Scenarios and Strategic Decision Making

Kathleen M. Wilburn
St. Edward's University

H. Ralph Wilburn
St. Edward's University

Scenarios provide the basis for effective strategic decisions in the 21st century. They describe the possible futures in which one must compete. By tracking the increasing or decreasing probability that a particular scenario will become reality, leaders can evaluate the possible consequences of their decisions. The global scenarios for 2025 developed by Shell International Limited, the U.S. National Intelligence Council, and the World Economic Forum identify possible futures for global trends. This can help leaders make strategic decisions now as well as providing information for developing individual company scenarios. Three possible scenarios for a fictional company are provided.

INTRODUCTION

In a world where managing risk is taking center stage because of the uncertainty caused by rapid change, using scenarios allows organizations to make strategic decisions with foresight into what that uncertainty could look like in the future. Scenarios are stories that describe the possible futures in which one must compete five, ten, or twenty years from now. They are based on the possible consequences, intended and unintended, of events as they might occur. Scenarios allow leaders to consider how decisions made today could be affected by changing forces in the future, and to understand the possible changes in forces so that they can anticipate the effects of future decisions. By analyzing the unconscious assumptions that underlie today's decisions, leaders can test possible actions by playing them out in three or four different scenarios, both positive and negative. It alerts them to what might change in the future that would change the intended result of this decision. The process of writing scenarios identifies what actions will be most beneficial or detrimental going forward, and what adjustments may need to be made as events unfold. In the midst of a continual onslaught of information and data, scenarios identify what information and trends are crucial to successful strategic decision making.

Unfortunately, the use of scenarios has ebbed and flowed with the health of the economy and the financial success of companies. "Shell's success with the scenario planning approach also encouraged the majority of the Fortune 1000 companies to adopt scenarios in one way or another during the 1970s" (Lingren & Bandhold, 2003, p. 37). The recession in the 1980s, however, brought back traditional forecasting as companies lost the creative people needed to write scenarios in budget cuts. The tectonic shifts in the global business environment in the past fifteen years have renewed interest in using scenarios as a means of making better decisions.

> Use of scenario planning rose following the 2001 attacks, to about 70% of executives surveyed by consultants Bain & Co. in 2002, up from 30% in 1999. Since then, Bain's surveys have found fewer executives using the tool, though the consulting firm expects heightened interest this year, because of the recession.
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> "It's sort of like flood insurance," says Michael Raynor, a corporate-strategy expert at Deloitte Consulting LLP. "Everybody runs out and buys flood insurance the year after the flood." (Tuna, 2009, para. 5)

A 2008 McKinsey Global survey revealed that business executives see scenario planning as an important strategy in succeeding in a global environment where information comes from all sides and where sudden changes in global forces can have catastrophic consequences.

> Almost 70 percent of the executives agree that global trends have become more or much more important to corporate strategy over the past five years…A wide difference exists between assigning importance to trends and taking active steps to address them (something we also found in previous surveys). For example, while around 75 percent of the responders say that a faster pace of technological innovation and the increasing availability of knowledge will have an impact—positive or negative—on their companies' profits, just over 50% have done something about either of those two trends. ("How Companies Act," 2008, p. 4)

A 2010 McKinsey report said that more executives are acting on key global forces today. Three fourths of the executives surveyed said that they were addressing the shift from developed-market countries to emerging-market countries, two-thirds said they were addressing the connectedness of the global economy, and one-half said they were addressing the collision between rising demand for resources and constrained supplies (Bisson, Stephenson, & Viguerie, 2010).

One only has to review the recent economic chaos to realize how useful a scenario that detailed such a downturn would have been for individuals, individual companies, governments, and global corporations. The negative scenario would have detailed the environment in which one would need to act, and would have allowed consideration of possible decisions proactively instead of reactively. Having that scenario would have identified signposts that could have been tracked to see if the probability of certain events happening was increasing. Once a threshold was reached, a contingency plan could have been implemented. For individuals, the purchase of a house or car could have been delayed; for businesses, the new hires or new office space could have been delayed; for governments, different actions could have been analyzed; for global corporations, new ventures could have been halted. As it was, few people knew what to look for in the myriad of available data, and even when it became obvious that the economy was souring, few had a plan to implement to minimize its negative effects.

Unfortunately, that same McKinsey survey revealed that most executives did not act on any of the trends they thought might be important. When responders did act, the survey found that "few companies seem to be capturing all the opportunities or addressing all the risks presented by the trends on which they act" ("How Companies Act," 2008, p. 5). If companies had had scenarios that identified forces that they knew directly affected their operations, they would have known what trends to track. This would have allowed risk management to be based on data showing increased probabilities of events taking place. Scenario planning is an increasing important arrow in the quiver of developing strategy as the speed of change creates situations that are unpredictable and have no precedent.

One company, JDS Uniphase Corp, a company that designs and produces optical communication instruments, was ready for the downturn. It began scenario planning in 2004; each spring, executives consider three potential sales scenarios. In 2008, a worst case scenario allowed the company to be proactive in responding to what appeared to be an economic downturn. Revenue was up by mid-year,

> But Mr. Vellequette says he was concerned by salespeople saying customers had turned cautious…More tangible signs of trouble emerged in the quarter ended Sept. 27, when JDS shipped more orders than it booked…In October, the company announced it would kill some products, combine two of its four segments, shift more manufacturing to contractors, and shut three factories along with seven research-and-development sites, eliminating 400 jobs…In the quarter ended Dec. 27, revenue fell for the first time in the downturn, by 11%, to $357 million. In

January, the company said it would shut operations for one week each quarter, suspend its matching contribution to employee 401(k) plans, and require senior managers to take extra unpaid days off. In February, JDS said it would sell a factory in China and shift more U.S. production to contract manufacturers.

> In all, the moves cut roughly one-third of JDS's 6,700 employees and reduced annual operating expenses by $120 million. The company continued to generate cash, despite a projected 15% decline in revenue in the fiscal year ended June 27.
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> Mr. Vellequette says JDS executives are now using scenario planning to plot potential responses to a business upturn. (Tuna, 2009, para. 9)

Paul J. H. Schoemaker, research director of the Wharton School's Innovation, cited another example of successful strategic decision-making based on scenarios involved a large global industrial goods company created scenarios in 2008; one of the scenarios dealt with possible outcomes of the 2009 election in Iran. When chaos erupted after the election, executives already had thought through how they might respond in the scenarios.

> The impact on decision-making represents a perfect illustration of how so-called scenario planning techniques can be used to help managers navigate in complex and uncertain environments…Pulling out the notes from these discussions, they already knew their options and had a view on how they would like to respond. In many ways, they were prepared—and already one-step ahead of some other companies. ("Eyes wide open," 2009, para. 2)

Schoemaker sees companies responding to the chaos of the future in three ways. In the first, no long-term decisions are made and the company is in a holding pattern until the skies clear. In the second, the company bets on a favorable future that it likes, which allows it to act, but the action may be disastrous if the future is not the envisioned one. In the third, a company identifies what can be known and what cannot be known and uses it

> …as a basis for exploring many possible futures -- in other words, developing scenarios rather than predictions. This approach differs from the first two primarily in that it is a much more open mindset, with a focus on agility and options. Yet it also is in many ways the most challenging to adopt. "It takes courage to admit our collective ignorance," Schoemaker says, "because it conflicts with our common notion of leadership, which prizes omniscience. However, our world is too complex for the heroic leadership of the past where a great leader rides up on a white horse and points the way to the future. A better approach now is to embrace uncertainty and examine it in detail to discover where the hidden opportunities lurk." ("Eyes wide open," 2009, para. 2)

Scenarios as a strategy were first used for military planning after WWII. Military planners imagined what the enemy might be able to do in the future and planned contingencies to counter it. Hermann Kahn developed a model to think about the future as part of his work in military strategy at RAND Corporation and was responsible for first using the word "scenario," which was a Hollywood term for the script for a movie (Lingren & Bandhold, 2003). Today, the military's scenarios are used to develop electronic simulations where planners are presented with a changing landscape and understand from making decisions in "real time" crises the value of being able to think through possible responses before they happen.

A scenario is a narrative about the future describing a coherent, plausible, and challenging picture of the confluence of patterns, environmental forces, and players. Scenarios have a value by creating a few distinctive patterns of the future that are likely to have substantively different effects on strategic decisions (Wells, 1998, p. 104).

In this paper, the authors first present an overview of the global scenarios for 2025 developed by Shell International Limited, the U.S. National Intelligence Council, and the World Economic Forum that can be used by any company to identify global trends that can be the basis for developing company scenarios. They then describe the criteria for effective scenarios and provide three scenarios for a fictional company that illustrate how scenarios are developed.

EXISTING GLOBAL SCENARIOS

Using existing global scenarios can allow companies to use the research of organizations that have been writing global scenarios for many years. Leaders can identify what forces are most important to their success in the present and in the future and consult these scenarios to discover what the authors are considering might happen.

Shell International

Shell International's use of scenarios started 50 years ago when Pierre Wack and his planning team considered what might happen to the price of oil after the 1967 Arab-Israeli war. The price of oil had been stable since the end of World War II, but the team realized that if the oil producing countries formed a consortium, they could control prices. Wack wrote a scenario describing in detail the energy crisis that would engulf the world if prices and production were thus controlled. It was a frightening enough scenario that the company developed a contingency plan that would move it from heavy fuels, which could be replaced by coal and nuclear power to light fuels like gasoline, and would include investing in refining plants that could make lighter fuels. This led to tracking what was happening in the oil producing countries. When the Organization of Petroleum Exporting Countries (OPEC) retaliated at the West for supporting Israel by consolidating its power over the oil market, Royal/Dutch Shell, as it was known at the time, was prepared. The Yom Kippur War happened in fall of 1973, an oil shortage followed, and prices soared, and Shell moved from 7th to 3rd in global oil company rankings (Schwartz, 1991).

In 1983, Royal Dutch/Shell also used scenarios to determine if it should develop its gas field in the North Sea. The scenario planning team realized that what happened to the USSR would affect the profitability of the field since the customers would be European countries. If something happened to change the direction of Russia's government and end the Cold War, the caps on European countries' purchases of oil and gas from Russia, which had the world's 2nd largest reserves of natural gas, would be lifted. Royal Dutch/Shell researched the current state of Russia and determined that Russia's labor force and birthrate were declining as a result of a generation of men being killed in World War II, its population was aging, and its productivity was declining. One scenario painted a picture of a Russia that came in from the cold; it recognized that a rapprochement with the West would require someone who could make it acceptable to the population. It began tracking key indicators of the USSR's population, economy, manufacturing, and political climate, and thus noted when its factories fell into disrepair and when a person name Mikhail Gorbachev couched his economic and political ideas as being aligned with Lenin's New Economy. Thus, Royal Dutch/Shell anticipated the fall of the Berlin Wall many months before it happened, and, since it did not know if Western companies would be invited in to help Russia develop the country's oil and gas deposits, it delayed developing the North Sea gas field. Only after it determined that Russian oil and gas would not be available in the near future, did it move forward. Its strategic decision allowed it to make its required return on investment (Schwartz, 1991).

Royal/Dutch Shell developed scenarios in 1992, 1995, and 1998 that "all featured a market-centric world (New Frontiers, People Power, and Just Do It!) as well as an alternative world giving more room to social and community aspirations" (Shell International Limited, 2005, p. 9). Its 2001 Global Scenarios were named *Business Class* and *Prism*. *Business Class* offered a vision of a connected freedom and greater economic integration. This was a world of efficiency, opportunities, and high rewards for those who could compete and innovate successfully. Established authorities would be continually challenged and the power of nation states greatly reduced. *Prism* highlighted the "connections that matter" and "multiple modernities" reflecting the influence of "heartlands" as opposed to "connected elites." The power of cultural values and belonging was stressed (Shell International Limited, 2005, p. 9).

In 2005, Shell International published *Global Scenarios to 2025: The Future Business Environment: Trends, Trade-offs and Choices*. It poses a "Trilemma: Triple Dilemma" by asking how (1) Efficiency, perceived as market incentives, (2) Security, perceived as coercion and regulation, and (3) Social Cohesion and Justice, perceived as the force of the community, would be resolved in a future globalized world. After investigating how the idea of the State has developed in the last three hundred years, Shell's scenario planning group concluded that each one had been preeminent for a time, and could have produced a utopia standing alone: Market-Centric World, State-Centric World, and Civil Society-Centric World. Since, in reality, globalization requires some measure of each, Shell's scenarios are created around a world in which two worlds are ascendant and one is not. While all societies often aspire to all three objectives, the forces display elements of mutual exclusiveness—one cannot be at the same time freer, more conformant to one's group or faith, and more coerced (Shell International Limited, 2005).

Shell's document proposes three major global scenarios in which a business may find itself in the 21st century. *Low Trust Globalization: Carrots and Sticks* is based on Efficiency and Security. The state that is responsible for providing security to its citizens and promulgates rules and regulations by. Competition is regulated across country borders, and barriers to entry are high. Investors drive the economies and courts settle differences. It produces "A legalistic "prove it to me world: A world of heightened globalization and more coercive states and regulators" (Shell International Limited, 2005, p. 11).

> The absence of market solutions to the crisis of security and trust, rapid regulatory change, overlapping jurisdictions and conflicting laws lead to intrusive checks and controls, encouraging short-term portfolio optimization and vertical integration. Institutional discontinuities limit cross-border economic integration. Complying with fast-evolving rules and managing complex risks are key challenges. (Shell International Limited, 2005, p. 13)

Open Doors: Incentives and Bridges is based on Efficiency and Social Cohesion and Justice. In it, a high level of trust exits as good governance provides security for a civil society that values accountability for private and public sectors s. Global business thrives. It produces "A pragmatic, "know me" world: A world of heightened globalization and more cohesive societies" (Shell International Limited, 2005, p. 11).

> "Built-in" security and compliance certification, mutual recognition, independent media, voluntary best-practice codes, and close links between investors and civil society encourage cross-border integration and virtual value chains. Networking skills and superior reputation management are essential. (Shell International Limited, 2005, p. 13)

Flags: Nations & Causes is based on Social Cohesion and Justice and Security. In it, national security and sovereignty rule, as people wall themselves off from other cultures and countries. The citizenry value self-sufficiency and local communities, not global integration. It produces "A dogmatic, "follow me" world: A world in which values are affirmed in a more dogmatic, zero-sum game manner, and in which states try to rally divided societies around the flag" (Shell International Limited, 2005, p. 11).

> Zero-sum games, dogmatic approaches, regulatory fragmentation, and national preferences, conflicts over values and religion give insiders an advantage and put a brake on globalisation. Gated communities, patronage and national standards exacerbate fragmentation, and call for careful country-risk management. (Shell International Limited, 2005, p. 13)

Shell considers global security, civil society, governments, corporate governance, markets, climate change, biodiversity, renewable energy, in its forces for all three scenarios, and specifically focuses on China, India, Africa, the Middle East, as well as the United States, Europe, and Japan, in its consideration of how each would look in each of the scenarios with a section on patterns of economic growth in each of the scenarios. Thus, a global company could use the scenarios and the data they present to make strategic decisions about its own future: the countries with which it might successfully trade or locate, the products or services needed by developed and developing countries, as well the governmental issues it might encounter.

These scenarios drew from research previously reported in *Global Trends 2010* released in 1997, and *Global Trends 2015* released in 2000. All three are testaments to the fact that scenarios cannot predict the future, but they certainly are based on research that can tell leaders what to watch for on the horizon. They can be used by organizations as the basis for their own strategic thinking.

Shell International also recently published two energy scenarios; one is called *Scramble* in which "policymakers pay little attention to more efficient energy use until supplies are tight. Likewise, greenhouse gas emissions are not seriously addressed until there are major climate shocks" (Shell Energy Scenarios to 2050, 2009, p. 4). The other is called *Blueprints* in which "growing local actions begin to address the challenges of economic development, energy security and environmental pollution. A price is applied to a critical mass of emissions giving a huge stimulus to the development of clean energy technologies…" (Shell Energy Scenarios to 2050, 2009, p. 4).

National Intelligence Council

The U.S. National Intelligence Council (NIC) began publishing global scenarios in 1997 when it published *Global Trends 2010*. In 2000, it published *Global Trends 2015: A Dialogue about the Future with Nongovernment Experts*. In 2004, it published *Global Trends: Mapping the Global Future,* which focused on 2020 and included four scenarios: *Davos World*, which focused on expansion and integration of the global economy driven by technology that did nothing to alleviate social equalities; *Pax Americana*, which focused on a lone superpower, the United States, in a world in which countries in Asia and Africa grew in economic and political power; *A New Caliphate*, which focused on democratization in a world focused on religious and tribal identity; and *Cycle of Fear*, which focused on the rising power of developing countries in light of continued terrorism and conflict.

Global Trends 2025: A Transformed World was published in 2008. In its introduction C. Thomas Fingar, Chairman, National Intelligence Council, says:

> By examining a small number of variables that we judge probably will have a disproportionate influence on future events and possibilities, the study seeks to help readers to recognize signposts indicating where events are headed and to identify opportunities for policy intervention to change or lock in the trajectories of specific developments. Among the messages we hope to convey are: "If you like where events seem to be headed, you may want to take timely action to preserve their positive trajectory. If you do not like where they appear to be going, you will have to develop and implement policies to change their trajectory." For example, the report's examination of the transition out of dependence on fossil fuels illustrates how different trajectories will entail different consequences for different countries. An even more important message is that leadership matters, no trends are immutable, and that timely and well-informed intervention can decrease the likelihood and severity of negative developments and increase the likelihood of positive ones. (National Intelligence Council, 2008, para. 2)

The document discusses how thinking about possible directions of global forces has changed from the document published in 2004 to this 2008 document, which reinforces the importance of tracking those forces and analyzing the effects. In this document, the authors identify changes that are relatively certain and those that are not. The relative certainties include the emergence of a mulipolar system, the continuing shift in wealth from West to East, continued economic growth that will create pressure on energy, food, and water resources, the increasing potential for conflict in the Middle East, especially if the youth unemployment is not reduced, and the continuance of the United States as a powerful, if less dominant, country. The uncertainties are around the pace of the energy shift from oil and gas, the speed of climate change and its effects, the shift of China and Russia from state capitalism to democracy, the effect of a nuclear Iran on its neighbors, and the outcomes of transformed geopolitics.

The four scenarios are *Global Scenario I: A World Without the West*, in which the United States withdraws from Central Asia, the Shanghai Cooperation Organization becomes more important than NATO, and the lack of any stable bloc adds to instability that could threaten globalization; *Global Scenario II: October Surprise*, in which climate change causes much destruction and governments must consider drastic action, such as relocating coastal cities; *Global Scenario III: BRIC's Bust-Up*, in which conflict between China and India over access to natural resources develops into global conflict; and *Global Scenario IV: Politics is Not Always Local*, in which digital communication and growing economies creates a global environment in which nonstate groups like NGOs, businesses, and religious groups gain power.

The publication includes a final chapter on Power-Sharing in a Multipolar World, which addresses the possible change in U.S. global leadership, the changing goals of China and Russia, as well as Europe, the Middle East, and South America, with Africa remaining poor and poorly governed, despite natural resource wealth, the possibility of a basket of currencies to replace the U.S. dollar, and the increase in cyber attacks rather than military attacks to bring down an enemy. The information in the document could be used by any company when thinking strategically about its future markets or its suppliers for manufacturing or for raw materials. It can be useful when considering where one should outsource in terms of possible increased government regulation or conflicts or financial investment risk can be.

The World Economic Forum

The World Economic Forum (2009b) has developed many scenarios that can be used by any organization. The introduction to its scenarios for the global financial system in 2025 states:

> The scenario stories in this report have a very broad scope and are intended to increase our understanding of the various uncertainties regarding the future of the global financial architecture. Such high-level scenarios can provide a useful framework for posting more detail about an organization's specific external environment at the country, industry, or even product-line level. Used purposefully, scenarios can:
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> - enhance a strategy's robustness by indentifying and challenging underlying assumptions
> - allow better strategic decisions by discovering and framing uncertainties, leading to a more informed understanding of the risks involved with substantial and irreversible commitments and promoting strong and pre-emptive corporate positioning
> - improve awareness of change by shedding light on the complex interplay of underlying drivers and critical uncertainties, and enhancing sensitivity to weak and/or early signals of significant changes ahead
> - increase preparedness and agility in coping with the unexpected and by making it possible to visualize possible futures and mentally rehearse responses
> - facilitate collaborative action by providing different stakeholders with common languages and concepts in a non-threatening context. (World Economic Forum, 2009a, p. 77)

Its four financial scenarios are *Financial Regionalism*, which forces companies to strategically work with three major trade and financial blocs; *Fragmented Protectionism*, in which companies face individual countries' controls and regulations; *Re-engineered Western-centrism*, which focuses on a homogenous world in which to trade that unfortunately is always one crisis behind in its regulations; and *Rebalanced Multilateralism*, in which companies compete in a world of shifting geo-economic power, but one that is open to trade.

The World Economic Forum also has published scenarios on China, India, Russia, and the Gulf States, as well as scenarios on demographic shifts, engineering and construction, and technology and innovation. In *China and the World: Scenarios to 2025*, there are three scenarios: *Regional Ties* describes China's success at reform and overcoming historical regional enmities; *Unfulfilled Promise* describes a China that fails to enact structural reforms necessary for economic development and left the Chinese people believing the government had failed to fulfill its promises; and *New Silk Road* describes a China that has flourished economically and culturally in a peaceful integration in the global community (World Economic Forum, 2009b). *India and the World: Scenarios to 2025* also has three scenarios: *Bolly World*, in which India's initial economic success goes in reverse due to social and demographic pressures; *Atakta Bharat (India getting stuck),* in which India's ineffective leadership keeps it on the continuous verge of disaster; *Pahale India (India First),* in which India emerges as a global economic leader because its people put the needs of their community and country first (World Economic Forum, 2009c).

Schwartz (1991), Wells (1998), De Geus (1997), Van Der Heijden (1996), and Nanus (1992), all members of Royal Dutch/Shell's scenario teams at one time or another, are careful to point out that scenarios are not predictions, but they do describe possible futures that challenge our assumptions about the present by asking "What if?" Van Der Heijden (1996) said that:

> Scenario planning affects and broadens perception, thereby providing the requisite variety in mental models necessary to see and perceive the outside world beyond the traditional business models. It provides a language through which the resulting issues can be discussed in the

organisation, new theories of action can be jointly developed and shared, and alignment of mental models can be achieved, necessary for institutional action. (p. 114)

RESEARCH FOR SCENARIOS

Whether one uses global scenarios from Shell International, the U.S. National Intelligence Council, the World Economic Forum, or others, an organization must identify which key forces are most important to it now and in the future and analyze possible futures of the forces. Some of these forces are the environment, economy, government, population, infrastructure, resources, society (culture, education), and technology. A company might identify water as a natural resource required by factories to produce its products, so it would need to analyze where water might become scarce and whether government regulation would reduce the amount allowed to manufacturing in order to provide drinking water for its citizens.

For example, PepsiCo is focusing on using water more efficiently in its processes. In India, because almost all of the available water is used for agriculture, PepsiCo has a goal of a positive water balance, which will mean it gives back as much as it uses. However, it has also built rainwater-harvesting systems to avoid depleting the aquifers, and has taught farmers to use a direct seeding method for planting rice that does not require flooding seedlings with water (Global Reporting Initiative, 2009). A company that releases pollutants in its manufacturing process would need to monitor government regulations and the status of global warming as a result of those pollutants.

In terms of economic forces, whether the product offered is a necessity or luxury is important, especially if growth will be in emerging or developing countries. Shell International, the U.S. National Intelligence Council, and the World Economic Forum Government discuss where the growth will probably occur and when, as well as what regions and countries might provide the stability and legal structure necessary for manufacture and sale of the product. China, with its increasing middle class that has discretionary funds, would provide customers for luxury products, while Africa would not. Population prediction is important for not only purposes of analyzing markets, but also, with the addition of education, for analyzing the future workforce if a company needs manufacturing capacity. Tax structure and the programs, such as infrastructure, that a government funds with tax money can be important. With the increased use of Internet and cell phones, government support for building communication infrastructure is essential. Delivering product to customers requires transportation networks, which require fuel, so understanding the availability of natural resources is important. The financial infrastructure is also important to the company and its suppliers and customers. A country might have cultural or social forces that would prevent introduction of luxury goods or expansion of manufacturing facilities. A company can use published scenarios, such as the ones previously presented, to identify where it might prosper and what it needs to scan for it tracking the forces.

For example, if telephone companies had been scanning the horizon for what technology could do in the future, they might have been alerted to the first inroads of the computer industry into their market space when voice was transmitted via the Internet. Paying attention to computer technology and thinking about it as competition, such companies might have envisioned an instrument that could receive and transmit text, voice, and pictures, play recorded music, and are carried in a pocket. Had the telephone companies had scenarios and then paid attention to developments in technology, they might have reconsidered their business strategy that was based on landlines. If the music and film industries had developed scenarios, they surely would have paid attention to digitized sound and pictures, as well as the effective enforcement of copyright law in other countries that had the technology to copy music and movies. Building scenarios would have allowed those in the industry to be proactive rather than reactive about losing control over content, and a new business model could have been designed earlier.

For the purposes of strategic decision-making, being able to track the changes in the force is essential. For example, a maker of buggy whips in the last century might have asked, “What would happen to make my product obsolete?” The answer might consider that horses would not be available for pulling buggies, or that a substitute for using animals to pull buggies to deliver people and goods would be created. The use of horses to pull buggies could stop if the economy was so poor that no one could afford to feed horses, or, worse, that people ate the horses for food. The automobile might mean the eventual demise of the market for buggy whips. However, tracking the introduction of automobiles would have shown that buggy whips would be needed in Texas long after they were obsolete in New York City.

In another example, by tracking indicators, colleges and universities can make strategic decisions about the Internet capacity needed for students and faculty. Providing online access to library materials such as books, academic journals, and newspapers, as well as textbooks, requires strategic planning for infrastructure as well as finances. Some schools provided laptops to students without the infrastructure in residence halls to support online access, and without the necessary regulations for downloading movies and music. The allocation of budget for print books and journals would change as more of each can be accessed on line. The availability of textbooks online, for purchase or rent, creates more strategic decisions about how they are used in the classroom and how many computers are available free to students. Tracking indicators such as the number of publishers who offer electronic versions of publications and the number of students who bring traditional computers or laptops to campus rather than personal digital assistants (PDA) or cell phones can help a school make decisions about how to allocate funding, and how to plan for building changes for libraries and residence halls.

CRITERIA FOR SCENARIOS

Scenarios must be believable, internally consistent, and compelling if they are to influence strategic decision-making. Schwartz (1991) says that an effective scenario

> asks people to suspend their disbelief in its stories long enough to appreciate their impact. You know that a scenario is effective when someone, pondering an issue that has been taboo or unthinkable before, says, "Yes, I can see how that might happen. And what I might do as a result." (p. 39)

Believability also requires a time horizon that allows them to be plausible. "The time horizon for scenarios must be short enough to create scenarios that are probable, but long enough for us to imagine that important changes with an impact on the future business can take place" (Lingren & Bandhold, 2003, p. 53).

Scenarios must be compelling, vivid stories that allow the future to easily be seen in the reader's mind. There should be one or two positive scenarios and one or two negative scenarios. Status quo or business-as-usual scenarios are not useful since they rarely cause people to re-perceive their assumptions about the future. Each scenario must be memorable so that it is a filter when people are considering decisions. Each scenario must have enough detail about the steps that led up to the ending so that the person can identify the trends that must be monitored in order to support a positive scenario or derail a negative one.

One way to do this is to give memorable names to the scenarios so that the names bring the entire story to mind. Schwartz (1991) says that one should pay a great deal of attention to naming scenarios.

> Names should succeed in telegraphing the scenario logics. If the names are vivid and memorable, the scenarios will have a much better chance of making their way into the decision-making and decision-implementing process across the company. Because the name evoked such a powerful and evocative concept, Shell's "World of Internal Contradictions" (WIC) scenario survived for more than a decade as a useful tool even as the world changed. (p. 233)

Memorable names allow the scenarios to easily become part of the strategic thinking of an organization. For example, even using the scenarios written by Shell International, the U.S. National Intelligence Council, and the World Economic Forum Government, one could imagine strategic decision makers discussing whether to outsource manufacturing to Country X by considering how Country X would fare in *Low Trust Globalization: Carrots and Sticks*, *Open Doors: Incentives and Bridges*, *Flags: Nations & Causes*, *A World Without the West*, *October Surprise*, *BRIC's Bust-Up*, *Politics is Not Always Local*, *Financial Regionalism*, *Fragmented Protectionism*, *Re-engineered Western-centrism*, or *Rebalanced Multilateralism*.

Each scenario must also be internally consistent, but different enough from the others to present an alternative path and an alternative future that is significant to the organization. Each scenario must have indicators and signposts to track the probability of each particular scenario becoming reality.

> We call this 'tracking', as it is a matter of tracking changes in the environment that may have an impact on the focal question. Tracking is about finding trends, drivers and uncertainties that need to be considered in the work, since they influence the future of the 'question.' (Lingren & Bandhold, 2003, p. 56)

As the future unfolds, strategic decisions can be supported if the trends are aligned with the positive scenario or altered if the trends indicate an increase in the probability of a negative scenario occurring. A goal or project could receive a green light, even if it would not work in one of the scenarios, as long as the forces are carefully monitored to determine that the particular scenario's probability of occurring was not increasing. Much as indicators from weather satellites and radar are used to measure the probability of a tropical storm becoming a hurricane and thus make decisions about evacuations and emergency preparations, these indicators are the key sources of information that are important to the organization's future.

For example, the government of a country in which Company A operates might have a history of taking over private enterprises. Even if the current government supports outside investment, Company A would pay particular attention to a negative scenario that described the changes that would lead to a change in government and a takeover. If indicators that support for the current government was waning or criticism of foreign companies was strengthening, Company A might begin to restrict its investments in that country. Instead of building a new factory, it might contract with a local factory. It might decrease the number of workers and managers from its own country and increase the number of local people in those positions. It might reconsider its exit strategy.

DEVELOPMENT OF SCENARIOS

For companies that wish to develop their own scenarios, convening a scenario planning team that includes people from key functions is the first step. Shell International rotates its members every two years so that members understand the processes and issues of the company. Scenarios are developed backwards. With knowledge of the current environment and the organization's business, goals, and future plans, the team members brainstorm what the organization could look like ten or twenty years from now, in terms of size, locations, products/services, customers, suppliers, assets, costs, and profits.

The actual scenario starts with that particular year in the future and describes that future vision. Then the team maps how the organization moved from the present to that future, including how it responded to negative and positive changes in the forces important to its success. In this respect, developing scenarios is like the drama that Schwartz (1991) describes. One accepts the end as reality and does not consider that this or that could not happen, only how it happened. The changes in the forces naturally would lead to that end. Working backward from the future of the scenario to the present, the team creates a narrative that describes the changes in certain forces and how the organization responded to those changes. It describes intended and unintended consequences and identifies points at which the organization made a strategic decision that took advantage of a change or regrouped to avoid the negative impact of a change. The scenario allows the organization and its members to see possible consequences of its present decisions in the future, and think about decisions they might have to make in the future.

SCENARIOS FOR ON-THE-GO SPORTSWEAR

On-the-Go Sportswear is a clothing company that focuses on apparel for the weekend athlete. Its clothing line focuses on providing fashionable as well as durable athletic apparel. The clothing is made from cotton and synthetic fabrics, some of which have wicking properties to pull moisture away from the skin. On-the-Go Sportswear is a private company that distributes clothing to specialty sports apparel stores as well as big box stores like Sears and Target in the United States. It has been in business since

1980 and met its revenue targets each year for the last twenty years. It has loyal customer groups in some sports such as tennis and golf. It outsources all manufacturing of its clothing, although design is done at its headquarters in Delaware. It has contracts with suppliers for fabric, fasteners, zippers, buttons, thread, etc.

Scenario 1: We Will Endure

It is 2025, and On-the-Go Sportswear has recovered fully from the global economic downturn that began with the U.S. housing meltdown in 2007. It is increasing the outlets for its clothing, and has added two new major specialty sports apparel stores now that the economy has recovered and people have discretionary funds to buy sport clothing. It provides new designs for the clothes for these stores twice a year. It still sells in the big box stores, but they are carrying a secondary line, which is simple and inexpensive. It still manufactures its clothing line in China, and has increased its orders each year for the past three years, although it is waiting before it adds another manufacturer. Although there were lean times, it avoided bankruptcy because it was able to scale back its production.

Back in 2008, the United States injected money into its financial systems to avoid an economic meltdown, but the global effects continued to spread as banks in other countries dealt with decreasing assets and increasing bad debt. Although a depression never materialized in any country, the United States did endure years of recession where jobs were scarce and people had less and less money to spend on new clothes, particularly for special sports apparel. On-the-Go Sportswear was forced to limit distribution only to big box stores since many specialty stores were delinquent in paying bills and some filed for bankruptcy. In 2010, China, the source of cheap labor and materials, battled outrage of its citizens about lack of regulation about problems ranging from poorly built schools that collapsed in earthquakes to tainted milk to unsafe work environments, such as those found at Foxconn's complex where employees were jumping to their deaths. The resulting regulations on safety and work hours implemented saw many manufacturers move to other Asian countries, like Vietnam and Cambodia, as the price of the regulation increased the price of the products, which businesses in the recovering developed countries said they could not afford.

In 2011, On-the-Go Sportswear's main contractors moved their operations to Laos and were able to find local suppliers for fabric and other necessary components needed, from buttons to laces. The price was higher, but since On-the-Go Sportswear had scaled back its volume and its product offerings during the downturn, it was able to continue to show a profit. Unfortunately, the influx of Chinese manufacturers to the counties created a backlash from local workers who felt they were being treated poorly, especially when compared to their counterparts in China. The Laotian government had not been stable for years, and its answer to the unrest was to implement its own regulations and impose a tax on foreign manufacturers. Prices slowly increased and even though the U.S. economy was improving, the big box stores were unwilling to handle sports apparel at the prices On-the-Go Sportswear needed to charge. It changed its model to providing clothing that was timeless, simple, and had no special decorations for the big box stores to keep the price low. It began looking for local specialty stores to develop the designer market, but it was a slow process.

In 2014, with instability again on the rise in Laos, On-the-Go Sportswear was forced to find new manufacturers in Vietnam, but there were problems with quality, and consumers, who were just beginning to enjoy a growing economy, complained. Clothing was returned for missing fasteners, seams that unraveled, dyes that faded, and fabric that shrunk. Significant market share was lost. Trips to the manufacturers did not correct the problems.

In 2017, On-the-Go Sportswear returned to China to find manufacturers, and although the price of the finished goods was higher, the quality of both the materials and the workmanship was good. It was able to expand its distribution channels to more specialty stores where customers appreciated the new designs and quality work. It sponsored two marathons and saw a boost in sales.

By 2025, the higher prices have been accepted by the market since the economy has improved, and On-the-Go Sportswear appears to be turning the corner to sound profitability again.

Scenario 2: Good Neighbors Make Good Business

It is 2025, and On-the-Go Sportswear is seeing light at the end of the tunnel. Its manufacturing facilities in Mexico are finally able to produce the quantity of goods at the level of quality required. The drug cartels that created chaos for citizens and businesses and that frequently stole shipments have been destroyed or have moved back to South America. The company's manufacturers are in western Mexico, which saw its economy develop quickly as manufacturers moved away from the U.S./Mexico border and the drug cartels. Mexico's economy has strengthened, and its children are attending school now that they do not have to work to help feed their families. Children are now finishing 10 or 11 years of education, and a technical institute trains people in quality manufacturing processes. Given the increased price of fuel due to shortages both from decreased supplies and increased demand from developing nations, being in Mexico has decreased the cost of transportation and allowed On-the-Go Sportswear to expand its outlets and increase its product lines. It now produces a designer line for special sports apparel stores that has new designs twice a year. During the lean years, it created a less expensive line of clothing that was durable but very simple in design. This kept manufacturing costs low, so the prices in the big box stores could be competitive. It is still producing this line and has added children's clothing to both lines. It still manufactures in the United States, but those companies only produce the designer line of clothing, because costs are inching up as the economy improves.

By 2012, the increased costs incurred by Chinese manufacturers from the government's regulations on product safety and wages and working conditions, were passed on to their customers. Transportation costs increased as demand for oil continued to rise with the increased use for industry as well as an increase in the number of people driving automobiles in China and India. On-the-Go Sportswear was reluctant to follow its manufacturers to Laos and Cambodia because the supply chain was an unknown. As the costs in China increased, the price On-the-Go Sportswear needed to charge its customers increased as well. Since the U.S. economy had not recovered yet, and special apparel stores had been dropped due to their financial problems, On-the-Go Sportswear had to create a less expensive line of clothing that was durable but very simple in design in order to be competitive in the big box stores.

By 2014, an increasingly narrow profit margin finally forced it to find another country in which to manufacture. It transferred production to two factories in the United States that were responding to a need for jobs for U.S. workers. The economy in the United States improved steadily, so there was a market for the products. Although labor costs were competitive, there were difficulties in finding fabric and components for the clothing in the United States and so materials had to be found elsewhere. One source was Mexico. Although On-the-Go Sportswear considered transferring production of its clothing to Mexico, the chaos caused by the drug cartels made it impossible. The drug cartels had a stranglehold on the people and the economy. The U.S. government wanted to help the Mexican government destroy the cartels lest they move into the United States, but it did not have the needed military forces, so it maintained the border fences as best it could. In order to avoid the border, ships were used to transport the supplies, but that meant long waits at ports and the increasing price of oil added more shipping cost to the price of goods. On-the-Go Sportswear had to transport some items from China until it finally found sources in Guatemala, although shipping was also a problem because there were few reliable shipping firms; orders were late or they were the wrong items and the manufacturer and the shipper blamed each other.

In 2015, Americans who lived near the interstate highways were successful in forcing Congress to rescind the NAFTA agreement allowing trucks from Mexico to use U.S. highways. Each year the number of fatal crashes on U.S. interstates traced to Mexican trucks had increased. With additional trucks on the road, there were more drivers who did not understand signage, and this was also causing accidents. When a trucking company was shut down, it simply opened with another name and the same trucks. The new rule required all goods to be transferred from Mexican to American trucks at the border. The media discovered that the trucks involved in the crashes did not meet standards and were never inspected at the border because of the drug cartel violence. Mexico realized that it had to do something drastic about the drug cartels. The old method of allowing the cartels to control parts of the country and provide jobs, 'policing', and tax revenue, no longer worked when the cartels were at war with each other for control.

Mexico asked the United States to use its drone planes to help destroy the cartels. By this time the Mexican people were so angry with their own government, they accepted this incursion.

By 2016, the cartels had been destroyed or moved to other countries. On-the-Go Sportswear found that Western Mexico, which had been the destination for manufacturers when moved away from the U.S./Mexico border and the drug cartels, was developing its economy quickly. It found two factories that could produce its apparel, while it still bought supplies from Guatemala. The increase in demand for factory workers was good for Mexico, but it was difficult to keep good workers when they were offered better pay by a competitor.

In 2020, On-the-Go Sportswear decided to take a partner who was a citizen of Mexico and built its own factory in Mexico. There were now manufacturers who made the fabric and components in Mexico, so it was able to control the quality of the components and the end products. This helped stabilize the employee churn. On-the-Go Sportswear also turned to a business degree program at a nearby university to find local managers who wished to stay in the area and work. One supplier relocated to be near the new factory.

As 2025 closes, stability has helped the company increase its productivity, which has given it the resources to expand and add new equipment. Demand for the products in the United States is picking up and On-the-Go Sportswear is hopeful that it will continue to thrive.

Scenario 3: Go East

It is 2025, and On-the-Go Sportswear is a robust and healthy company with revenues it did not dream of even ten years ago. It is still an American company that manufactures its line of clothing in China and still sells to U.S. consumers, but now most of its profits come from the Chinese market.

There was a concern in 2010 that it would have to leave China and find another source for its manufactured goods. In 2009, the good feelings from a successful summer Olympics had given rise to dissatisfaction with the Chinese government. Its people wanted to know why the new buildings, including schools, that were the harbinger of prosperity, had been so poorly made they collapsed in the earthquake of 2007. They were angry about tainted milk that sickened their children. The government responded with new regulations about product safety, worker safety, and security. Many Chinese manufacturers moved to other Asian countries in 2010 and 2011 to escape the costs of bringing factories into compliance and paying their workers more. Luckily the manufacturers with whom On-the-Go Sportswear had contracts with decided to stay in China because they saw a future supplying a Chinese population that had more and more discretionary money. They convinced their suppliers to stay too.

With increasing manufacturing costs and increasing transportation costs, the years 2010-2012 were lean for the On-the-Go Sportswear. The economic meltdown of 2008 had left the United States in a recession so the American consumers were not buying much that was not necessary. The company decreased production and focused its distribution to the sports apparel stores in areas where there was an affluent population and to the big box stores.

By 2014, the economy in China was booming. The country’s focus on solar energy had decreased the demand for oil and coal, and China was building its own electric cars. Industry had grown, and China’s government supported a strong research and development initiatives. The middle class was growing rapidly. An increasing percentage of the Chinese population had discretionary spending. The successful Olympic medal count in 2008 and again in 2010 spurred an interest in sports in the general population. There was a demand for the type of clothing On-the-Go Sportswear made.

In 2016, the Chinese government was supportive of joint ventures between foreign companies and local factories in order to increase production of products needed by its increasing middle class. On-the-Go Sportswear bought part ownership in one of the factories that was manufacturing its clothing; all fabric and components were bought from Chinese manufacturers. It hired Chinese designers to design a line of clothing specifically for Chinese customers, and the company’s profits took off.

It built two more factories in 2018 and 2020. With a Chinese partner, it began selling clothing to China. Although the shipping costs are still high because of the high costs of fuel and the slow process of bringing renewable online in the United States, the high profits from its adopted home help defray the cost of supplying the U.S. market.

As 2025 closes, demand for its product is high both in China and in the United States. On-the-Go Sportswear is thriving.

By tracking the regulations China is initiating in 2008, the global economic trends, the political changes in countries of interest, and the growing consumer populations in developing countries, On-the-Go Sportswear can make decisions that will help it weather economic storms and be proactive as opportunities present themselves.

CONCLUSION

Scenarios are compelling stories that describe the possible futures in which a company must compete. They help leaders consider today's strategic decisions in the light of what may happen in the future. They describe situations in which leaders can explore possible unintended consequences of their decisions as well as the intended consequences by asking "What if?" More importantly, the process of creating scenarios requires that leaders identify exactly what global and local forces are most significant to the success of their businesses. By then identifying the indicators that will demonstrate how those forces are acting, leaders can know what information and data to track in the information overload that will characterize the 21st century. By tracking the indicators, leaders will know whether the probability is increasing or decreasing that a particular scenario will become reality. They can then consider what the scenarios indicated might happen and adjust their strategic decision making accordingly.

This paper has presented three major sources for global forces and scenarios that companies can use immediately to evaluate their strategic decisions. These can help leaders who wish to establish a team to create scenarios for their companies to identify the significant forces, how those forces might change, and how those changes would affect their companies. Thus, the scenario teams do not need to start from scratch combing through data. These company scenarios can then provide an essential tool for leaders to make strategic decisions about future possibilities based on data. Thus, they can successfully confront the global business environment of the 21st century.

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