



STRATEGIC FORESIGHT: EFFECTIVE DECISION- SUPPORT SYSTEMS

More than ever, strategic decision-makers are expected to develop sustainable long-term strategies for their public or private organizations. Strategic foresight systems support decision-makers in systematically improving the quality of their future assumptions, strategic decisions, and plans. This article summarizes the most important mechanisms of support, presents three distinctive types of foresight systems and widely used methods, and explains how strategic foresight is anchored in actual day-to-day practice.

By Dr. Adrian W. Müller and Prof. Dr. Günter Müller-Stewens

Today's political and business environment can be characterized by increasing pressure on political institutions and commercial companies to develop and realize sustainable strategies. The drivers for this necessity can be found in various contexts: the shortage of natural resources, climate warming, or a worldwide, growing number of active consumers wanting to raise their standards of living. Whatever the drivers may be, sustainable strategies are always complex and long-term in nature and, therefore, they will always rely on some assumptions about the future environment (of the public or private organization). As such, every strategic decision and action implies some assumptions about the future, whether they are explicit or implicit. Also W.L. Renfro notes: "Strategic decision makers must constantly make assumptions about the future to function. People have no choice to go on making assumptions (...) about the future."

Generally, these future assumptions can be perceived as individual or collective mental models and beliefs about future conditions, processes, or interrelations. They can be shared or be denied. Finally, they help strategic decision-makers to manage and reduce the complexity and uncertainty inherent in strategic decisions. In a day-to-day practice, these assumptions may concern the future behavior of relevant institutional players, new forms of consumer behavior, or the implications of socioeconomic changes on a current business model strategy.

However, there is an inherent challenge for strategic decision-makers working out future assumptions underlying their strategies. On one hand, it is evident that the quality of the assumptions – in terms of accuracy, actuality, and reliability – is highly relevant to the long-term success of a chosen strategy of an organization. But, on the other hand, strategic decision-makers are facing turbulent environments, leading to increased levels of uncertainty in terms of ambiguity, plurality, unpredictability, and insufficient information, which makes it even more challenging to reach high-quality assumptions about the future.

Facing this accentuating gap, political institutions and commercial companies need to develop and implement their own decision-support systems that enable them to systematically scan their environment, observe strategically relevant trends, and anticipate future political and business contexts. Eventually, based on this enhanced future understanding and foresight, strategic decision-makers will be enabled to make more reliable decisions and develop much more sustainable long-term strategies.

Decision-support by strategic foresight

Strategic foresight describes different types of management systems that support strategic decision-making in public or private institutions. They provide support through an integrated anticipation and analysis of long-term trends (social, economic, technological, etc.) by a proactive shaping of alternative scenarios and visions of the future. Compared to other management intelligence approaches, strategic foresight systems can be characterized by a well-accepted set of methodological principles:

- They are directed from the outside-in: The starting point of any decision-support is information about possible future trends and conditions of the external environment. Based on this understanding, implications and conclusions for the organization are deduced.
- They are focused on the general environment: Most organizations know their closer task environment quite well (e.g., political or market environment with most important stakeholders), but they may have too little knowledge about the social, technological, ecological, or economic trends, or about their interferences and their impact on own strategies and policies. Strategic foresight systems are based on a holistic approach integrating those general environmental trends.
- They are medium- to long-term oriented: Supporting strategic decision-making, fundamental concepts of analysis are medium- to long-term "pictures of the future" such as trends, events, scenarios, or visions.

Following these basic principles, foresight systems provide strategic information and knowledge for decision-makers based on four essential mechanisms of support:

- Anticipatory intelligence, by providing (often irritating) information about new environmental developments and as yet unknown issues for early recognition of chances and risks (scanning and monitoring systems);
- Direction-setting, by supporting in-depth analysis in phases of decision preparation (using methods such as trend and futures studies);
- Coordination of strategic opinions, by helping to structure strategic conversations and argumentation in phases of strategic-decision selection;
- Innovation catalyzing, by empowering future-oriented thinking and collective commitment in phases of strategic decision transformation and implementation.

Design of strategic foresight systems

As research done by Müller in 2008 on 40 multinational enterprises in Europe shows, strategic foresight systems are often established for the purposes of long-term planning (78% of all responses) or strategic early warning (65% of all responses); 58 percent of the respondents reported using the system to support innovation processes throughout the company, too. Other arguments to utilize strategic foresight systems are: an increase of speed in reaction to environmental changes, the encouragement of future-oriented thinking, and the facilitation of normative visioning. Furthermore, strategic decisions on the corporate as well as on the business (unit) level are being supported by strategic foresight systems. There is a high relevance of strategic foresight for decisions related to business development,

corporate portfolio management, and competitive strategies. Although there is a certain common sense about the types of strategic decisions supported, the nature of the underlying and implemented strategic foresight systems can vary greatly.

Three types of strategic foresight systems

As theory and empirical research show, three basic system approaches can be differentiated:

- 1 | foresight as an environmental analysis system
- 2 | foresight as a future-oriented learning system
- 3 | foresight as a vision-building support system

TYPES OF STRATEGIC FORESIGHT SYSTEMS

Source: Müller and Müller-Stewens, 2009

System Types	Foresight as Environmental Analysis Systems	Foresight as Future-oriented Learning Systems	Foresight as Vision-Building Systems
Primary function	Gathering / processing of environmental information	Reflection and knowledge generation	Shaping the future and collective consensus
Objectives	Early warning, increase of speed of reaction	Increase of understanding of environmental dynamics	Bundling of organizational energy and forces
Core activities	Analysis: scanning, monitoring, evaluating	Communication: irritating, reflecting, generating new mental models	Creation: building values / preferences, coordinating, mobilizing
Relation to environment	Environment rationally ascertainable	Environment subjectively perceivable	Environment influenceable / shapeable
Relation to future	Future can be partially forecasted	Future cannot be forecasted, but key indicators can be assessed	Future cannot be forecasted, but actively shaped
Picture of future	Probable futures	Possible futures	Desirable futures
Anticipation	Explorative	Explorative and normative	Normative
Key concepts	Weak signals, early warning	Scenario-learning, strategic conversation	Envisioning
Focal points of design	Systems of analysis: information sources, filtering and systems	Structures of communication: participation, interaction	Atmosphere: inspiration, motivation, activation

Firstly, strategic foresight can be understood and designed as a process to analyze the environment. Consequently, the collection of important information about current developments in the corporate environment is central. The objective is to prepare organizations for future developments, discontinuities, and surprises in their environment in order to reduce the time needed for decision-making. According to this understanding, strategic foresight is primarily concerned with probable futures. The future is therefore anticipated in an explorative manner, based on an “outside-in” analysis of the environment and the early detection of weak signals. The design of the foresight process is primarily focused on management systems’ construction and functioning regarding the collection and processing of information.

The second approach to strategic foresight is particularly shaped by studies on “scenario processes.” Foresight is seen as an open

learning process in which the organization reflects upon its business and strategy against the background of different future scenarios. Based on these scenarios, future opportunities and threats can be identified. The main activities are the externalization and challenging of existing paradigms, which lead to feed-forward learning: “The purpose is to explore an as yet unexplored problematic situation. Deciding an intervention is not part of this foresight project. Instead we aim for sensitizing, reframing, surfacing assumptions, making sense, ‘seeing,’ anticipating.”

Finally, strategic foresight can be integrated as a process of a vision’s normative formation geared toward the creation of a shared belief about the future and the organization’s objectives. Consequently, creativity and the concentration on a common goal are paramount. The main activities are the generation and alignment of preferences, and mobilization toward the achievement of common goals and visions. The organization’s environment is seen as being influenceable. The focus is on creating an inspiring culture to allow mindful exploration and shaping of desirable futures. The central concept is “visioning.” Van der Heijden describes this foresight approach as value foresight: “The purpose of value foresight is to bring groups of people together in a process of consensus building on the ‘future of desire.’ Value foresight helps organizations by strengthening future orientation, challenging groupthink, team building and language creation, bridge building with others, increasing common ground, and culture change.”

Use of foresight methods

Strategic foresight systems are usually built around one or several core methods for future anticipation. Nevertheless, it can be stated that there are no widely accepted standard methods for foresight work. Instead, organizations resort to a broad spectrum of methods and techniques from various scientific disciplines such as social sciences, economics, and natural sciences. Among the most widely used, different types of trend forecasting, the scenario technique, wild cards, or roadmapping can be mentioned.

- Trend forecasting can be characterized as all sorts of integrative approaches to scan, monitor, and analyze relevant social, technological, or economic trends. Based on different information sources and observations, such as publications, expert opinions, scientific studies, etc., current dynamics and developments are extrapolated from the past or present to the future.
- The scenario technique is a method to systematically develop alternative pictures of the future in order to explore future fields of action from a holistic point of view. Scenarios can be mapped and communicated in verbal, visual, or dramaturgical forms. Main points of interest are possible future paths of development, bifurcations, chances, and risks, points of decision and possible courses of action.



GREEN BUILDING VISIONS

All illustrations in this chapter were done by Vincent Callebaut, a Belgian architect. He is considered one of the most important leaders in green architecture and low-emissions living. From New York to Hong Kong, Vincent Callebaut has proposed, with determination and conviction, ecological projects by creating local dialogues that try to raise questions about the types of societies we would like to live in as citizens of a global world.

Along with great architectural collaborators (Jakob+MacFarlane, Claude Vasconi, Jacques Rougerie), Callebaut advocates for the sustainable development of the new “Ecopolis” via strategies of architecture that combine biology with information and communication technologies.

www.vincentcallebaut.org



- Wild cards can be defined as potential future events, associated with a very low likelihood of occurrence but with a tremendous impact on current social, cultural, and economic systems in case they occur. Examples of wild cards may be global pandemics, wars, economic shocks, natural disasters, terroristic attacks, and technological breakthroughs. Wild cards enforce strategic decision-makers to challenge their own mental models and to actively review strategies and plans.
- Roadmapping describes a methodical procedure to structure and visualize a future path of development of a certain technology, respective of subject or field of observation. Roadmaps explain and illustrate actual, emergent, or potential developments in forms of coupled phases of development and they help to understand contextual interconnections and decision-related implications.

As empirical research shows, a strong trend toward an intensified use of qualitative and participative methods, such as qualitative scenarios, can be observed in all sizes and forms of organizations. The single specific reason for it can be manifold, but some of the main drivers for these methodological adaptations may be referred to a more frequent occurrence of disruptive events, unpredictable behaviors, or a still expanding environmental complexity, thereby leading to increasing difficulties in forecasting a company's environment by traditional means of quantitative methods and instruments.

Alignment of strategic foresight systems

Political institutions and commercial organizations intending to use strategic foresight as an effective support for their strategic decision-makers should understand strategic foresight as an institutionalized management system. Especially in the context of sustainable strategizing, one-time foresight exercises, studies, or projects are simply too limited to offer successful decision-support over longer periods of time.

A special emphasis needs to be put on a consistent design and implementation of the strategic foresight system appropri-

ate to the conditions, requirements, and expectations of the organization and the strategic decision-makers. There are no ready-made solutions: Foresight systems are as manifold as the organizations and decision-makers behind them.

At its heart, a sound alignment for an effective and successful strategic foresight system considers all relevant dimensions of the systems' design: (i) the organizational implementation, (ii) the process design, (iii) the selection and configuration of methods, (iv) cultural settings, as well as (v) the smooth integration of the system into the relevant decision-making processes. ■

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Dr. Adrian W. Mueller is expert and lecturer for strategic foresight & innovation at the Zurich University of Applied Sciences.



Prof. Dr. Günter Müller-Stewens is since 1991 Professor of Management and Organization at the University of St. Gallen (Switzerland) and Director of its Institute of Management.