

# Applied Strategic Foresight – Learnings from Trend Transfer at SIX

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How to translate trends into action? Trend research yields important insights into the future development of markets. Translating possible trends into implementable use cases at different levels of the organization is, however, far from trivial. Based on a case study of SIX, one of the biggest financial service providers in Switzerland, we propose a scenario building method that we called “Pictures of the Future” to start the trend translation process.

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**A**s the financial sector is increasingly confronted with profound changes, uncertainty, and instability, it is no wonder that a desire for a better understanding of the future arises. Scenario planning is one strategic response to this desire (Amer, Daim, & Jetter, 2013; Malaska, Malmivirta, Meristö, & Hansén, 1984; Rigby & Bilodeau, 2007). In recent years, scenario planning approaches have gained significance (Bradfield, Wright, Burt, Cairns, & Van Der Heijden, 2005; Varum & Melo, 2010), mostly due to increasing uncertainty (Oliver & Parrett, 2018; Walton, O’Kane, & Ruwhiu, 2019). A relevant precondition for scenario planning is scenario building. Scenario building entails envisioning possible futures and future outcomes under different circumstances (Schwartz, 1996). The scenarios which are created “(...) resemble a set of stories built around carefully constructed plots. Such stories can express multiple perspectives on complex events, with the scenarios themselves giving meaning to these events“ (Mietzner & Reger, 2005). The visions developed in the scenarios are then used for strategic decision making.

As such, scenarios are a crucial foundation for foresight. How to develop scenarios that help gain a better understanding of potential futures? We will try to answer this question with a case study provided by SIX.

### Background on SIX Case Study

SIX is a provider and developer of infrastructural services for the financial market in Switzerland. SIX operates the Swiss stock exchange and provides payment services and financial information. To respond to the market’s volatility, SIX put a special emphasis on innovation and digitalization by building a new business unit in 2018. Within this business unit, a scenario building technique was used that will be described in the following. Scenarios may impact an organization’s understanding of future challenges, inform their decision-making (Van der Duin & Den Hartigh, 2009), and benefit the organization’s communication. The present article describes how all this was played out at SIX.

Although the development of scenarios requires a lot of creativity, the process follows identifiable structures. Thus, the team started by defining a scope and building a database; it went on to project the factors collected in the database into the future, forming scenarios by combining these projections; and finally, it proposed possible strategic options (Mietzner & Reger, 2005; Phelps, Chan, & Kapsalis, 2001). Figure 1 illustrates the various steps, which will be described in detail below.

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## Step 1: Focusing On Customer Centricity

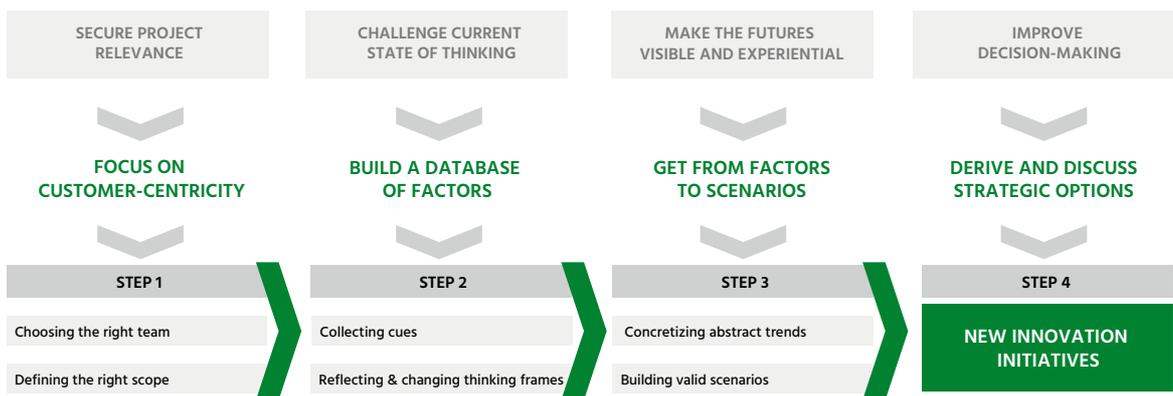
### Choosing the Right Team

Scenario planning requires the participation of a variety of people – experts, strategists, managers – to develop alternative representations of the future (Roubelat, 2000). The “Pictures of the Future” (PoF) team of the newly created innovation business unit consisted partly of experts and specialists from the specific business unit the future scenarios were to be developed for. The other half of the team members were recruited for their particular mindset: being comfortable to work with ideas on a very abstract level, being able to cope with ambiguity and uncertainty, and having a holistic approach towards innovation. These individuals brought in a broader perspective and the ability to quickly gain an understanding of a foreign field. In environments that are very complex and challenging, like the foresight field, generalists, in particular, can unfold their unique skillset (Epstein, 2019).

### Defining a Scope

Involving experts from the respective business units was central. When the trend scouting process at SIX started, the business units they approached were sceptical about the PoF team’s ability to understand their fields. Therefore, a big part of the trend transfer initiative was the integration of stakeholders as a way to build trust in the method and the results it might produce. To ensure relevance of the insights, the team started by approaching key decision-makers (those with a

**Fig. 1: Benefits and Relevant Project Steps of SIX's Scenario Building Approach**



Source: Own illustration.

strong influence on SIX's strategy) with one question: "Assume there exists an actual oracle who can tell the future. Which three questions about the future of the system under analysis (scope) in 10 years' time would you ask him/her?" The team then clustered the questions and selected 10–15 focal questions which the future scenarios would have to answer at the very least in order to be customer-centric. Additionally, these in-depth interviews with key decision-makers gave the team an indication of possible blind spots – developments decision-makers may be disregarding (e.g. due to confirmation bias) – which the team would also need to address in their future scenarios.

After identifying these focal questions, the team made an effort to define the value that the respective business unit (or, more generally, the 'scope under analysis') creates for their customers at an abstract level. Reflecting on a value proposition within today's structures, concepts and vocabulary may hinder innovative thinking. Therefore, the team adapted the mental model of "jobs to be done" proposed by Clayton Christensen as an approach for the field of innovation (Christensen, 2016). SIX's approach focused on the high-level jobs that customers or society hires a business to do when they opt for a particular product.

In the most recent white paper of SIX (2019a), they applied this approach, for example, to understand the value propositions of "money" and the "money infrastructure" at an abstract level. They identified three distinct ways in which money creates value for people and society, i.e. by serving as a store of value, a medium of exchange, and a unit of account, while the money infrastructure facilitates the exchange of value and protects and secures money.

**Step 2: Building a Database of Factors**

**Collecting Cues**

The scenario building process started with brainstorming on cues or "factors". Cues are reference points or markers used to link ideas to them, base decisions on, and assess plausibility (Colville, Brown, & Pye, 2012; Walton et al., 2019; Weick, 1995). The team defined factors as real-world elements whose variability is responsible for (part of) the variability of the

**Management Summary**

1. SIX established and developed a scenario building method called "Pictures of the Future". They have so far written several white papers exploring the future regarding different facets of the financial service industry.
2. As part of the scenario building process, they first defined the scope of analysis at an abstract level using 'jobs to be done'. Then they identified relevant factors that may impact the future of the abstractly defined scope, projected potential developments of the factors, and derived future scenarios with different likelihoods.
3. Despite being very time consuming, this method may help being prepared for future developments, opening up the discussion about strategic directions and strategic decisions.

scope. The team strived to include a broad set of factors from social and cultural trends to technological advancements or changes in the economic, environmental and political sphere. The team collected factors for future developments, potential catalysts, drivers of change, developments, and trends overall (SIX, 2019a, 2019b). Based on their collection of cues, they decided which of the factors were likely to have the most significant impact on the scope of their analysis.

This first step in the scenario building process allows to consciously and critically reflect on assumptions about the fu-

“We do not claim to foresee the future. We look at trends and developments and want to create, in the first step, problem consciousness instead of solutions.”

MICHAEL KATZ, Senior Innovation Developer & Innovation Field Lead at SIX

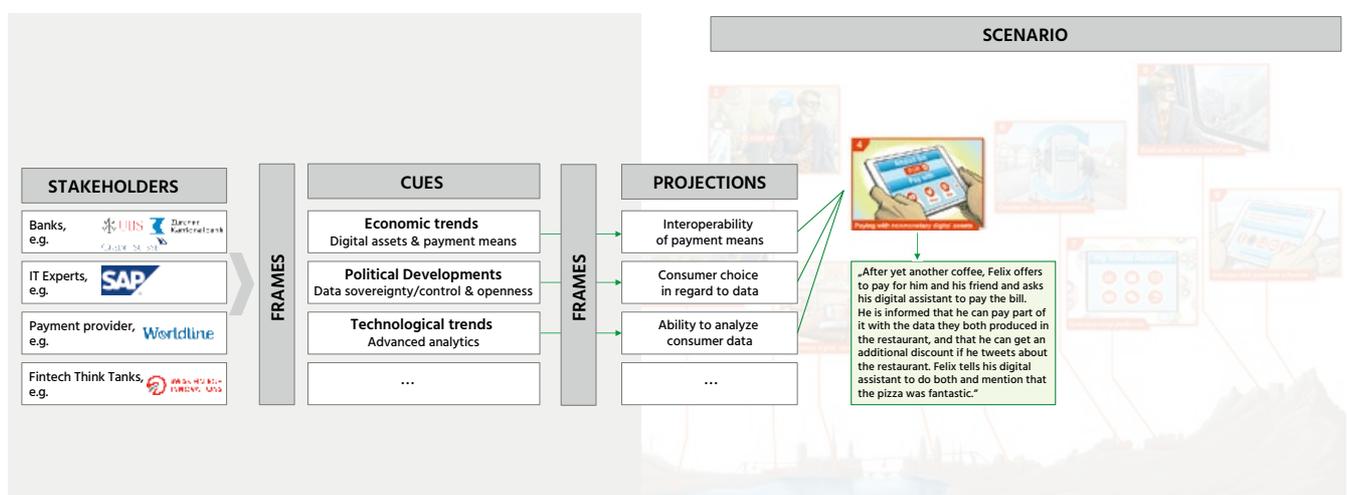
ture (Ratcliffe, 2002). Being aware of underlying assumptions will increase the transparency and objectivity in the decision-making process (SIX, 2019b). Also, this process minimizes the risk of surprises as organizations can more easily identify signals of change (Fahey & Randall, 1997; Mietzner & Reger, 2005). Later on, cues will be more easily detected and accepted

once they occur in reality. In sum, the creation of a plausible scenario through a sensemaking process requires the extraction of ‘cues’ from the environment and their interpretation based on salient ‘frames’ (Maitlis & Sonenshein, 2010).

### Reflecting and Changing Thinking Frames

In ambiguous or confusing situations, people try to gain understanding through systematic processes often referred to as ‘sensemaking’ (Chermack, 2004; Colville et al., 2012; Maitlis & Sonenshein, 2010; Ramírez & Selin, 2014; Tapinos & Pypier, 2018; Walton, et al., 2019; Weick, 1995). The sensemaking process in the foresight field can be summarized as “the creation of meaningful connections through the combination of extracted cues with frames of reference in order to enable interpretation and sense attribution” (Schwarz, Kroehl, & von der Gracht, 2014, p. 68). Based on their frames of reference that entail a collection of tacit knowledge, individuals extract, interpret, and use cues from their environment (Brown, Colville, & Pye, 2015; Day & Schoemaker, 2004; Gioia, 1986; Ilmola & Kuusi, 2006; Weick, 1995). Participants often frame and make sense of a new scenario based on their past experiences (Colville et al., 2012; Czarniawska, 2006; Gephart, Topal, & Zhang, 2011). This strong referral to the past needs to be overcome for people to be open for innovative and new ideas. To challenge existing frames and to identify relevant cues that may not be obvious, the team aimed for maximum heterogeneity of the information they obtained through desk research but also by including third

**Fig. 2: Exemplary Sensemaking in the Scenario Building Process Regarding the “Future of Money”**



Source: Own representation partly based on SIX (2019). Picture of the Future – Future of Money, p. 19/20.

party inputs from trend scouting firms (CB Insights, Gartner). Previous research provides evidence that integrating distant knowledge from different domains may result in more novel and innovative outcomes than purely focusing on the own domain (Fleming & Sorenson, 2004; Hacklin & Wallin, 2013; Katila & Ahuja, 2002; Rodan & Galunic, 2004).

Figure 2 illustrates the sensemaking process in the “Future of Money” team’s scenario building process.

### Step 3: Getting From Factors to Scenarios

#### Concretizing Abstract Trends

While building the database, it was important to start at a broad level and include many different perspectives but then to narrow the focus and become very concrete on what certain developments might mean for the scope under analysis and, in the end, the business unit. The various levels of abstractions relevant for each project stage are illustrated in figure 3. Regarding, for example, the “Future of Money” (SIX, 2019a), the team asked what it would mean for the ‘money infrastructure’ if the number of ‘digitally represented rights to assets’ exploded. In the most likely scenario, they projected that this would result in a growth of ‘payments with nonmonetary (digital) assets’, possibly displacing money as the ‘medium of exchange’. For this scope of analysis, the team aimed at developing future scenarios with a horizon of 5–7 years. In the end, the team selected up to six scenarios based on what they believed to be scenarios “most helpful for strategic decision-makers

setting the strategic direction for the future” (SIX, 2019a, p. 7). The selection was based on empirically informed beliefs (SIX, 2019b). Taking into consideration the plausibility of a specific scenario (Bradfield et al., 2005; Burt, 2007; De Brabandere & Iny, 2010; Godet, 2000; Schoemaker, 1993; Wilson, 1998), four types of scenarios were distinguished: the most likely scenario, the medium-likelihood scenarios, the low and medium-likelihood scenarios, and the low-likelihood, high-impact scenarios.

#### Building Valid Scenarios

The team selected scenarios that challenged existing, strongly held (unconscious) beliefs or wisdoms about the future (Wilson, 1998) or required a completely new mental framework by giving a new outlook and original perspective on issues (Van der Heijden, 1996). At times, more extreme scenarios (e.g. ‘Bitcoin is the dominant payment method’) were chosen because they entailed several, less extreme scenarios (e.g. ‘a large majority has switched to Bitcoin’).

While building the scenarios, the team wanted to make sure that the underlying assumptions of each scenario were internally consistent (Bradfield et al., 2005; Burt, 2007; Foster, 1993; Schoemaker, 1993; Van der Heijden, 1996; Wilson, 1998) and had a sound logical underpinning (Bradfield et al., 2005; De Brabandere & Iny, 2010). To spot potential inconsistencies, the scenarios were fleshed out, describing their internal functioning and underlying assumptions in detail. Each scenario is written in the present perfect tense to help readers immerse themselves by conveying the feeling that the scenario has actually occurred. The most likely scenario is descri-

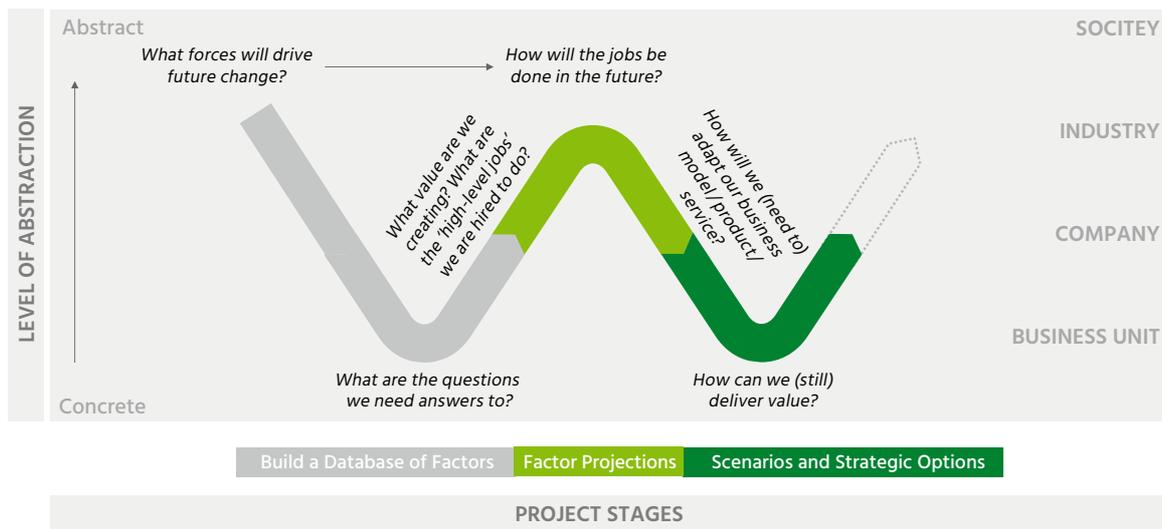
### Main Propositions

1. The goal of this foresight method is to map the future problem space on a particular topic.
2. Remaining customer centric in the B2B sector with regard to foresight means identifying the most pressing questions of your customers (e.g. target group of the insights), then producing relevant insights around their customers and communicating the insights effectively.
3. One of the key challenges of the process is the ability to holistically understand the field under study, to take key insights to a meta-level and play them back for strategic decision making.
4. Foresight work is never “finished”. Using an iterative approach and encouraging feedback on the formulated scenarios enhances their quality.

### Lessons Learned

1. If you plan on implementing this foresight approach, assemble a diverse team consisting of experts in the field and generalists with very fluid thinking abilities.
2. Make sure to allocate enough resources and do not underestimate the commitment needed for the project (especially regarding personnel and time).
3. Involvement and support of senior management is key for the success and acceptance of the foresight approach.
4. Effective and understandable communication of the foresight approach’s outcomes is a crucial factor for deriving actionable insights.

**Figure 3: Abstraction Within the Project Process**



Source: Own illustration.

bed in a lot of detail, while the other scenarios are only described insofar as they diverge from the most likely scenario. This approach prevents duplication and allows readers to see the key characteristics and distinctions of alternative scenarios but requires the alternative scenarios to be read together with the most likely scenario. Putting elements together in a coherent, comprehensive, and plausible manner makes them easier to comprehend (Mietzner & Reger, 2005) and also allows them to be challenged by other key players from the financial and adjacent industries (i.e., banks, insurance companies, payment providers, IT experts and Fintech Think Tanks).

Publishing the scenarios opens up the discussion and encourages readers to provide (divergent) feedback. But this was not the only strategy employed to further validate the scenarios (Chermack, Lynham, & Ruona, 2001): The team also applied war gaming (e.g., “How would you destroy incumbent players in the industry?”), greenfield designing (e.g., “If you could design the perfect infrastructure/product/service, what would it look like?” “What would Steve Jobs have done?”), tipping-point crossing and what-if questioning (e.g., “What if a long-term development finally accelerates? E.g., quantum computing has been talked about for 30 years, but what if ...”), 30-year-horizon backward thinking (e.g., “What will it look like in 30 years?” “What cues will exist in 5–10 years’ time?”), and black-swan scouting (e.g., “What are very low-probability events that everyone is underestimating? That no one is tal-

“The prime challenge in working with possible trends is that insights often remain too generic, general, and isolated. The insights are not ‘workable’ at that level. The real added value of our foresight process lies in combining and concretizing these possible developments in order to help people immerse themselves into possible futures.”

DR. TOBIAS LEHMANN, Future Scenarios Lead, SIX

king about, or simply disregarding?” For some people a ‘dominance of permissionless distributed ledgers’ is such a black swan, a ‘virus going pandemic’ may be the most recent one).

#### Step 4: Deriving and Discussing Customer-Centric Strategic Options

By building scenarios, organizations develop a joint understanding and vocabulary for talking about potential futures (Ratcliffe, 2002; Van der Heijden, 1996). Opening up the field for discussion was indeed one of the main goals in establishing and developing the PoF concept within SIX (Lehmann, 2019). Portraying these otherwise very complex ideas in the

PoF format breaks down change into understandable narratives (Pennington & Hastie, 1992; Schoemaker, 1993). Easier understanding allows an integration of different groups into the discussion. For their latest paper, the PoF team also presented their results in the format of human-centric stories to make the changes even more tangible (SIX, 2019a).

Scenarios can inform decision-makers and influence their decision-making (Vecchiato, 2012) by adding new aspects, reframing existing decisions or offering more or new context for a decision as well as offering a testing ground for new ideas (Fahey & Randall, 1997). In line with that, a direct link has been found between scenario planning approaches and innovation (Sarpong & Maclean, 2011; Worthington, Collins, & Hitt, 2009). A reason for that may be that scenario planning prepares decision-makers for new developments. Discontinuities and surprises can be anticipated, and their effects can be thoroughly considered. Decision-makers are challenged to think the unthinkable and be open to signals that may hint at their worst dreams becoming reality (Mietzner & Reger, 2005).

## The Limits of Working With Scenarios

Despite offering many benefits, there are downsides to the method. The practice of building scenarios is overall time consuming (Mietzner & Reger, 2005). From their experience, the SIX team plans 6–9 months for one full iteration process depending on how many people are working full-time on the project. During that period one white paper is worked out. It is important to have at least one person working full-time on the scenarios, while the others are responsible for sharing the insights.

The scenarios are only as good as the inputs they are based on. Hence, there has to be a strong focus on selecting suitable participants and experts (Mietzner & Reger, 2005). Moreover, the experts need to share workable knowledge and exclude answers that may be too creative and lack grounding in (organizational) reality (MacKay & McKiernan, 2010). Additionally, once the work has started, reading (and undisturbed writing) time will become scarce. This is also a big

## Literature

- Amer, M., Daim, T. U., & Jetter, A. (2013). A review of scenario planning. *Futures*, 46, 23–40.
- Bradfield, R., Wright, G., Burt, G., Cairns, G., & Van Der Heijden, K. (2005). The origins and evolution of scenario techniques in long range business planning. *Futures*, 37(8), 795–812.
- Brown, A. D., Colville, I., & Pye, A. (2015). Making sense of sensemaking in organization studies. *Organization Studies*, 36(2), 265–277.
- Burt, G. (2007). Why are we surprised at surprises? Integrating disruption theory and system analysis with the scenario methodology to help identify disruptions and discontinuities. *Technological Forecasting and Social Change*, 74(6), 731–749.
- Chermack, T. J. (2004). Improving decision-making with scenario planning. *Futures*, 36(3), 295–309.
- Chermack, T. J., Lynham, S. A., & Ruona, W. E. (2001). A review of scenario planning literature. *Futures Research Quarterly*, 17(2), 7–32.
- Christensen, C. M. (2016). The “jobs to be done” theory of innovation. *Harvard Business Review*, December 8, 2016. Retrieved from <https://hbr.org/ideacast/2016/12/the-jobs-to-be-done-theory-of-innovation>
- Colville, I., Brown, A. D., & Pye, A. (2012). Simplexity: sensemaking, organizing and storytelling for our time. *Human Relations*, 65(1), 5–15.
- Czarniawska, B. (2006). A golden braid: Allport, Goffman, Weick. *Organization Studies*, 27(11), 1661–1674.
- Day, G. S., & Schoemaker, P. J. H. (2004). Driving through the fog: managing at the edge. *Long Range Planning*, 37(2), 127–142.
- De Brabandere, L., & Iny, A. (2010). Scenarios and creativity: thinking in new boxes. *Technological Forecasting and Social Change*, 77(9), 1506–1512.
- Epstein, D. (2019). *Range: Why Generalists Triumph in a Specialized World*. New York: Riverhead Books.
- Fahey, L., & Randall, R. M. (1997). *Learning from the Future: Competitive Foresight Scenarios*. New York: Wiley.
- Fleming, L., & Sorenson, O. (2004). Science as a map in technological search. *Strategic Management Journal*, 25(8/9), 909–928.
- Foster, M. J. (1993). Scenario planning for small businesses. *Long Range Planning*, 26(1), 123–129.
- Gephart, R. P., Topal, C., & Zhang, Z. (2011). Future-oriented sensemaking: temporalities and institutional legitimation. In T. Hernes, & S. Maitlis (Eds.), *Process, Sensemaking, and Organizing*. Oxford: Oxford University Press.
- Gioia, D. A. (1986). Symbols, scripts and sensemaking. In H.P. Sims, & D.A. Gioia (Eds.), *The Thinking Organization: Dynamics of Organizational Social Cognition*. San Francisco: Jossey-Bass.
- Godet, M. (2000). How to be rigorous with scenario planning. *Foresight*, 2(1), 5–9.
- Hacklin, F., & Wallin, M. W. (2013). Convergence and interdisciplinarity in innovation management: a review, critique, and future directions. *Service Industries Journal*, 33(7/8), 774–788.
- Ilmola, L., & Kuusi, O. (2006). Filters of weak signals hinder foresight: monitoring weak signals efficiently in corporate decision-making. *Futures*, 38(8), 908–924.
- Katila, R., & Ahuja, G. (2002). Something old, something new: a longitudinal study of search behavior and new product introduction. *Academy of Management Journal*, 45(6), 1183–1194.
- Lehmann, T. (2019). The Crystal Ball is Yesterday's News – How SIX Researches the Future. The SIX Blog, January 23, 2019. Retrieved from <https://www.six-group.com/en/home/blog/six-research.html>
- MacKay, B., & McKiernan, P. (2010). Creativity and dysfunction in strategic processes: the case of scenario planning. *Futures*, 42(4), 271–281.
- Maitlis, S., & Sonenshein, S. (2010). Sensemaking in crisis and change: inspiration and insights from Weick (1988). *Journal of Management Studies*, 47(3), 551–580.
- Malaska, P., Malmivirta, M., Meristö, T., & Hansén, S. O. (1984). *Scenarios in Europe – Who uses*

struggle the SIX team faced. They benefited from the fact that most of the intensive reading had been done prior to the project start. Therefore, assembling a new team (or exchanging at least part of the existing team) for each iteration or PoF project may prove helpful when it comes to gaining new perspectives and insights.

Overall, building scenarios is a very complex and demanding process. It is essential that the team gains a deep understanding of the field they are working in (Mietzner & Reger, 2005). This requires a lot of time spent acquainting oneself with the field, and support from senior management is a prerequisite for any such project. It may be difficult, however, to criticize and challenge core beliefs held by senior management while at the same time trying to ensure their acceptance. This may lead to situations in which important aspects of the organization's current thinking and decision-making mode are not evaluated (MacKay & McKiernan, 2010).

Another challenge is the employees' willingness to dedicate resources to their engagement with the final scenarios

and in particular scenarios of low probability. But experience shows that even low-probability scenarios may quickly become relevant. For example, the SIX team explored, as one low-probability future scenario, a world without cash, only months before the corona crisis caused the use of cash to decline dramatically.

Previously, the distinct thinking style necessary for scenario building has been portrayed as beneficial for an organization. But employees who start to like this kind of creative work may become dissatisfied with their previous, usually less creative jobs, leading to lower performance, frustration and stress after their return. Or employees may perceive the developed scenarios as too distant, too creative and too far in the future. They may even end up rejecting the methodology and its results (MacKay & McKiernan, 2010).

Despite its downsides, however, the "Pictures of the Future" method has great potential as a foresight methodology since it not only helps companies gain valuable insights but also to start a broader discussion about potential futures. 

them and why? *Long Range Planning*, 17(5), 45–49.

Mietzner, D., & Reger, G. (2005). Advantages and disadvantages of scenario approaches for strategic foresight. *International Journal of Technology Intelligence and Planning*, 1(2), 220–239.

Oliver, J. J., & Parrett, E. (2018). Managing future uncertainty: reevaluating the role of scenario planning. *Business Horizons*, 61(2), 339–352.

Pennington, N., & Hastie, R. (1992). Explaining the evidence: tests of the story model for juror decision making. *Journal of Personality and Social Psychology*, 62(2), 189–206.

Phelps, R., Chan, C., & Kapsalis, S. C. (2001). Does scenario planning affect performance? Two exploratory studies. *Journal of Business Research*, 51(3), 223–232.

Ramírez, R., & Selin, C. (2014). Plausibility and probability in scenario planning. *Foresight*, 16(1), 54–74.

Ratcliffe, J. (2002). Scenario planning: strategic interviews and conversations. *Foresight*, 4(1), 19–30.

Rigby, D., & Bilodeau, B. (2007). A growing focus on preparedness. *Harvard Business Review*, 85(7/8), 21–22.

Rodan, S., & Galunic, C. (2004). More than network structure: how knowledge heterogeneity influences managerial performance and innovativeness. *Strategic Management Journal*, 25(6), 541–562.

Roubelat, F. (2000). Scenario planning as a networking process. *Technological Forecasting and Social Change*, 65(1), 99–112.

Sarpong, D., & Maclean, M. (2011). Scenario thinking: a practice-based approach for the identification of opportunities for innovation. *Futures*, 43(10), 1154–1163.

Schoemaker, P. J. H. (1993). Multiple scenario development: its conceptual and behavioral foundation. *Strategic Management Journal*, 14(3), 193–213.

Schwartz, P. (1996). *The Art of the Long View: Planning for the Future in an Uncertain World*. New York: Currency Doubleday.

Schwarz, J. O., Kroehl, R., & von der Gracht, H. A. (2014). Novels and novelty in trend research – using novels to perceive weak signals and transfer frames of reference. *Technological Forecasting and Social Change*, 84, 66–73.

SIX (2019a). *Future of Money*. Zürich: White Paper, SIX.

SIX (2019b). *The Future of the Securities Value Chain*. Zurich: White Paper, SIX.

Tapinos, E., & Pyper, N. (2018). Forward looking analysis: investigating how individuals 'do' foresight and make sense of the future. *Technological Forecasting and Social Change*, 126, 292–302.

Van der Duin, P. A., & Den Hartigh, E. (2009). Keeping the balance: exploring the link of futures research with innovation and strategy processes. *Technology Analysis & Strategic Management*, 21(3), 333–351.

Van der Heijden, K. (1996). *Scenarios: The Art of Strategic Conversation* (2nd ed.). New York: Wiley.

Varum, C. A., & Melo, C. (2010). Directions in scenario planning literature – a review of the past decades. *Futures*, 42(4), 355–369.

Vecchiato, R. (2012). Environmental uncertainty, foresight and strategic decision making: an integrated study. *Technological Forecasting and Social Change*, 79(3), 436–447.

Walton, S., O'Kane, P., & Ruwhiu, D. (2019). *Developing a theory of plausibility in scenario building: designing plausible scenarios*. *Futures*, 111, 42–56.

Weick, K. E. (1995). *Sensemaking in Organizations*. Lond: Sage Publications.

Wilson, I. (1998). *Mental maps of the future: an intuitive logics approach to scenarios*. In L. Fahey, & R.M. Randall (Eds.), *Learning from the Future: Competitive Foresight Scenarios* (pp. 81–108). New York: Wiley.

Worthington, W. J., Collins, J. D., & Hitt, M. A. (2009). Beyond risk mitigation: enhancing corporate innovation with scenario planning. *Business Horizons*, 52(5), 441–450.