



Plotting Your Scenarios

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Introduction: Plotting Your Scenarios

Jay Ogilvy and Peter Schwartz

Scenarios are narratives of alternative environments in which today's decisions may be played out. They are not predictions. Nor are they strategies. Instead they are more like hypotheses of different futures specifically designed to highlight the risks and opportunities involved in specific strategic issues.

To be an effective planning tool, scenarios should be written in the form of absorbing, convincing stories that describe a broad range of alternative futures relevant to an organization's success. Thoughtfully constructed, believable plots help managers to become deeply involved in the scenarios and perhaps gain new understanding of how their organization can manage change as a result of this experience. The more involved managers get with scenarios, the more likely it becomes that they will recognize their important but less obvious implications. Moreover, scenarios with engrossing plots can be swiftly communicated throughout the organization and will be more easily remembered by decision-makers at all levels of management.

This essay offers an approach to developing alternative scenarios with engrossing plots. Part One describes two different methods for answering a fundamental challenge: how to whittle the virtually infinite number of possible futures that *could* be described down to a finitely manageable three or four plots that will shed the most light on a specific organization's future. Part Two then addresses the inverse question: Once you have determined the skeletal premises of just three or four scenarios, how do you put flesh on the skeletons? How do you elaborate the basic logics of skeletal scenarios into compelling stories? If Part One is about whittling an infinite number of possible futures down to a finite number of skeletal scenarios, Part Two is then about beefing up those skeletal outlines to discover the insights managers need. Part Three then adds 10 tips based on our 20 years of experience developing and using scenarios.

I. Finding a Few Plots

Scenario plots—we call them scenario “logics”—can be effectively developed during a two-day workshop, which preferably takes place at an off-site location. When all goes well, a highly interactive, imaginative team process can occur at these sessions.

Composition of the Team

Participants should be carefully recruited to include people with a thorough knowledge of the company and the critical issue or issues to be addressed. The team should be as diverse as possible, encompassing a wide range of levels of management, perspectives, and roles. Ideally, the people on the scenario team will be acquainted with a variety of intellectual disciplines: social sciences, economics, political sciences, and history. If possible, a variety of cultures—Asian, European, American, Latin, and African—should be represented. The full spectrum of organizational functions should also be present: finance, R&D, manufacturing, marketing, and different executive levels. Internal diversity is critical to the success of the project. The key to failure, on the other hand, is the exclusion of people who are unorthodox, challenging thinkers from inside and outside the organization. For example, at a workshop attended only by the intimidating head of a business unit and his malleable direct reports, little divergent thinking occurred. In contrast, at an AT&T scenario workshop for executives, it was an outsider who jump-started a provocative discussion about the future of telecommunications.

Decision Focus

On the first morning the team begins the first hour by identifying the key decision facing the organization, discussing it, and developing a clear understanding of useful questions to ask about the decision. For scenarios to be truly useful learning and planning tools, they must teach lessons that are highly relevant to the company’s decision makers. In other words, they must speak to decisions or direct concerns. When the team is developing such decision-focused scenarios it is critically important to ask the right focal question: Should we build a new coal-fired power plant? Should we acquire (or divest or expand) certain businesses (or product lines)? Should we build a manufacturing facility in China? Should we invest a substantial fraction of the firm’s resources in a new interactive media venture?

When determining the focal issue, it is important to first remember the time frame of the scenario. This is important because it will affect the range of movement and creativity within the scenario. In medical scenarios, for example, biotechnology, genetic medicine and non-invasive surgical procedures should be mature technologies in 2010, but they will not be relevant to a scenario with a five-year time horizon.

Sometimes the question the team starts with changes after the initial discussion. For example, in a project to examine the future of white collar work the team began by thinking that the principal question was, “How should white collar work be physically and organizationally designed?” But the pressing issue facing the company that emerged from a discussion with senior management was: Employees no longer saw white collar work as prestigious, so white collar skills were not highly valued. Many of the employment pressures and discontents previously experienced in the

blue collar work force were now souring the white collar work force. The project shifted from an effort to look simply at the future of the design and organization of white collar work to one that asked, “Will it be possible to reestablish white collar prestige and its work ethic?”

Not all scenarios must be decision-focused, however; scenarios are also a powerful tool for exploring more general areas of risk and opportunity (e.g., what is the office of the future? What are the possible futures of China or Brazil?). Such scenario thinking can serve as the basis for subsequently developing more focused scenarios and for initiating a broader strategic conversation throughout the organization (see *Scenarios: The Art of Strategic Conversation* by Kees van der Heijden). But even exploratory scenarios must be built around a relevant question or the scenarios will lack focus and internal consistency.

Brainstorming a List of Key Factors

After the decision focus of the session is selected, the brainstorming begins. From our experience, it pays to have this part of the workshop led by a person experienced at facilitating brainstorming sessions—usually someone from outside the business. One of the keys to successful creative group sessions is making it a practice that no idea is immediately disparaged or discarded—a difficult rule to enforce when brainstorming sessions are headed by the CEO or led by the chief of a business unit for his or her direct reports.

When working with clients we use flip charts to write down all the ideas—often as many as 60 to 100 key factors. Then we tape the loose sheets to the walls so participants can refer to them as the meeting progresses. Much of the brainstorming revolves around identifying driving forces and key trends. These are the most significant elements in the external environment. They drive the plots and determine their outcomes.

Be sure to consider five general categories of forces and trends: social, technological, economic, environmental, and political forces that interact with one another to create complex and interesting plots. Suppose Wal-Mart was looking at the future of shopping malls. A social force for consideration is crime: A rising crime rate would keep shoppers off the streets. Would malls that invested heavily in security be perceived as a safer place to shop, and thus gain market share? A technological force that will affect malls is electronic shopping. An economic force that drives mall revenues is rising or falling disposable income. An environmental problem—increasing pollution—could lead to higher gas taxes and reduced personal automobile travel, and the result could be fewer mall trips for recreational shopping. A political force—the desire to revive local real estate assets—could lead to an effort to find creative new uses for shopping mall property.

Examples of other key factors include: the impact of more women in the workplace; ever cheaper, yet more powerful computers; the emergence of China as an economic power; and the changing values of teenagers. Each organization must compile its own set of driving forces and key trends. However, the list for firms in the same industry will probably be quite similar.

Distinguishing Pre-determined Elements from Uncertainties

Once the team has openly brainstormed a number of issues, it is time to look at the various forces and related environmental factors more closely:

Which key forces seem inevitable or pre-determined? These are trends already in the pipeline that are unlikely to vary significantly in any of the scenarios. These might be slow-changing phenomenon (the development of new oil resources), constrained situations (the U.S. social security crisis), trends already in the pipeline (the aging of the baby boomers), or seemingly inevitable collisions (branch banking vs. banking through personal computers). These forces should be reflected, implicitly or explicitly, in each of the scenario plots. For example, any set of scenarios about banking would include the globalization and integration of financial services although these might assume a different shape or priority depending on political, regulatory, and technological factors.

Which forces are most likely to define or significantly change the nature or direction of the scenarios? This assessment should be measured by two criteria—how uncertain are you of its outcome and how important is it to your organization? Organizations should develop the plots of their different scenarios by assuming their organization has to contend with the logical consequences of new forces that are both very important and very uncertain. One large professional services company, for example, found that the degree to which young college graduates—prospective employees—would be driven by individual versus collective values was a major uncertainty that would significantly affect their ability to attract top-notch recruits and therefore the growth of their business.

Identifying a Few Scenario Logics

Consensus about which of these forces are the most critical uncertainties only emerges after extensive discussion. Here we distinguish two fundamentally different approaches to determining the basic premises of a small number of scenarios. One method is inductive, the other deductive. The inductive method is less structured and relies largely on the patience of a group to talk and talk until consensus is reached. The deductive approach uses simple techniques of prioritization to construct a 2 x 2 scenario matrix based on the two most critical uncertainties. We'll describe the inductive method first, then the deductive.

The Inductive Approach

The inductive approach has two variants. In one, the group brainstorms different events that are typical of different scenarios. In the other, the group agrees on what we call “the official future” and then looks for ways that the future could deviate from that path.

Emblematic Events. The first variant of the inductive approach starts with individual events or plot elements, and spins larger stories around these seeds. For a hospital that specializes in cardiology, for example, it might be worth asking: What if researchers at Johns Hopkins announce the successful testing of a roto-rooter pill that can clear plaque from arteries? If 45 percent of the hospital's revenues come from bypass surgery, such an event would have a serious impact. What might lead up to such an event? What would be a plausible chain of consequences leading from such an event? By starting from such episodic plot elements, a group can build a scenario that will have future consequences that call for some strategic decisions in the present. Building up scenarios from singular plot elements like this can yield powerful results in many cases, but the process is unsystematic and calls for a degree of creativity and imagination that may be lacking in some organizational cultures.

The Official Future. A slightly more systematic variant of the inductive approach begins with what we call “the official future:” the future that the decision makers really believe, either explicitly or implicitly, will occur. This is usually a plausible and relatively non-threatening scenario, featuring no surprising changes to the current environment and continued stable growth. But the Official Future can also reflect the manager’s fears that the company is in serious trouble. We did one scenario exercise for a utility whose Official Future, contained in the chief economist’s annual forecast, anticipated a serious and deep economic recession with very negative implications for the company’s revenues and work force. Clearly, this had a number of serious implications ranging from possible layoffs and downsizing to the reduction or elimination of innovative service and R&D programs. We started by describing radically different and more optimistic futures and then explored the forces and factors which would enable such futures to unfold, driven by such things as the evolution of new industries, higher levels of investment and venture capital, and increasing entrepreneurial activity within the firm. In fact, these more optimistic scenarios did gradually unfold.

Identifying the important components of the Official Future—its key drivers—is best done through interviews with the scenario team and other key decision makers prior to any scenario exercise. We often conduct 10 to 15 interviews, including the CEO and top managers in different parts of the company who are likely to have different perspectives and concerns, as well as individuals who are known to be provocative or unorthodox thinkers. In addition to asking such questions as “What will the future look like in 10 years,” and “Where will you be sitting 10 years from now (and how did you get there)?” we also use the interviews to elicit concerns and fears (“What keeps you up at night?”) Annual reports, forecasts, and the analysis done on individual business units are also valuable information sources.

The recent experience of the U.S. health care industry is a prime example of the dangers of planning for the Official Future without seriously examining other scenarios. Insurance industry and consumer pressure, government budget crises, the spread of managed care, technological change, and myriad other factors all pointed to a restructuring of the industry. Yet, many, many health care organizations simply assumed that this restructuring would be defined by the President’s reform proposals and scrambled to position themselves accordingly. When these reforms were derailed, many industry players were surprised, disadvantaged, and unprepared to act—sometimes missing the chance to seize new and unexpected opportunities.

After identifying the key driving forces and uncertainties, it is usually easy to discover which ones are most important and influential in the Official Future. Next, have your team brainstorm variations to the Official Future that are based on possible but quite surprising changes to the key driving forces of the official story. Consensus on a few scenarios that vary from the Official Future can sometimes be reached more quickly by grouping similar driving forces together. Explore how different interactions between key forces might produce unexpected outcomes and build several new scenario logics along several different dimensions. In the health care industry, for example, different scenarios might have suggested an increasingly fragmented health care system differentiated entirely by ability to pay or a privatized system with minimal government regulation or influence.

Whether beginning from emblematic events, or from the Official Future, gaining consensus on which driving forces are truly of paramount importance can be a difficult group exercise. In cultures that lack the patience for the open-ended debate that these two inductive approaches require, beginning with the deductive approach can sometimes be more effective.

The Deductive Approach: Building a Scenario Matrix

Here the idea is to prioritize the long list of key factors and driving trends in order to find the two most critical uncertainties. One method—quick and dirty, but effective nonetheless—is to award every participant 25 poker chips (real or virtual) and ask each person to assign all 25 chips to different forces on the list—more chips for forces of greater importance and uncertainty and fewer or no chips for forces of lesser importance and uncertainty. This exercise in prioritization accelerates the discussion by narrowing the group’s focus to the two most critical forces, which then become the axes of a 2 x 2 scenario matrix.

If you prioritize driving forces using the poker chips or a similar narrowing exercise, your team will pick forces that are highly unpredictable as well as highly relevant to the focal issue. For example in a 1984 Detroit study of the design criteria for an entry level automobile, the price of fuel—high or low—was an important and uncertain key factor; and so were the values of consumers. Would the consumers of the ‘90s prefer more conventional family sedans, or would they want a less conventional assortment of light trucks, hybrid vehicles, and small cars of the sort that Japan and Germany were manufacturing? When the study was conducted in the early 1980s, very few could imagine that Americans might want smaller, more versatile, and individualized cars. Hybrid vehicles like car-vans were also off the radar screen. What most imagined was a continuation of the status quo: Detroit producing similar cars using similar production techniques. Using the scenario matrix helped the participants to see that this was only one of several possible scenarios.

The axes of the matrix were very different for another project on the future of higher education in Hawaii. In this case the price of fuel was not important; much more important and uncertain were the health of the overall economy of the Pacific Basin and the attitude of Hawaiians toward the usefulness of a college education: Would graduates enter the workforce of Hawaii’s traditional tourist economy, or would they look outward to the rest of the world’s economy and want to join other industries? By mixing the attitude of the Hawaiians and the health of the economy, four very different scenarios were created.

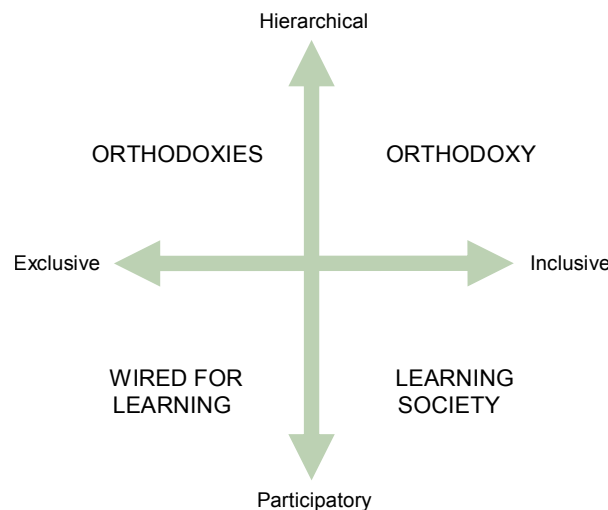
Yet another example of a scenario matrix comes from a set of scenarios done on the future of the California wine industry. In this case the regulatory environment around the wine industry and the image of wine to consumers were deemed as most important and uncertain. If studies came out saying that a glass of wine every day was good for your health and there was a protectionist regulatory environment for wine, you could get the *Safe at Home* scenario where there would be a high demand and higher prices for wine. Conversely, if zealous citizens launched a new prohibitionism, and there was an open trade environment, the *World Awash* scenario might result, characterized by weak demand for wine, excess supply, and falling prices.

There are a number of advantages to building scenarios on a matrix. First, using a matrix assures that scenarios are qualitatively different in a logical, deductive, non-random way. Second, it assures that the top scoring key factors will be drivers in all scenarios. Arriving at the axes is an interactive group process, driven as much by challenge as consensus. Once these axes of your model have been identified, the team can then determine which different scenario plots can be constructed and their details filled in.

EDUCATION AND COMMUNITY

One dimension of uncertainty surrounding the nature of community was labeled *hierarchical versus participatory*, capturing a contrast between various kinds of more traditional down-from-the-top, authoritarian approaches to education on the one hand (teacher lectures from front of class, curriculum defined and controlled) and an up-from-the-bottom, grassroots, more radical approach on the other, emphasizing site-based control, more Socratic methods, etc. Another dimension describing different types of community contrasts *inclusive* (ideologies that claim to include everyone under the umbrella of their guiding principles) versus *exclusive* (ideologies that separate people—the pure from the impure, believers from the heathen, tenured teachers from part-time paraprofessionals). These two axes—hierarchical (traditional) vs. participatory (radical), and inclusive vs. exclusive—yielded a scenario matrix on which the scenario team built four scenarios.

Orthodoxy (Hierarchical and Inclusive) assumes a turn toward traditional values, and the effort to enlist educators to impose those values on any and all who might resist them; in *Orthodoxies* (Hierarchical and Exclusive) values are also central to education, but different values guide different schools: *Wired for Learning* (Participatory and Exclusive) assumes the rapid evolution and transformative power of new applications of information technologies in education over the next decade. The result would be a highly interactive, participatory education for some, but might exclude those who don't have access to the new technology. In *The Learning Society* (Participatory and Inclusive) technology also propagates rapidly, but serves the ideals of *inclusive* community by facilitating a more participatory process, serving the interests of play as well as work, and enhancing community.



In a project on the future of public education for the National Education Association, for example, we looked at the interaction between different community orientations and the provision of education. The axes were defined as hierarchical vs. participatory approaches to education and exclusive vs. inclusive community and educational orientations (See box below). This matrix created four quadrants which described very different worlds:

In most cases it is best to keep the number of dimensions in the matrix down to two for the sake of simplicity and ease of representation. Sometimes, the scenario logics can be represented by a spectrum (along one axis) or you may need a model with three axes. But beware of three dimensions: they may satisfy a scenario team that is unwilling to squeeze a complex industry down to just two main dimensions of uncertainty, but when it comes to communicating the scenario logics to others who were not part of the process, three-dimensional, eight-celled frameworks sometimes prove to be too complex to communicate easily. Sometimes a group has trouble getting from a long list of key factors down to just two most critical uncertainties. They would like instead to settle on three. Those who fear that they've done violence to the complexity by oversimplifying 60-100 factors down to just two driving forces can be reminded that they will get back all the complexity they want during the next step of the exercise: fleshing out the scenarios into rich, compelling plots.

II. Fleshing Out the Scenario Plots

There is no one right way to develop scenarios. Different cultures, different facilitation styles, and different industries may dictate the use of one or another of the approaches for settling on the basic logics of a few skeletal scenarios. The inductive approach works well in the oil industry, for example, because everyone knows going into the exercise that at the end of the day there is just one key variable that has to drive the difference between just two or three scenarios: the price of a barrel of oil at some future date. In other industries where there are several or many key variables, the deductive approach will help to cut through the complexity.

While the interplay between the most important and uncertain forces ultimately shapes the logics that distinguish and drive these scenarios, the other significant environmental factors identified in the brainstorming phase must be used to compose the scenario plots. Here's where you get back all of the complexity squeezed out in whittling an infinite number of possible futures down to just four skeletal scenarios. If a 2 x 2 scenario matrix has been developed, the group can then go back to the lists of other key factors and ask, "What is the value of this variable in each of the four quadrants of the matrix?"

These other factors might include such things as political changes or events resulting in more or less restrictive trade policies or regulations; incremental or volatile economic growth; indicators of increasing environmental degradation; the emergence of new technologies, products, or processes; changing consumer values, etc. Each of the key factors and trends should be given some attention in at least one scenario; some (including the predetermined elements) are likely to show up in all the plots. Demographic trends, for example, are likely to be implicit in all the plots, although they may have different implications depending upon how political, social, and economic factors affect such things as education, employment, immigration, and consumption. Sometimes it is obvious how an uncertainty should be accounted for in a given scenario, sometimes not. For example, if two scenarios differ over protectionist or non-protectionist trade policies, then it probably makes sense to put a higher inflation rate in the protectionist scenario and a lower inflation rate in the non-protectionist scenario. It is just such connections and mutual implications that scenario logics are designed to reveal.

Tools for Fleshing Out Scenarios

Several tools are available for fleshing out scenarios. *Systems thinking* is good for *deepening* the scenario plots; *narrative development* is good for *lengthening* the basic premises into stories with beginnings, middles, and ends; *characters* are good for *populating* the scenarios with significant or illustrative individuals who personalize the plots.

Systems and Patterns: Systems Thinking

Studying the way the parts of a system interact can be a powerful tool for exploring the logic of a scenario. Most of the time, we focus on individual events—for example, a sudden and dramatic decline in stock prices, a war between two countries, the election of a new president or prime minister. But sometimes we need to explore the underlying patterns of events so we can understand the appropriate plot for a scenario. In helping the scenario team to think more systematically, we often use the metaphor of the iceberg, adapted from Peter Senge, author of *The Fifth Discipline*. At

the tip lie events—those things we see happening around us like the election of certain politicians or the rise and fall of companies. Next we can delve deeper to examine the patterns that these events suggest—increasing priority given to social issues, for example, or industry consolidation. Beneath these patterns lie important structural changes which can define meaningful scenario logics, for example, fundamental shifts in values or industry restructuring.

An application within the current information technology arena might focus on the behavior of an industry leader at the “events” level: the creation of the MSNBC network, Microsoft’s announcement that it is helping Apple to build Internet software, and the integration of Internet-style tools into Microsoft Office. The pattern signaled by these events is a move on the part of Microsoft to strengthen its competitive position. The structural implications might suggest a shift from a desk-top oriented environment to an Internet-worked environment.

If the scenario team is having a difficult time understanding the interactions between different forces, it is often useful to have them map out the events, patterns, and structure individually and then together create systems diagrams of how different forces interact. We often do this using post-its to describe and then cluster (and re-cluster) events, recognize and link patterns, and then identify the underlying structural issues.

Building Narratives

When the basic logics of the different worlds have been determined, then it is time for the group to weave those pieces together to form a narrative with a beginning, a middle, and an end. How could the world get from the present to the reality proposed by the new scenario? What events might be necessary to make the end point of the scenario possible? One of the most frequent mistakes made by fledgling scenario teams is falling into the temptation of settling for a single-state description of, say, the year 2000. A static description sacrifices the opportunity to see how the “moving parts” in an industry can interact, and then interact again, sometimes producing counter-intuitive consequences well on down the road.

Narratives are also important to capture issues of timing and path dependency. We may all agree that 20 years from now the twisted pair telephone line and the cable TV will be largely replaced by optical fiber. But billions will be won and lost depending on whether the Regional Bell Operating Companies or the cable companies are the gate-keepers. Shorter term issues of regulation, technology, economic competition, and industry consolidation will have a lot to do with which path we take toward the final rationalization of broadband communications.

A productive exercise at this stage of the workshop is to ask the scenario team to write newspaper headlines describing key events or trends that take place during the course of the scenario. “Philip Morris divests cigarette business,” “Dow Jones Falls to 4000,” “Moore’s Law Disproved” “Eighth Hurricane in 20 Days Ravages Florida Coast.” The headlines are a quick way of defining successive stages of a narrative that includes repetitions of the phrase, “and then...and then...and then.” Good headlines might mark a surprising beginning, perhaps a turbulent middle period, and a satisfying resolution, for example. Imagine that you are looking out to the year 2010. What would the headlines for your scenario read in 2000? In 2005? What social, technological, economic, environmental, and political events or trends would be reported in the paper? For example, a scenario for an educational products company might include such headlines as: Seattle, WA, 2000 “Bill Gates Appointed Internet Czar,” Phoenix, AZ 2005: “Chamber of Commerce Takes Over School District;” Princeton, New Jersey, 2010 “ETS Reports Dramatic Rise in SAT Scores for two-

year-olds.” This exercise not only hones the scenario logics but provides an intriguing source of ideas for the narratives.

Characters

Are there known individuals or institutions that espouse specific changes, for example, the successful promotion of conservatism by Ronald Reagan and Margaret Thatcher? Would a scenario that calls for a radical change in values benefit from the invention of a charismatic leader gaining a following? In most scenarios the “characters” are driving forces and institutions, nations, or companies as opposed to individuals. But sometimes a known or an invented character can crystallize the logic of the scenario.

Beware of building the entire plot around an individual’s personality or power, however. A case in point: When we were developing scenarios for the future of Mexico, political issues, as embodied in the impending election, emerged as a major uncertainty. One of the scenarios was built around a victory by Colosio, the dominant PRI party’s presidential candidate; in another scenario Colosio lost. We put the scenarios in the mail on Friday; Saturday morning the headlines proclaimed Colosio’s assassination. On the other hand, an individual (real or imaginary) can personify the intersection of key structural or driving forces. A plot about China, for example, could begin with the death of Deng and the battle for succession, not because the individual who assumes power is important, but because this can illuminate the political, economic, and cultural struggles that China may face.

Creating characters who live in the scenarios is also a way to convey the magnitude and direction of change. In the Education and Community scenarios described earlier, students, parents, and their teachers populated each of the scenarios to personify the differences; former Secretary of Education and conservative Bill Bennett is elected U.S. president in 2000 in the “Orthodoxy” scenario. Even though much history is written from the perspective of individual leaders, some of the best historians are scenaric in their way of thinking. Ferdinand Braudel, for example, looks beneath the “great man” theory of history to find the economic and cultural forces and their interactions in an underlying belief system. Mancur Olson’s economic history of the U.S. also illuminates deep, structural forces and their interplay. Writing the “history” of the future—and creating vivid characters who live in it—has always been the domain of science fiction—scenario thinking can also be found in the works of Bill Gibson, Neal Stephenson, and Bruce Sterling.

Typical Plots

Each scenario plot or logic should be different, yet relevant to the focal question. Nonetheless, there are a few archetypical plot lines that seem to arise over and over. These plots are derived from observing the twists and turns of our economic and political systems, the rise and fall of technologies, and pendulum swings in social perceptions.

To be effective, scenario plots must make people rethink their assumptions about the future. For example, many people assume that Asia’s continued economic growth is inevitable with little, if any, downside. In fact, this is a dangerous assumption that could be derailed by a whole host of political and environmental factors. On the other hand, plots that are too frightening or implausible tend to be easily discounted and thus weaken the value of the scenario process overall: a study on the future of paper for a forest products company that suggests that technological advances will

result in the disappearance of paper and paper products such as books, for example, or a doom and gloom scenario that portrays a complete economic, political, and social breakdown that no company can survive.

Please do not assume from reading the following set of common scenario plots that scenarios can be prepared according to a formula, nor that these are the only plots that work or matter. Instead, use these examples in your group's discussion of how driving forces may interact to create plausible plots.

Winners and Losers

This is a familiar plot, not only in scenarios but in life. It is based on the concept of a zero-sum game: If one company, country, or institution wins, then others will lose. Some examples of winners and losers:

- An ascendant Asia Pacific bloc vs. Europe in decline
- Government regulation of the Internet vs. free expression and entrepreneurial opportunities
- Microsoft vs. Apple and IBM

In these plots conflict is often inevitable. But sometimes, after an initial flare-up of contention, the conflict quickly burns down to an uneasy detente or balance of power (covert or overt). Sometimes the potential conflict escalates to outright war, military or economic. The “cola war” in the soft drink market is an example of a contemporary U.S. corporate battle. In this hypercompetitive global battleground, every move Coca-Cola makes is met by Pepsi Cola, and every initiative by Pepsi is quickly countered by Coke.

Another example of hypercompetitive rivalry is the battle for market share between long distance telephone carriers. Any effective advertisement by MCI immediately stimulates a response by AT&T and vice versa. The result is an advertising war in which collective annual spending has topped \$1 billion.

Crisis and Response

In the early 1980s at Shell, we constructed several scenarios for the future of the Soviet Union around a crisis. The defining question: What would be the logical route out of the crisis—the new Stalinism or, alternatively, a loosening of the system? We called one scenario, “Clamp Down” and another, “The Greening of Russia.” The plot of both these scenarios was crisis/response, and each posed a logical, but totally different future.

This is a typical adventure story plot. First, one or more challenges arise and then adaptation occurs (or fails to occur). If the adaptation is effective it may create new winners and losers, and may ultimately change the rules of the game altogether. A good example of a crisis and response plot is the scenario that attempts to answer the question, “How much development is sustainable?” First comes the scenario’s crisis: initial signs of environmental degradation lead reputable scientists to conclude that an environmental disaster is fast approaching. A few leading governments and companies change the way they do business. Disasters begin to occur in countries that could not, or chose not to adapt, and there is public outcry. The playing field—the organizational operating environment—is suddenly dramatically altered. The innovative firms that learned to make difficult changes in their business practices to avoid environmental degradation are now positioned to become market leaders.

Good News/Bad News

It's important to incorporate elements of both desirable and undesirable futures. For example, a scenario prepared for a global telecommunications company provided the firm with a valuable look at a world shaped by conflict, violence, and corruption—a scenario in which their high ethical standards would become a distinct disadvantage. When writing scenarios for Mexico in late 1994, our team failed to anticipate the devaluation of the peso, in part because there was an unwillingness (possibly culturally induced) to look down the cellar stairs at a bad news scenario.

Evolutionary Change

The logic of this plot—that over time, growth or decline occurs in all systems—is based on studies of biology. Man-made systems tend to plow ahead, at least during the growth period without giving much thought to their inevitable decline. And even if change is anticipated, its nature and magnitude are seldom comprehended and therefore rarely managed appropriately. A classic example from the '80s is when IBM turned a great opportunity into a catastrophe by missing the significance of the personal computer. IBM saw the death knell of the computer industry instead of its transformation.

A variation on this plot is co-evolution. Change in one system interacts with and causes change in other systems. Technology often spurs co-evolutionary change—new innovations appear and flourish (or die) giving rise to other innovations, while at the same time interacting with the political and economic systems.

Other Typical Plot Lines

Many other plotlines can be used in scenarios. Examples include:

Revolution: Abrupt discontinuities, either natural or man-made. Examples: an earthquake, a breakthrough invention.

Tectonic Change: Structural alterations which produce dramatic flare-ups, like a volcano, which cause major (but certainly foreseeable) discontinuities. Examples: a breakup of China; the end of apartheid in South Africa.

Cycles: Economics and politics often move in cycles; their timing is important and unpredictable. Examples: health care reform; real estate booms; gentrification.

Infinite Possibility: The seductive idea that continued growth is possible, often enabling sights to be set higher than before, e.g., the computer industry in the 1980's; global connectivity via the Internet today.

The Lone Ranger: This plot pits an organization or a main character against the established practices of politics, trade, or technology. Often the protagonist group sees itself as battling a perceived evil, a corrupt system or an antediluvian competitor. This plot frequently matches up a start-up firm and a market leader—a David and Goliath scenario. Some examples: Apple Computer vs. IBM, MCI vs. AT&T, Ted Turner vs. the networks.

Generations: This plot revolves around the emergence of new cultures—groups with different values and expectations. Examples: the Baby Boomers, Generation X, or the overseas Chinese network.

Perpetual Transition: This plot is a variation on the evolutionary and infinite possibility themes. It expects change to be continuous and predicts that adaptation will be anything but uniform. There will be no New World Order or rules of the game; the Internet—enabled by new products which continually push the boundaries of speed and connectivity—will become a vast, ever-evolving marketplace with no regulation, control, or limits.

When constructing scenario plots, remember that expecting change is not enough. Scenario developers must also anticipate a response to the change. Most forecasters make the mistake of assuming that a powerful, highly successful organization can control its destiny to a large extent. For example, Japanese car makers assumed they could sell more and more cars in America by making their products better and better. But every system has the capacity for response and self-correction. Continued, fast economic growth leads to resistance. The threat of war results in demands for peace. High oil prices promote exploration, new discoveries, more oil, and an eventual lowering of the price as happened in the mid-eighties.

Wild Cards

Whereas scenarios are something you plan for, wild cards are things that you plan against. Wild cards are surprises that have the power to completely change your hand—and the outcome of the entire game. Wild cards might be:

- Wholly discontinuous events like natural disasters or assassinations
- Discontinuities that might be anticipated but which have significant unintended consequences, like ERISA which was developed to insure pensions for the elderly and created institutional investing
- Catalytic developments, so different in degree or scale that they are different in kind. Mosaic/Netscape, for example, transformed the World Wide Web into a global meeting and marketplace

In scenario exercises built around a matrix of four logically contrasted scenarios, we will sometimes include a fifth “wild card” scenario that takes into account a dramatic yet relevant surprise that doesn’t fit neatly on the matrix. After constructing four scenarios for Oregon’s Department of Public Health, for example, we added a fifth Wild Card: What if Mt. Hood Blows? Other examples: that cold fusion works; a breakthrough in nanotechnology accelerating its commercialization by a decade or more; the discovery (as we recently witnessed) of possible life forms on another planet. Wild cards can reinforce the importance of continually “thinking out of the box.”

III. Ten Tips for Successful Scenarios

Having had time and experience enough to make all the mistakes there are to make, we offer these 10 tips to keep others from stepping into various familiar pot-holes.

1. Stay Focused

Your scenarios should be developed within the context of the focal question: a specific decision to be made or a critical issue or uncertainty of great importance facing the organization. Keep your sights on addressing the *raison d'être* for the exercise.

2. Keep It Simple

Although clever and creative plots that illuminate the interaction of key forces can help to make scenarios memorable, don't get the idea that this is primarily a creative writing project. Simple plots and a short list of characters help managers to understand, use, and communicate the scenarios.

3. Keep It Interactive

Scenario plots should be the unique product of your organization's interactive team-based effort. If they are off-the-shelf stories, reflect the prejudices of only the most powerful people in your organization, or do not take into account the insights of all levels of your organization's management, they will likely fail to be relevant and they will certainly fail to capture the imagination of your organization's future leaders.

4. Plan to Plan and Allow Enough Time

Prep Time

Before the first scenario workshop, you will need about a month to select the scenario team, conduct a series of interviews, round up relevant literature, and book a site for the workshop.

First Workshop: Day One

The initial scenario workshop should be at least two days long. It takes time to think of everything that could affect the focal issue. It takes time to pry people loose of the present. As described earlier, a typical scenario workshop will begin with about an hour devoted to articulating the focal issue, about three to four hours of listing key factors and environmental forces, and two or three hours to prioritize forces and settle on an official future or a scenario matrix.

Time to "Sleep On It"

After a day of brainstorming, we suggest leaving the evening relatively unstructured to give participants in the workshop a chance to socialize and informally compare impressions. We find that after the participants sleep on their ideas, debates, and conversations of the first day, they often awaken with fresh insights that contribute to generating the scenario logics.

Day Two

The second day will begin with second thoughts about the skeletal scenario logics, then the group will spend one to two hours fleshing out one scenario in plenary—tracing a narrative line from a

beginning, through a middle, to an end—before breaking up into smaller groups to flesh out the other scenarios. By the end of the second day, the group will be able to see several different scenarios in sufficient detail so that it's possible to draw out preliminary implications of each scenario, and, if you're lucky, some strategic implications of the set of scenarios taken as a whole. But this work of asking, *So What?*, often takes more time and reflection than a single workshop can provide.

Interim Research

After developing the scenario logics and outlines of their plots, allow for at least four to six weeks of interim research and reflection while writing the final scenarios and exploring their implications. As soon as possible, circulate draft scenario logics or plots to other managers whose opinions you value. To speed up the process of drafting narrative scenarios based on the first workshop, we often recruit an experienced note taker to record the workshop so that the ideas of the participants can be captured and quickly organized. There is brainstorming software that can also facilitate this work.

A key purpose of this interim phase is to research more extensively—both qualitatively (through interviews) and quantitatively—the important forces, trends, and uncertainties. Ask the team what the things are that we really don't know but need to know—geographic economic growth trends; industry structure; the financial performance and strength of new or potential competitors; consumer trends; emerging technologies; regulations in different countries.

For a recent project in the aerospace industry, for example, substantial research was conducted on the restructuring and convergence of several industries—and what the industry structure might look like under each scenario. The better your scenario team understands the nature, magnitude, and possible interactions of these key forces, the more likely it is that your scenarios will be plausible. On the other hand, if you fail to do good research and your underlying assumptions don't hold water, then your scenarios are likely to be quickly discounted. In practice, some scenarios are abandoned after more research and others may be substantially redirected based on new research findings.

A Second Workshop

After the interim research has been conducted and preliminary scenario narratives drafted and circulated, reassemble the original scenario team for at least a day, perhaps two. At this second workshop there are three main objectives:

- Correct, revise, amend the draft scenarios
- Explore the implications of each scenario individually
- Answer the strategic *So What?* based on all of the scenarios taken collectively

This last point calls for a separate essay—or book—about the very nature of strategic planning. Is the objective to develop a long-range plan or blueprint that *aims* the company in one direction for five years and then lashes down the wheel? Such five-year plans may be necessary in some industries with long lead times or slow cycle times. Detroit cannot retool for quarterly changes in automotive fashions. In other industries, however, the objective may be to use scenarios to enhance a strategic conversation that enables many managers to *steer* through quarterly, or monthly, shifts in the business environment. Depending on the nature of the industry and the nature of the focal issue, the relevant *So What* may be a single decision with a “long tail” that managers will have to live with for many years; or it may be to enhance the learning of many managers so that they can revise their mental maps of their business environment in a way that changes the way they make daily decisions.

5. Don't Settle for a Simple High, Medium, and Low

Although the scenarios being developed will share the same organizing question, each scenario should be based on a fundamentally different logic. Simply focusing on high or low interest rates, for example, is less illuminating than painting worlds in which interest rates change for very different reasons; rising interest rates due to strong economic growth have very different origins and implications than higher interest rates caused by rampaging inflation. The team's goal should be to develop a few scenarios that are all plausible, but don't share the same assumptions about the environment, such as an economy which varies only by rates of growth: flat, 3 percent, 6 percent.

6. Avoid Probabilities or "Most Likely" Plots

Remember that the some of the most surprising scenario plots may be the ones your organization learns the most from. Though all must be plausible, don't just select ones that appear to be the most likely to unfold. Do not assign probabilities to the scenarios. Do not categorize them as either the most or least likely. Keep your mind open to all possibilities. Don't fixate on just one scenario that you want to achieve. Scenarios are meant to illuminate different futures, complete with negative and positive dimensions. Choosing one scenario as a goal may blind you to other developments and possibilities. A classic case occurred in the 1970s when oil companies focused exclusively on high oil prices—in their best interest—while remaining in denial about the possibility of an oil price bust.

7. Avoid Drafting Too Many Scenarios

A proliferation of scenarios usually means that many are merely variations on a theme or "contingency plans." A number of years ago, we were involved in a project for the U.S. Environmental Protection Agency which was using scenarios to look at alternative futures for pesticide policy. The team developed 10 scenarios but their distinctions were so blurred that they were neither meaningful nor useful. We finally reduced the number to three scenarios whose differences really did make a difference.

In our experience, four scenarios are usually all you need. Groups have great difficulty discussing or even remembering more than four scenarios. In particular, beware of the "middle of the road" approach trap—that is, selecting three scenarios that offer "large, medium, and small" versions of the future. Too often, managers will be tempted to identify one of the three—usually the one with a "middle of the road" approach to the future—as the "most likely" scenario. These single forecasts do not portray truly divergent futures which challenge the mental maps of the decision makers and suggest very different strategic options and implications. Moreover, there is a tendency to treat the "most likely scenario" as a prediction, thus failing to explore the other scenarios fully and wasting the whole multiple scenario exercise. In truth, some people simply can't think about scenarios. They always want to find the "right" answer which can be derived mathematically. When one or more participants in a scenario exercise feel that they know "The Right Scenario" and aren't willing or able to entertain others, the process becomes very frustrating. It is important to continually emphasize that there are no right or wrong, good or bad scenarios but a set of distinct and plausible futures that could unfold.

8. Invent Catchy Names for the Scenarios

Apply a generous amount of creativity to come up with evocative scenario names that quickly convey the crucial changes in the business environment that will affect your organization. When your managers feel the hot breath of crisis they should be able to recall the appropriate scenario by name. "Wasn't sudden volatility in currencies like we're now experiencing a key force in our *Interest Rate Hell* scenario? What were the other warning signs that it might be unfolding now?" Culturally referential names—popular songs, movies, TV shows, even countries—are often memorable. One set of our scenarios was named for recordings by the Beatles: *A Hard Days Night*, *Help*, *Magical Mystery Tour*, and *Imagine*. We have also used regional and country images like *Siberia* (an isolation scenario) and *Bosnia* (a fragmented, divisive world).

9. Make the Decision Makers Own the Scenarios

One of the most powerful contributions to a good scenario process is the direct and ongoing involvement of key decision makers. These are the people who will be responsible for using and communicating the scenarios throughout the organization. If at all possible, these are the people who should actually write the scenarios. We have had success with several different strategies:

- Assign the job to one author. This works if the organization has an important member who both enjoys writing and is a collaborative thinker (a person who is willing to solicit and incorporate comments from the rest of the team).
- Assign a pair of authors—one who writes well and another who is a veteran team leader—to work together to draft the scenarios.
- Assign a different author for each draft narrative with “technical assistance” available from an experienced editor/scenario writer. This may result in wildly uneven efforts but it is a way to engage the most senior executives.

No matter which participant drafts the scenarios, he or she must thoughtfully and fairly solicit and welcome comments and suggestions from the rest of the team.

10. Budget Sufficient Resources for Communicating the Scenarios

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. Instead scenarios must become drivers of an organization's ongoing strategic conversation and learning. Once the scenarios have been successfully tested on a small group, plans should be made to expose larger groups to the learning experience.

We like to tell our scenario stories from the perspective of a person living in the future (the end point of the scenarios), for example, 2010. This provides for smoother and more interesting narratives. While written scenarios should eventually be produced, think of other ways to communicate them to the organization, to help people live in the scenarios. We have used various techniques for doing this—including dramatization, computer simulations, role playing, and multimedia presentations.

For one organization's annual Board of Directors retreat, we made audiotapes of the scenarios for the members to listen to before arriving. During the retreat, they watched videotaped “newscasts” of the scenarios set in the year 2010, and then engaged in a role- playing exercise that involved

interacting as very different characters in the future worlds. Finally, a team of improvisational actors took premises from the group and acted out mini-dramas consistent with the different scenario logics. This made the scenarios come alive and served as the basis for ongoing conversations.

Another time, for a major computer manufacturer and systems integrator, we facilitated a scenario exercise involving 15 of their key customers in one industry. Scripts were written for scenarios set in different locations around the world looking back from the year 2020. Five-minute films using professional actors were produced to show various industry events unfolding.

The show-biz component that can enhance the communication of scenarios suggests one final axiom: If you're not having fun, you're not doing it right. Be creative and have a good time. Remember, scenarios are a tool for unexpected learning, learning about the unexpected, and thinking outside of the box.

While several decades of experience have allowed us to come up with what might seem to be hard and fast rules or a tried and true technique, the fact is that scenario planning is more of an art than a science. While it should be fun, it can be very un-fun if the process breaks down into a muddle of unordered uncertainties. As one of our favorite clients likes to put it, "Don't do this at home. Proceed only under adult supervision!" The various approaches, steps, and tips we have outlined should be enough to give you a clear idea of what is involved in scenario planning. But if the process is to be as fun and creative as it should be, you will also need skilled facilitators of the group process, talented writers, creative thinkers, and quite a lot of hard work.

About the Authors

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