

Scenario Planning

Strategy for New Products & Services

Briefing Paper

Strategis Partners

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Executive Summary

This paper explains how Scenario Planning can help your company develop the next generation of products and services.

Scenarios encourage a broader approach to change, opportunity and uncertainty which characterizes the future of many markets. They are vital in overcoming the strategy blockers that exist in many organizations. All too often product development strategies are an internally-driven reflection of what the company wants the world to look like.

By introducing a structured process for dealing with the future of products, scenario planning helps organizations anticipate and respond to disruptive change.

The core of the scenario process is that you research key factors and forces driving product markets. You determine which are predictable and which are uncertain. You decide which uncertainties are most influential, and base the scenarios of the future on those uncertainties. Finally you spend time exploring the implications of those scenarios.

Exploring scenarios involves addressing three major questions:

What is the essence of the underlying formula for the company's future product success?

What portfolio of initiatives should we be pursuing?

What are the early indicators signalling that one or more scenarios may be coming to fruition?

There are two important success factors for scenario planning. First, a structured process of facilitated workshops is vital for team learning and developing the scenarios. Second, the people selected to participate are critical to a successful outcome.

Where will your **next wave** of **products** and **services** **come from?**

Industry, technology and customer scenarios can guide the development of your company's next generation of products and services

Scenarios are “strategic stories”. They are plausible, pertinent stories about the future. Scenarios are not forecasts or predictions. They are aids for thinking about future products and services. They function both as inspirations for generating new product ideas and as filters through which new ideas and projects can be passed.

Well-crafted scenarios are tools for challenging conventional wisdom. Although many companies do scenario planning, few use it to drive product development and business innovation. Those that do are finding it very rewarding. Siemens, for example, recently began creating “pictures of the future” to discover market opportunities and create a roadmap for its R&D strategy.

Over the past 15 years, most companies have adopted standard product-development processes, with disciplined time lines, strict design reviews, “gates” to decision making, and cross-functional development teams. While these changes have made the development of new products much more efficient, they are not necessarily maximising value creation. The new currency is creativity.

General Electric’s “dreaming sessions”

In late-2005 GE announced a sweeping new strategy— “Ecomagination”— to promote its new “clean” technologies (The Economist, Dec. 8th 2005). The company plans to double its revenues from 17 clean-technology businesses, ranging from renewable energy and hydrogen fuel cells, to water filtration and purification systems, to cleaner aircraft and locomotive engines. To get there, GE will double research spending on clean products, from \$700m per year to \$1.5 billion, by 2010.

GE invited bosses from various customer industries to two-day scenario planning workshops — described as “dreaming sessions” by GE. The company took away a clear message from these scenario workshops

Before launching the new strategy, the firm spent 18 months developing concepts and discussing them with customers. GE invited bosses from various customer industries to two-day scenario planning workshops — described as “dreaming sessions” by GE. Customers were asked to imagine life in 2015 and the products they would need from GE. The company took away a clear message from these scenario workshops: rising fuel

costs, ever tighter environmental regulations and growing consumer expectations will translate into demand for cleaner technologies, especially in the energy industry.

Overcoming the inhibitors of innovation

Scenarios help practitioners foster genuine innovation in new products and services, by providing the means to overcome the inhibitors that exist in many organizations:

The strategic significance of new waves of innovation may not be well-understood across the organization. Inadequate external intelligence gathering and the prevalence of internal silos make it difficult to generate genuinely new concepts

There may be inappropriate funding mechanisms, which either kill or do not allow the initiation of potentially innovative projects; or

With a narrowly focussed remit, the organisation’s product development processes may strangle all but incremental innovation.

HOW DOES SCENARIO PLANNING HELP IN NEW PRODUCT INITIATIVES?

Scenarios help in the construction and testing of innovation strategies in three ways:

1. Scenarios provide a foundation for new product development where there is change, opportunity and uncertainty ahead
2. By educating decision makers about the alternative ways in which the future might unfold, scenarios can help them prepare the organization for change
3. An explicit use of scenarios helps the management team to adjust course in the light of events. The better the scenarios, the less frequent these surprises will be and the more successful the new product strategy.

Scenarios look at the bigger picture

Scenarios encourage product development teams to look at the wider picture - from the “outside in” - to look for new opportunities outside the current product paradigm. Far-reaching innovations require a robust understanding of future market and technological environment.

Thinking the unthinkable

A good scenario describes what it's like to deal with the drivers of change, and call upon the organisation to dig deeper, work with scarce resources, make difficult decisions, and take action despite risks.

Scenarios help us test strategies and business decisions since they “simulate” how industry or technological change might pan out. “What could bite us?” A scenario expresses how and why the business succeeds or fails. A good scenario describes what it's like to deal with the drivers of change, and call upon the organisation to dig deeper, work with scarce resources, make difficult decisions, and take action despite risks.

In essence, scenario planning is the art of thinking the unthinkable:

How might our current strategy of product and service development be wrong?

Is our product development pipeline too narrowly-focussed?

Is our target customer / market profile off-beam?

Would we be better off collaborating with our competitors in basic R&D - and competing in areas that matter more to consumers?

For example, there's been a recent change of tune in the global automotive industry. General Motors and Chrysler said they would team up to design a hybrid power-train. Ford and Nissan adopted Toyota's hybrid technology for their own engines. Toyota and GM are discussing collaborations on new hybrid and hydrogen engine technology.

THE SCENARIO PLANNING PROCESS

The core of the scenario process is that you research present key trends. You determine which are predictable and which are uncertain. You decide which uncertainties are most influential, and base the scenarios of the future on those uncertainties. Finally you spend time understanding the implications of those scenarios. Those implications are used to develop a strategy in the face of the impending surprises.

The scenario planning process involves the following activities:

Deciding on the Focal Issue, and selecting the key participants, both internal and external to the organisation

Conducting interviews and information gathering to address the key issues

Through a series of workshops, identifying key factors and driving forces, conflicts and dilemmas, and the critical uncertainties

Designing the logic for each scenario, and developing the scenario narratives

Exploring the implications - so what should we be doing?

The Focal Issue and Frames of Reference

When developing scenarios, it is important to begin with a specific decision or issue that top management will need to think hard about. For example, the Focal Issue might be defined as follows:

What new products should we be designing to serve an increasingly informed and demanding customer base?

Pronounced shifts in demographics, attitudes and behaviours, are leading customers to demand much greater responsiveness and creativity

Pronounced shifts in demographics, attitudes and behaviours, are leading customers to demand much greater responsiveness and creativity. Cultural trends are leading consumers to reject imitative products, while global competition is driving greater demand for value for money.

Once the Focal Issue for the scenarios has been defined, the process of building scenarios begins with a framing of the problem. Framing is the use of an overarching idea or a collection of ideas that organize perceptions of issues. A Frame of Reference can give a scenario a single general effect, and each scenario aims to provide a different Frame for thinking about the future.

The importance of correct framing

As an example of the importance of framing, in the early 1980s IBM held its critical planning meeting to decide their PC strategy. A key focus of the meeting was the ten-year forecast for the PC market, estimated to be 275,000 units p.a. by the end of the decade. In fact, actual PC industry sales turned out to be 60 million units p.a. IBM missed out on a potential \$250 billion of wealth creation! So what went wrong? It was a matter of framing. IBM's Frame of Reference was that people merely wanted "CPU

IBM recognized the importance of framing. They brought in open-source revolutionary Richard Stallman to speak to its researchers at a time when its software business was built around the traditional proprietary software models

power". But in reality, people wanted "control" through desktop computing to escape the rigidities of mainframe computing. The lesson here is that the wrong mental maps were driving decisions and actions.

In the 1990s, IBM recognized the importance of framing. They brought in open-source revolutionary Richard Stallman to speak to its researchers at a time when its software business was built

around the traditional proprietary software models. IBM has now built a successful business around the radical idea of free software, helping to fuel the rapid rise of Linux and other open-source programs.

Uncovering the “Official Future”

The classic approach to product development strategy starts with a presumption: that with sufficient business, marketing and technological rigour, companies can predict the path to the future from the experience of the past. In this world, product strategists make assumptions about trends in product markets, funding requirements, technology,

and government regulation and so on. In effect, they “assume away” most of the uncertainties.

In reality, product development strategy is all too often an internally-driven reflection of what the company wants the world to look like. We call this the “Official Future”

But in reality, the product development strategy is all too often an internally-driven reflection of what the company wants the world to look like. We call this the “Official Future”, and it is usually based on some form of extrapolation or prediction.

For example, the Official Future may be predicated upon crucial, but unexamined assumptions such as:

“We can safely add new products into our market without affecting prices”

“We have an innovative edge over companies in China and India”

“Time to market is the most important factor in product development”

“It’s OK to give up an unprofitable market to a new low cost entrant”

“Our competitors would never reduce margins by much”

“Customers need the ‘Gold Standard’ and will pay for it”

“There is no other competitive technology available”

“Product line extensions are easy”.

Each of the implicit assumptions underpinning your company’s Official Future may be entirely plausible. But “what if ...?” questions also need to be asked.

Shell created valuable lead time in realising that one crucial assumption underpinning the industry’s Official Future could be wrong.

The Shell Company were able to rehearse a massive fall in the price of oil in the early 1980s when every other oil major thought the oil price was going to go up even more. Shell created valuable lead time in realising that one crucial assumption underpinning the industry’s Official Future could be wrong.

The Key Factors and Driving Forces

To develop the scenario logics, we identify the key drivers of change that might shape the future products and services such as the following:

More intense competition from low cost competitors

Increasing complexity of markets: Well informed customers will seek a mix of low-cost, mass products and targeted offerings that align with their values

A “long tail” of product demand is being created by e-commerce. The long tail is a

shift from mass markets to niche markets, as electronic commerce aggregates and makes profitable what were previously unprofitable transactions.

An increased use of innovation alliances and partners in strategic sourcing

The rise in China and India as innovation centres. India's costs in science and technology skills are less than one-third of developed economies. The intensity of Chinese entrepreneurialism is propelling many companies, beyond a role as producers of low-cost commodities. India's emphasis on leading edge research and development makes it a seedbed for original products and services in the future

An older and increasingly mobile and diverse workforce

Emerging technologies such as computing utilities, software as services, and advanced customer and marketing analytics

Demand for business connectivity; for example through networking, real time information and open architecture.

Next we identify those drivers of change which are more-or-less predetermined— and those which are fundamentally uncertain. Taking the uncertainties, we can then identify the different directions in which they might lead, and select those which will most help us think about the future.

Conflicts and the Innovator's Dilemma

Scenarios aim to describe how conflicts and dilemmas will play out over the longer-term. In his 1934 classic *The Theory of Economic Development*, Schumpeter examined how entrepreneurial innovations disrupt the prevailing state of business affairs.

Revolutionary change comes as a result of inherent conflicts and dilemmas in the existing models of production and distribution. For example these might be over-serviced customers, under-served markets, products with too much functionality or too little functionality

Revolutionary change comes as a result of inherent *conflicts and dilemmas* in the existing models of production and distribution. For example these might be over-serviced customers, under-served markets, products with too much functionality or too little functionality. According to Schumpeter, “the problem that is usually being visualized is how capitalism administers existing structures, whereas the relevant problem is how it creates and destroys them”.

According to Clayton Christensen (1997), many great companies fail to anticipate and respond to disruptive innovations for the following reasons:

1. Leading companies listen to their best customers; but these customers are the last to adopt new and disruptive innovations and technologies
2. Leading companies measure the size and growth of markets to understand customers better; but disruptive innovations are unpredictable, and evade detection through traditional measurements
3. Leading companies focus on the highest returns and the largest markets; but disruptive innovations are counter-intuitive. They start small & translate into lower profit margins in the early stages.

Developing the scenario narratives

Each scenario plot or logic should be different, yet relevant to the focal question.

Nonetheless, there are a few archetypal plot lines that seem to arise over and over.

Christensen's historical analysis of 20 markets that were created in the last hundred years shows that the creation of new markets is consistently accompanied by the same four events

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.

Christensen analysed twenty markets that were created in the last hundred years. He shows that the creation of new markets is consistently accompanied by the same four events.

These event were as follows:

The haphazard (and at times accidental or lucky) development of a new "technology" (or business model)

A flood of companies entering the uncertain (and risky) market opened by the development of this new technology

A slow initial uptake of the products and services associated with the new technology, followed by a huge explosion of customer interest when a dominant design is established

The death of most of the early entrants (and their products) once a design emerges as dominant.

Christopher Booker (2004) describes basic archetypal plot-lines which recur in many forms. Those relevant to product innovation scenarios include the following:

"The Quest" – the hazardous innovation journey towards the goal

"Escape from Death" – how major innovation risks emerge and are dealt with

"Rags to Riches" – smart thinking, not money holds the key to the future

"Voyage and Return" – travels into unfamiliar market / technological territory

"Overcoming the Monster" – against all odds, success is achieved.

Consider adding a "wild card" scenario that takes into account a dramatic yet relevant surprise with the other scenario themes. Wild cards can reinforce the importance of continually "thinking out of the box."

For the scenario narratives you might build two or three contrasting scenarios. In addition, consider adding a "wild card" scenario that takes into account a dramatic yet relevant surprise with the other scenario themes. Wild cards can reinforce the importance of continually "thinking out of the box."

Some of the scenarios might represent warnings—futures that can be avoided if you take the appropriate steps now. Others might represent some kind of high road; an "unattainable" ideal that you now realize is indeed attainable, because the scenario has explained its plausibility.

EXPLORING THE FUTURE WITH SCENARIOS

*“The difficulty lies, not in the new ideas,
but in escaping from the old ones.”*

- J.M. Keynes, 1935

Once the scenario narratives have been drafted, the next step is to explore the implications, addressing questions such as the following:

In each scenario, who is the customer? How do we reach them?

What is common for our organization under all scenarios – the “no regrets” strategy?

What works under one scenario, but is very risky under another scenario?

How might our current strategy be wrong?

Exploring scenarios involves addressing three inter-related questions:

1. What is the underlying formula for the company’s success – the “business idea”?
2. What portfolio of initiatives should we be pursuing?
3. What are the early indicators that signal a scenario may be coming to fruition?

The business idea

Uncovering the new business idea - the essence of the underlying formula for the company’s success – involves addressing the following questions: How do we make money? Why would customers buy from us? Why don’t they go to a competitor, or do it themselves? Which competitor do you admire most? Why? In what respects are you different? How do you justify the superiority claim? How do you sustain uniqueness?

The portfolio of initiatives

The portfolio of initiatives represent where, how, and when the company will create value

The portfolio of initiatives represent where, how, and when the company will create value. These initiatives are a set of actions over different time frames - short term, medium term, long term.

These actions might include introducing new capabilities and exiting old capabilities, introducing initiatives to increase speed and flexibility, and fostering organizational cultural change. They might also include forming new alliances and partnerships. Certain scenarios may suggest benefits in changing the nature of the dialogue with key stakeholders – customers, regulators, suppliers and distributors.

Possibly up to 15 to 20 initiatives may be appropriate. One important segment in the portfolio of initiatives is the set of “real options”.

Real options are way of making product-development decisions, in the presence of risk and uncertainty. They lead to the following implications:

Real options are way of making product-development decisions, in the presence of risk and uncertainty.

Be willing to pay for flexibility in the new product pipeline

Invest more in information and knowledge gathering

De-construct the product development project into stages and identify the real options at each stage

Pursue possible rather than predictable opportunities – and fail fast

Exploit better than expected results faster.

Early warning indicators

While scenarios are vital in making specific decisions, they also encourage decision-makers to become much more sensitive to new signals of change. What has not been foreseen is unlikely to be seen in time. Here are some possibilities for “thinking upstream” in light of the scenarios:

Identifying subtle but powerful shifts in social attitudes

Understanding new actions by competitors, and new entrants into the industry

Changes in economic policy and new legislation

Investigating technological shifts / breakthroughs, and their early adoption.

Important success factors for new product scenario planning

There are two important success factors for scenario planning. First, a structured process of facilitated workshops; second, the people selected to participate are critical to a successful outcome.

There are two important success factors for the practice of new product scenario planning.

First, the structured process of facilitated workshops is vital for team learning and developing the scenarios.

Scenario facilitation skills and experience ensure the success of scenario planning initiatives.

This requires relating to the concerns of management to gain their confidence and support in the following ways:

Setting realistic goals, scope and expectations for the workshops, and providing clarity on roles and project direction

Surfacing the critical issues, factors and forces shaping the future, to uncover the strategic risks and uncertainties impacting success

Guiding the diversity of inputs to scenarios, to ensure good coverage of possible futures

Designing scenarios that are plausible, and internally consistent

Setting the groundwork for the two or three major decisions that can come out of the scenario planning workshops.

Second, the people selected to participate are critical to a successful outcome. The most effective results come from integrating people from different backgrounds into the scenario planning team. New product and service development invariably requires the active involvement of top management and those closely involved in innovation - as well as people from outside the company. Ideally the participants should represent a variety of disciplines, such as business, politics, ecology, engineering, and sociology. They should also represent a wide range of ages. The key is to include people who are unorthodox, challenging thinkers.

INNOVATE AND COLLABORATE, OR PERISH

“Gentleman, we are out of money.

Now we must think.”

– Sir Ernest Rutherford,

*Discoverer of the atom, and Director of Cavendish Laboratory
Cambridge, England (1919).*

Over the next decade all corporations will experience more intense competition. An overriding need therefore is for cross-company collaboration to keep pace with changing markets, technologies and customer needs. Scenario planning can play a valuable role in fostering such collaboration. Through a scenario-based approach to product development and business innovation, companies can benefit in the following ways:

The critical scenarios describing possible futures are identified, including the risks and opportunities. Key success factors are uncovered – leading to an enhanced ability to prepare the organization for strategic change

The structured and rigorous approach will ensure the strategic issues and their implications are identified, and these can be shared across the organization

The process will guide the diversity of views of participants and effectively draw upon their wide-ranging ideas. Innovation is fostered, and new strategic options can be developed with greater confidence

A forum for ongoing discussion on the future challenges and opportunities across the organisation is created.

Yogi Berra – the quotable baseball legend – suggested that when you see a fork in the road, you should take it. What was merely a humorous aphorism can now serve as a foundation for strategic decision making. By adopting a scenario-based approach to product development, it is truly possible to take the fork in the road – to have multiple views of the future in mind, while the critical uncertainties are being resolved.

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ABOUT STRATEGIS PARTNERS

Strategis Partners is a management consulting firm recognized for its insight in complex future-oriented initiatives. Strategis Partners is a team of business strategists, management scientists, and organizational economists. The team's skills cover business strategy and organization, decision analysis, outsourcing, scenario planning, six sigma, and value chain / supply chain modelling. Strategis Partners assists clients in the following industries on the use of scenario planning:

Consumer Products and Retail
Energy and Mining
Financial Services
High Technology and Communications
Industrial Products and Agribusiness
Infrastructure and Government
Transport and Logistics.

Strategis Partners Professional Education Program on Scenario Planning

The Strategis Partners Seminar Program, "Strategy in the Face of Disruptive Change", is designed for individuals and small teams with experience of general management and strategic development, but with little practical knowledge of scenario planning.

Seminars and workshops are offered as both public events, or as in-house corporate training. The focus is the practical application of scenario planning in corporations and government agencies. The intent is to stimulate "out of the box" thinking, imagine the unexpected, and overcome outmoded organisational thinking.

The goals of the seminar are to:

Introduce the practice of long-term scenario thinking into corporate planning
Develop mechanisms to deal with discontinuities in the business environment
Assist organizations to shape the wider policy and community agenda.

It is an intensive and interactive program that requires a high level of commitment from all participants. Using a mix of plenary sessions and small group work, participants explore the key concepts of scenario planning. Participants are encouraged

to consider how these might be applied in their own organisations. Participants are guided on how to develop future scenarios and scenario projects within their own organisations in a wide variety of contexts.

The Program demands both creative and analytical thinking and, even if Participants do not then go on to run formal scenario planning projects, they can use the concepts to enhance their current management practice.

Seminar and Workshop benefits

Overall, the seminar is designed to provide the following outcomes:

Improve your global and domestic perspectives on major issues

Develop more creative business strategies

Enhance your organisation's ability to respond to disruptive industry scenarios

Build your organisational leadership capacity.

The program is a cost-effective way of enabling an organisation to assess the potential benefits of scenario planning. For organisations that are planning to initiate a full scenario planning project, the program can prepare executives to lead the project and allow them to appoint team members, external experts and facilitators on an informed basis.

For organisations that have already established scenarios teams, the program is a means of bringing new members of the team up to speed within a very short period of time.



About the Author

Jay Horton, Founder of Strategis Partners, is recognised as a leading adviser to companies and Governments on a wide range of strategic business issues, including scenario planning, innovation, value chain strategy and organization.

During his twenty year management consulting career, he has worked with clients in Australia, Canada, Japan, Hong Kong, Indonesia, New Zealand and Singapore.

Jay has played a range of leadership roles:

Partner of PricewaterhouseCoopers, leading their Applied Decision Analysis practice in the Asia-Pacific

Founder and Managing Director of decision consulting firm ORG Pty Limited

McKinsey Consultant to top management in Australasia

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Jay's qualifications include Master of Economics from Australian National University and a Bachelor of Engineering from James Cook University. He is a Fellow of the A.I.C.D.



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