011).

  Members of the team that apply the scenarios to workforce planning do not necessarily need to be the same as those who developed the scenarios. Those chosen to develop scenarios may have skills and abilities particularly relevant to that process, while those who can assess how the scenarios will affect workforce needs may include others with knowledge and insight particularly valuable for this phase of the process.

> *Communicating the scenarios and their operational implications is a critical part of the scenario planning process. Scenario planning will fail if its product is merely a handsome report, read once by only a few executives, and then allowed to gather dust on the shelf.*
>
> Ogilvy & Schwartz, 2004

  Those who will be applying scenarios to analyze how they would affect the organization’s workforce demands will require a clear understanding of the scenarios. Some techniques that others have used in the application phase for presenting scenarios include:

- *Scenario presentations*. The scenario project leader or facilitator can present all of the scenarios, or individuals who wrote the specific scenarios can present them. The presentations should be short, involve the essence of the stories, and use colorful pictures or slides to describe each scenario. The leader or facilitator then facilitates a dialogue relating back to the initial focal question for the scenario project.
- *Scenario videos or plays*. These may be more powerful than presentations in communicating scenarios and bringing them to life (Chermack, 2011).
- *Scenario rooms.* For each scenario, team members assemble a room reflecting one of the scenarios. Each room has walls plastered with artifacts, posters, banners, and newspaper articles that characterize the scenarios. Scenario rooms may increase the degree of immersion in scenarios (Chermack, 2011).

Potential techniques for analyzing scenarios include:

- *Different views.* The leader or facilitator asks participants to focus on a scenario using a particular view for a short time. The participant(s) must maintain that perspective during this period. Example of views are:
    - Logical and analytical
    - Emotional
    - Devil's advocate
    - Cautious
    - Positive/optimistic
    - Creative
    - Synthesizing
- *Use of outsiders.* The team involves outside experts and individuals with very different points of view to provide objectivity and original contributions.
- *Strategy development*. The team develops a strategy to deal with conditions of one scenario, then tests the strategy against other scenarios. Finally, the group develops a "resilient" strategy that can deal with wide variations in business conditions (Ringland, 1998).
- *Strategy evaluation.* In this technique the focus is on testing a current strategy. The group asks, "Is the strategy effective in the range of conditions presented in the scenarios? What modifications to strategy or contingency plans are needed?" (Ringland, 1998).
- *Wind tunneling.* Wind tunnels are used to test the aerodynamics of solid objects by blowing air past the object using a powerful fan system. In scenario planning, wind tunneling is similar to the techniques described above under strategy development and strategy evaluation—wind tunneling is used to analyze the possible effects of a variety of conditions. Wind tunneling is used to test decisions for robustness and for exposing opportunities and risks through sensitivity and risk analysis (Ringland, 1998).

The scenarios are used to explore strategies, capacity, key decisions, and other important items. Scenarios act as conceptual wind tunnels in which the team is adjusting assumptions as they enter the different worlds described in the scenarios (Chermack, 2011).

- *Scenario immersion.* The facilitator explains that the goal is to develop as many ideas as possible about how the organization should proceed and encourages participants to think broadly to capture a wide range of possible actions decision makers could take. As each scenario is presented, the facilitator asks participants to identify three to five opportunities and three to five threats. Once this is completed, participants nominate one threat and one opportunity they believe to be critical to a scenario. Participants' combined input is used to identify a core set of opportunities and threats. When critical opportunities and threats have been identified, the process turns to strategies for capitalizing on strengths and addressing threats. Participants then develop a strategy they believe could be effective for addressing that scenario. The group is asked to consider all of the strategies that have been brainstormed, and to look for the strategies that are useful more than one scenario. The goal is to identify two or three strategies that are viable across all or multiple scenarios. (Chermack, 2011).

- *Discussion questions for each scenario.* There are many questions that a group may choose from to explore scenarios for workforce planning. The table below lists potential questions you may wish to choose from.

<table>
<tr><th>Questions to Ask About Each Scenario</th><th>Questions for Comparing Scenarios</th></tr>
<tr><td>What impact would this have on the work you will undertake in the future?
What activities would cease?
What particular outputs would be affected by this change?
How would you deliver those outputs?</td><td>Something that could realistically happen and may be worth considering</td></tr>
<tr><td>How will changes in the scenario affect:
Our employment brand?
Organizational climate?
Attrition?
Organizational structure?
Recruitment?
Workflow?
Use of technology?
Job design?
Selection?
Mission critical occupations or roles?</td><td>Something that may be likely to occur and may be an extension of a current reality and quite predictable</td></tr>
</table>

• Mission critical competencies or skills? • Our staffing and competency needs for leaders? • Clients/customers/stakeholders? • Geographic location of the workforce?	
• What vulnerabilities have been revealed?	• What risk management strategies and contingency plans are needed?
• What additional information would we like to have?	• What leading indicators or signposts could the organization use to monitor the environment as early indicators of which scenario is closest to what is actually unfolding over time? That is, what are the early warning signs for each scenario that would indicate that it is occurring?
• How can the organization supply the workforce needed? • How would the particular conditions in a scenario affect how the organization can supply the needed workforce? That is, how would the conditions constrain or enable the organization's ability to supply the necessary workforce?	• What general actions would we recommend, having considered each of these scenarios and their implications?

Step 5.
Project Evaluation

The relationship between scenario planning and organizational performance improvement may seem obvious, but not all scenario planning projects succeed. Few studies have examined the link between scenario planning and performance in terms of economic benefit (Chermack, 2011).

How can you decide whether the scenario-planning process was useful? Establishing a clear purpose and focal decision or question to guide the project is an important step for improving the likelihood the project will succeed (Chermack, 2011). The purpose and outcomes can also provide the foundation for evaluating whether the project has succeeded. Using the focal decision or question and expected outcomes for the project, an evaluator can measure actual project outcomes relative to the expected outcomes.

Levels of evaluation for a scenario-based workforce planning effort can include:

- Participant and stakeholder reactions and satisfaction with the project
- Knowledge or skill gain, if learning was an objective for the effort
- Degree to which the organization was prepared for changing workforce needs in the years following the scenario planning exercise
- Cost-benefit results

Case Study

Step 1. Project Preparation

The Chief Human Capital Officer (CHCO) and Chief Performance Officer (CPO) for Agency DOZ decided to use scenario-based planning as part of the workforce planning process for agency strategic planning. The project was assigned to the Manager for Workforce Planning. The CHCO and CPO, in giving the assignment to the Manager for Workforce Planning, indicated that the purpose for conducting scenario-based planning was to identify workforce plans that would make the agency better able to respond to alternative future scenarios affecting national health.

The CHCO assigned two HR specialists with experience in project evaluation to work with the Manager for Workforce Planning to develop an evaluation plan during Step 1 of the project. These HR specialists were only involved as evaluators for the scenario planning project, but did not participate in scenario exploration, development, or application.

The Manager for Workforce Planning formed a Scenario Development Team that included managers, supervisors, and senior, experienced employees. The Scenario Development Team members included two individuals from the HR department, two from strategic planning, and one from budget and each operating division. They had assistance from two clerical and administrative staffers from the strategic planning department.

After developing a project plan and schedule, they began by updating an environmental scan that had been conducted two years earlier. They examined:

- External influences on DOZ's environment, including changes in the U.S. population and related effects on the demand for its services
- The political environment and possible changes to their mission and programs from legislative action and upcoming major legal decisions
- Expected future budget challenges facing the department
- Expected changes in the technology that DOZ uses in its work

To collect information on these themes, the project Scenario Development Team:

- Interviewed division and branch heads
- Conducted external interviews with partner organizations
- Conducted a literature search on the changing nature of the population and technology and futurist themes related to the above issues
- Interviewed technology providers about innovations and current research and development
- Analyzed workforce data and survey data on intent to remain with the agency from the past 5 years

Members of the Scenario Development Team presented their findings to the CHCO and CPO.

Step 2. Scenario Exploration

The Scenario Development Team had an external expert facilitate workshops on scenario exploration to develop the logic for their scenarios. They used three full-day workshops for this step. They had two workshops the first week and the third workshop the next week.

Because the organization did not have experience using scenario-based planning, they decided to use a deductive approach to prioritize the list of key factors and driving forces they had identified during the environmental scan and interview process. They started with an introduction and then brainstormed a list of key factors influencing future workforce needs.

On the second day, they ranked the factors on the list based on expected impact on the agency and uncertainty of occurring. After ranking each factor on both issues, they arranged the issues on a matrix that had impact on the horizontal axis and uncertainty on the vertical axis. Based on their rankings, they found that the factors with the greatest impact and uncertainty were political (i.e., possible government directions from legislation, policy change, and pending court decisions) and agency budget for new technology.

On the third day of their workshop, the Scenario Development Team outlined four scenarios. The outlines included the levels on the two main factors (i.e., political directions and technology budget) and other factors that should be incorporated, if possible, into the scenarios because they are also relatively high on impact and uncertainty. Similar to the U.S. Department of Energy's (2005) recommended approach, the Scenario Development Team outlined:

- A best case scenario
- A worst case scenario
- The most likely scenario
- The preferred or targeted scenario

Step 3. Scenario Development

The Scenario Development Team broke up into four sub-teams. Each sub-team spent the next month conducting additional research and discussion. They began drafting the scenarios. Members of a sub-team worked together to develop a narrative plot line, with a beginning, middle, and end and what led to the situation in the scenario. They identified central characters and the external institutions, leaders, and technologies that were important to the scenario. In addition, they developed a title, short summary, and news article to describe the scenario. They also developed a slide deck and booklet to describe the scenarios. During the scenario development process they had access to the expert facilitator when they had questions about how to move forward.

All sub-teams completed their scenarios within 10 weeks.

Step 4. Scenario Application

Representatives from each sub-team presented their scenario to a scenario application group that included the other sub-teams as well as several additional managers and operational specialists. The main focus of the discussion of each scenario was on how the situation would affect the work the agency does and the workforce needed to do the work.

The scenario application group was asked to consider the following questions for each scenario:

- What impact would the scenario have on the agency's work processes?
    - What activities would cease?
    - What activities would need to be increased or added?
    - How would the agency perform those activities?
- What impact would the changes on work processes have on the types of jobs in the agency?
    - What kinds of workers could perform the new or increased activities?
    - What kinds of workers currently perform the activities that would cease?
    - What options would there be for a mix of different types of workers/jobs to perform the work under the scenario's conditions?
- How does the agency's current workforce compare to the workforce that would be needed in this scenario?
    - What jobs would need fewer workers?
    - What jobs would need more workers?
    - What new jobs would need to be created?
- How would the scenario's conditions affect the ability to supply the additional workforce needed to perform the work?
- What vulnerabilities have been revealed?
- What additional information would we like to have?

The facilitator and her assistants recorded the methods used for the sessions, the scenario application group's line of discussion, and their conclusions. The original, smaller Scenario Development Team reviewed the reports and developed a summary report that explored the range of alternatives for the workforce and the most common or likely impact on workforce demand and supply. Executives involved in strategic planning, including the CHCO and CPO, reviewed the final draft reports. The facilitator and Scenario Development Team also briefed the executives on the results. After collecting some additional information, the Scenario Development Team finalized the reports.

The Manager for Workforce Planning was responsible for taking the output from the scenario-planning process to refine workforce projections for the number of employees needed by job for the most likely and target scenarios.

Step 5. Project Evaluation

After completion of Step 4, the HR specialists responsible for evaluating the project administered questionnaires to participants about their reactions to the process and satisfaction with its usefulness. The evaluators also reviewed stakeholder comments on the reports that resulted from the project. Each year, for three years following the project, the evaluators compared how actual workforce supply and demand compared to the projections and interviewed key stakeholders about how well prepared the agency was to meet workforce demands. They examined the degree to which the scenario planning results were used to prioritize recruitment, orientation training, and workforce development. They also examined productivity records for common, central processes that continued throughout the period.

Where to Look for More Information

References

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Web Sites

www.thomaschermack.com – The latest research on scenarios.

www.scenarioplanning.colostate.edu – The Scenario Planning Institute at Colorado State University.

www.weforum.org/en/initiatives/Scenarios/index.html –A variety of reports and scenario projects are free to download directly from the World Economic Forum.