

Master-Thesis

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Future Scenarios as an Appropriate Way for Designers to Anticipate the Future

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Affidavit

I hereby declare that I have independently produced the present diploma thesis. The thoughts which have been directly or indirectly adopted from outside sources have been disclosed as such.

This thesis has not, either in this, or in any other, similar form, been presented to another examination committee nor has it been published before.

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Abstract

Designers are the people who build the future through their activities. Imagining and affecting the future is a key responsibility of designers.

There are many ways to anticipate the future such as trend forecasting, Delphi studies, science fiction stories and so on. Also, there are techniques which have their roots from the design discipline such as design fiction, or design probes. In this research, the focus is on future scenarios as a way to speculate about the future.

This research aims to show the value of how scenario planning methodology will increase the credibility of designers while they develop their ideas and products for the future. Scenarios are a powerful tool for discussing situations and showing the results of our current decisions.

Through interviews with three experts, case studies and a review of the methods for anticipating the future, the value of future scenarios for designers has been shown.

Introduction

What will the future be like is a central question for every design activity. (Evans, n.d.) Therefore, it is essential for every designer to interpret current events and trends when thinking about the future. Thinking about the future is a beneficial activity for understanding current time (Toffler, 1991). Although it is not possible to forecast the future, we can speculate what will happen in the future (Ramirez et al., 2005). The science-fiction writer Bruce Sterling (2003) says, “The future is not an alien world, it is this very world, with different people”.

Both design and foresight activities deal with the future; although they seem to have different approaches as to how they deal with the future, there are many features that they can learn from each other (European Commission, 2003). An important writer on the future, Alvin Toffler (1991) underlines that to be able to speculate about the future, we need to use a variety of tools which range from algorithms that calculate current trends into the future to science fiction scenarios. Design also has its own tools for speculating about the future like critical design, design fiction, design props, etc. In recent years, both activities of foresight and design have found more of a common ground like shown in the Design for Future Needs Report prepared by the European Commission (2003).

Thinking about the future allows designers to explore new kinds of worlds and ways to stimulate their creativity in a more fictional environment (Bleecker, 2010). Design for example, can learn from foresight activities how to look to the future in a more rational way, with support from the facts of today. On the other hand, foresight activities can benefit from design's visionary, hands-on approach and its communicative abilities (European Commission, 2003).

This interplay between future studies and design has been effective in design education, too. There are many courses which will be discussed in the second chapter that focus on how to think about the future in many design schools. Those courses aim to extend designers' viewpoints of problem-solving to problem-finding and problem-foreseeing. (Eger et al., 2004)

Problem Definition

A very interesting intersection between the tools of design and the tools of foresight to speculate about the future are scenarios. Both disciplines have their own ways of using them, and the knowledge of how they benefit from scenarios is a subject worth exploring. Designers increase the credibility of their ideas when they use a more methodological approach, like scenario planning. Even historically, important designers like Norman Bel Geddes failed to envision the future in a correct sense (Fig. 1-2).

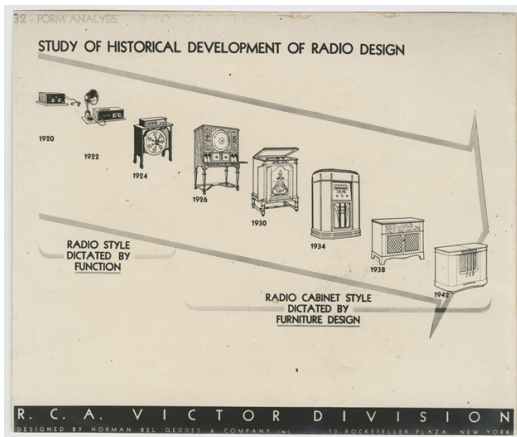


Fig. 1: Form Evolution of Radio by Norman Bel Geddes, radios volume increased from 1920s to 1940s

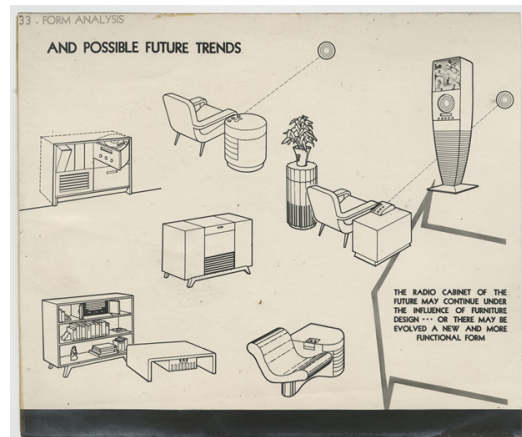


Fig. 2: Future Vision for Radios by Norman Bel Geddes, radios could evolve into furniture

As shown above in the pictures he thought that radio technology would fuse into furniture; when he looked to the historical development of the radio. But in fact only very recently did television take the place of radio. Radios remained in the household as an ambient device for a long time, only not in the centre of entertainment, and it was also miniaturised as time went on.

For novice designers, it is essential that their visions be based on facts and methodologies to convince stakeholders or companies of their vision. Scenario planning methodology gives a reliable base that designers can build their thoughts and ideas about the future upon.

Another example of a failed vision about the future can be seen in the advertisement (Fig.3) from 1956 of a video-conferencing system that was thought to be available soon. With a more methodological way of thinking, it would have been obvious that at that time, the infrastructure would not allow such a transfer of analog video and voice data. After the invention of digital video and voice transfer, such a video-conferencing system was realised and implemented in the wider part of society, but not until the 2000s.



Fig. 3: An Advertisement from 1956 showing that in near future video conferencing will be possible.

Methodological building of scenarios can be useful for designers to think about the future in a more reliable way. This enables them to convince managers, stakeholders, and users about their ideas.

Authors Moggridge (1993), Kyng (1995), Iacucci et al. (2000), Suri & Marsh (2000), Tideman et al. (2005), Brouwer & Voort, (2006) pointed out that scenarios are getting more and more important in the domain of design (cited in Anggreeni & Van der Voort, n.d.). The usage of scenarios for design purposes can be seen as being in its development process; experienced designers for example use scenarios more intuitively and do not use very methodological approaches (Anggreeni & Van Der Voort, 2008). Therefore, it would be beneficial for novice designers and design-students to also have knowledge about the methodological side of scenario building, like in the domain of foresight scenarios (Eggink et al., 2009).

Scenarios provide a strong ground to build products and services upon for the future (Reinders et al., n.d.). They can also be used for questioning societies' activities on certain issues, like in the works of Anthony Dunne (2008) and future scenarios of Adam Kahane (1998). Scenarios are also beneficial for designers when working on commercial products because they provide a cost-effective environment for testing product ideas and gaining user experiences (Anggreeni & Van Der Voort, n.d.).

Anthony Dunne (2008) underlines in his book, *Hertzian Tales*, the new responsibilities of designers to produce alternative future images that will question our current decisions.

In this research, the effective use of scenario planning methodology for building future scenarios in the domain of design is investigated.

Research Questions

This research aims to answer the following questions:

- Can we use future scenarios as a common ground between future studies and design?
- What are the benefits of using scenarios when designing for the future?
- How can scenario planning methodology be implemented in design practice?

Methodology

The methodology of the research includes interviews and literature research. The literature research was conducted on books, articles and Internet websites.

The focus of the literature research was on two main areas: future studies and design for the future. Several books from major writers on the future like Alvin Toffler, Bruce Sterling and Patrick Dixon, were read and used as the literature. And books that explain the process of designing for the future like, *Past Tense*, *Future Sense* from Phillips Design (2005), and *Hertzian Tales* from Anthony Dunne (2008) were also consulted. Also, recent articles (Wright et al., 2013; Eggink et al., 2009; Anggreeni & Van Der Voort, 2008; Ramirez et al., 2005) from journals about design and forecasting were examined with the key words: scenarios, future scenarios, future and design and scenario planning. Besides academic sources, Internet websites about future scenarios, future and design were also used; like designprobes.ning.com or shell.com/scenarios were visited to get information about the subjects.

During the research, three interviews were held with academics who are experienced

about the subject, in Swiss Art and Design Universities. A 45 minute long interview through Skype with Nicolas Nova from Geneva University of Art and Design (HEAD Genève) was done. This interview was conducted at the beginning of the research and it was helpful for defining the area and focus of the subject. An hour-long interviews with Stijn Ossevoort from Lucerne University of Arts and Sciences (HSLU), and Massimo Botta from the University of Applied Sciences and Arts of Southern Switzerland (SUPSI) were also conducted. These two interviews helped in gaining insight into the implementation of scenario planning methodology in design activities. The interview with Stijn Ossevoort about his experience in Roca has been used for one of the case studies. All three interviewed experts have had experiences in the academic field as well as having been design professionals in companies.

The thesis consists of three chapters. In the first chapter, a review of the methods for anticipating the future in the domain of future studies and design is made. In the second chapter, the area of future studies is explored, with findings from the literature and examples of case studies. The third chapter is a conclusion of the research, consisting of answers to the research questions.

1.A review of Methods to Anticipate the Future

This chapter is divided into two sections. First, a short review of methods in the area of future studies is presented; then later on, methods on thinking about the future specific to design are presented.

1.1 Methods to anticipate the Future from a Future Studies Domain

Future Studies aim to foresee the events and issues that will happen in the forthcoming time. This is an essential activity both for corporations and governments. Although it is impossible to know what will happen in the future, many methods are used to be prepared for different kinds of events. Also, thinking about the future has a positive impact on our current time (Toffler, 1991).

Most of us think that the major aspect of the future is based on technology and science, but it is actually emotions that shape the future (Dixon, 2007). Emotions in the future are the part that is difficult to know. The real difficult task to thinking about the future is to know what the behaviours of the people living there will be. The developments in science and technology are more foreseeable than the issues that will involve human emotions. Therefore, one of the core activities of futurists is to observe people and understand their motivations and interpret them for future events. In this chapter, some of the methods used by corporations and governments to think about the future will be examined.

1.1.1 Foresight/Forecast

Foresight activities aim to create a vision of the future with input from experts and researchers to help decision makers make their choices. Futurists involved in this activity search for means, motivations and opportunities that will be effective in the future in a specific area.

It is only possible to fully forecast an event when all of the elements of the system are predetermined. It is essential for every forecasting activity to identify predetermined elements. Through this identification, a proper vision of the different futures can be established; this is called foresight (Wack, 1985).

A schema for an example of a foresight activity is shown below (Fig.4): (European Commission, 2003)

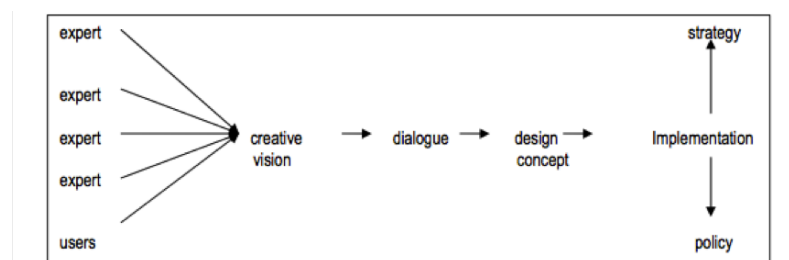


Fig. 4: The schema that shows the foresight process during the design of the new terminal building in Heathrow

For the building of a new airport terminal in Heathrow, The British Airports Authority conducted a foresight activity. On this figure, it can be seen that research from the opinions of different experts and the results of users was the main source for building up the foresight report.

1.1.2 Delphi Studies

Delphi studies are another widely used method to think about the future in terms of management and policy-making decisions. The process of a Delphi study begins with defining the field of the activity; later on experts from different backgrounds are consulted on their areas that relate to the field. The results of this consultation are put into a document and are assessed by all of the participating experts. Each expert rethinks his/her prediction after this assessment process. This iteration continues until an agreed future vision is built. (Ramirez et al., 2005)

Delphi studies are focused on single issues and particular events (Wright et al., 2013). These studies also use a very systematic approach and a large number of experts (Toffler, 1991).

1.1.3 Trend Studies

The experts on trend forecasting have the responsibility of detecting trends in society that will have a bigger effect in the future, these trends are already in the society, but have a small area of influence (Ramirez et al., 2005). Also, all of the trends detected by the experts have countertrends in society (Dixon, 2007). A wide range of fields are observed by researchers to locate trends, they mostly rely on their intuition when doing so (Sallin et. al., 2011). In recent years, design industries have relied more and more on trend studies (Evans, n.d.); although this method is mostly used by fashion industries and textile firms (Sallin et. al., 2011).

1.1.4 Scenario Planning

Scenario planning has its roots in the activities of Hermann Kahn during the Cold War (Chermack et. al., 2001). Its first wide implications in the industry were the Future Scenarios of Shell (Wack, 1985). Instead of forecasting the future, the aim of scenario planning is to be prepared for different kinds of possible futures (Collage for Creative Studies, n. d.). The method achieves this by developing alternative scenarios for the future. The process of developing different scenarios begins with determining the subject and researching the driving forces; later on, these driving forces are evaluated and ranked according to their effect and predictability. With these driving forces, 3-4 different scenarios are built with the contribution of managers. These scenarios are then used to help decision makers (Schwartz, 1996). It is important for every manager that his/her company can think of different possible futures to be prepared for a variety of challenges (Sterling, 2003).

Scenario planning can also be used for informing societies about the effects of their decisions (Toffler, 1991). Ogilvy (2002) deals with this kind of usage of scenario planning in his book, *Creating Better Futures*. An interesting example of this is the Mont Fleur Scenarios by Adam Kahane, which helped the people of South Africa to build a unified future. In 1991 and 1992, he organised a series of workshops, which were called 'Mont Fleur Scenario Exercises' with role-players from different political groups in South Africa to begin a dialogue between them. In these workshops, the future of the

country and the outcome effect of their decisions were discussed (REOS, n.d.).

1.1.5 Science Fiction

People that predict the future are always telling fiction stories (Sterling, 2003). Future studies are more an activity of speculation, since no one can foretell the future. According to Alvin Toffler (1991), although science fiction is seen as a branch of literature, it should be considered as a kind of 'sociology of the future'. It is able to build whole new worlds that should be considered when working on the future.



Fig. 5: The vision of Henry Dreyfuss for the Future in 1939, the Perispehere



Fig. 6: Inside the Perispehere, a perfect city was represented by Henry Dreyfuss, the 'Democracity'



Fig. 7: Norman Bel Geddes designed Futurama for General Motors as a city of Future.



Fig. 8: Futurama was presenting how cities in the future would be connected with automated highways in 1960's.

Science Fiction is very effective when understanding how society sees the future, as it is very widespread through films, books and media (Ramirez et al., 2005). Films and books are very effective tools to tell society about the future. Narratives and images are important elements to use for future studies. A very powerful side of science fiction as a tool for speculating about the future is the usage of images and storytelling.

1.1.6 Conclusion

In the future studies domain, many methods are used to think about what the future will bring to us. Nowadays, a common thought about the future is that it is not something foreseeable. Therefore, the term forecast is not used as much as it was 50 years ago. The trend is to prepare the companies or governments into different futures. Many methodologies start their research on society; many researchers think that the important events that will be effective in the future can already be found in the society we live in now. Because of this reason, trend studies, foresight activities and scenario planning emphasise the value of finding driving forces that have already started to shape our lives. Some of the other methodologies like Delphi studies and science fiction are more focused on the technological improvements that will happen in the future. Those innovations can also be traced from right now. Research on new technology that has already begun in different areas can shape the future. Most probably, both innovations in technology and changes in society will have effects on each other, too. So foreseeing the future will be more and more complex than it was before.

1.2 Methods to anticipate Future from Design Domain

Design as a discipline works for the future (Jonas, 2001). Design deals with things that are not there, but with things that could be there (Franke, 2010). Sometimes, the time span of these things can be larger than a common design project (European Commission, 2003). Some examples of this in design history are the exhibitions of Henry Dreyfuss' (Fig.5-6) 'Perispehere', 'Democracity' and the works of Norman Bel Geddes (Fig.7-8) like 'Futurama'.

Not only in history were designers concerned with the future; now some companies hire designers and artists to build their vision for the future (Toffler, 1991). Design has a different viewpoint to the future than forecasters, trend researchers etc. Through time, designers have generated their own methods for thinking about the future. Some of them are: design fiction, visionary design, design props and scenarios.

1.2.1 Design Props

Design props can be seen as objects that belong to a different time and technology than our current one; the props not only define themselves, they also tell stories about their environment and society (Bleecker, 2010). Design props can be seen to be similar to

prototypes, but the difference is that prototypes are focused on the function; props are focused on the story (Bleecker, 2009). They have the ability of starting a conversation about the world and society they belong to (Fig.9-10). They do not need to function.



Fig. 9: Through props, Phillips envision a future where our food is changing, these are some of the objects that represent a future dish: Papaya sorbet with a yoghurt crust, Grapes of foie, chicken and sweetcorn chowder



Fig. 10: A lamp designed by Phillips that in the future would be used with energy from bacteria.

1.2.2 Scenarios

Scenarios have been used in many steps of the design process. They can be categorised as ‘possible problem scenarios’, ‘interaction scenarios’ and ‘validation scenarios’ (Anggreeni & Van Der Voort, n.d.). Scenario building is also considered to be one of the main research activities of a designer (Hasdogan, 1997 cited in Jonas, 2001). Scenarios can help designers explore the context and environment of the product (Eggink et al., 2009). They can be considered as a bridge to future studies (Hasdogan cited in Jonas, 2001). For exploring the future, they seem to be the most fitting tool for product designers (Eggink et al., 2009). The benefits of using scenarios in a product development activity can be summarised as: ‘evaluation of early design ideas, communicating issues, individualisation of the user, focus on interdisciplinary teams and consideration of systems and context’ (Suri & Marsh, 2001). Manzini and Jegou (2000) developed a framework called ‘Design-orienting Scenarios’, the advantages of these scenarios to think about the future are developing alternative realities, connection to the context, focus on individuals and visual representation (cited in Ramirez et al., 2005).

1.2.3 Design Fiction

Design fiction has become a more and more better-known tool in the domain of design. Design fiction can be defined as a way of speculating about the future through materialised ideas (Bleecker, 2009). The creators of design fictions are free from pragmatic and commercial constraints (Auger, 2010). It can be understood as a poetic design that deals with our relation to objects in a future time, without the rationales needed for future studies (Franke, 2010). It is a way to begin discussions about possible futures and ask questions about our decisions (Bleecker, 2010). According to Auger (2010), design fiction has two main activities, one is creating ‘speculative futures’ that use emerging technologies to think about their possible implications; the other one is creating ‘alternative presents’ that explore future environments without

having to build a rational ground. Manzini also suggests that designers should use their skills to imagine and visualise fictions that would aim to make changes in societies' current choices (cited in Dunne, 2008). The function of design fiction can be seen as making the audience imagine different futures, or as helping designers to present alternative futures in a more believable way (Franke, 2010). The outcomes of design fiction activities are consumed by the audience through stimulating thoughts (Dunne, 2008). Design fiction serves as a powerful tool to tell stories by using material objects (Bleecker, 2010). Besides producing objects, design fiction also creates the whole environment of the story like fictional manuals, videos, newspaper etc. (Franke, 2010).



Fig. 11: Dunne&Raby's design fiction, Digiland where everyone has a private space and car in a public transport system.



Fig. 12: Dunne&Raby's design fiction, A train of a Comuno-Nuclearist Society.

1.2.4 Visionary Design

One of the terms that define projects that aim to see the future is called 'visionary design' (Evans, n.d.). The outcomes of visionary design activities are objects that represent a desirable, sophisticated future, with cutting edge technologies (Franke, 2010). Some big corporations like Microsoft, Apple and General Motors apply this technique to present their vision of the future to a wide audience (Fig.13-14). Their visions do not have a critical view of technology and society, they aim to promote their company's technology and research (Franke, 2010).



Fig. 13: Microsoft's House of Future where screens are all over the house, the aim of visionary design is to promote company's technology.



Fig. 14: Monsanto's House of Future in Disneyland, lots of the elements in the house are produced from plastics.

1.2.5 Conclusion

Methods in the domain of design to anticipate the future are less structured than the methods in the future studies domain. Because of the nature of the design discipline, they can be handled more freely. Although a designer's approach can have certain positive aspects compared with the more structured methods in future studies, this approach is less convincing for some decision-makers in companies; as those methods rely more on the viewpoint of the designers, they are not as credited as the methods used in the future studies. For example, most of the time visionary designs depend on one person's vision of the future, and it is difficult to convince people nowadays with one person's opinion. In comparison, Delphi studies use the opinions of many experts for the final foresight, and a discussion of different opinions within the group of experts is used. The outcomes of the methodologies of 'design fiction' and 'design props' are not done to convince people, they are done rather to explore a certain subject and widen the perspective of the audience, which is why they use a less structured method.

2.Scenario Planning Methodology and Future Scenarios

As an intersection between future studies and design aimed to think about the future are future scenarios. Future scenarios are created using scenario planning methodology and are suitable to be implemented by designers. Scenarios are tools that have been used in many steps during the design process; therefore, designers are used to using them. In scenario planning, alternative futures are formed in a methodological way by creating scenarios. Therefore in this chapter, 'future scenarios' are going to be explored more deeply to close the information gap that many designers have when thinking about the future in terms of scenarios. This chapter is divided into three parts, according to research questions that were raised at the beginning of the thesis. Each question will be answered with information gathered from the literature. A case study for each part of the chapter will exemplify the knowledge from the literature in a more tangible way.

2.1 Future Scenarios as a common ground between Future Studies and Design

The first question that was asked in the introduction was whether future scenarios can be seen as a common ground between future studies and design. To answer this question, first the methods need to be reviewed in the first chapter, which will be compared to each other; second, the definition, aim and history of future scenarios are going to be explored; later, the case study 'F-Project by Whirpool' will demonstrate an example usage of future scenarios as a bridge between future studies and design work.

2.1.1 Comparison of Methodologies of Future Studies and Design

Methods to anticipate the future that were reviewed in the first chapter in the domain of future studies included foresight/ forecast activities, Delphi studies, trend studies, scenario planning and science fiction. In the domain of design methods, what was reviewed included visionary design, scenarios, design fiction and design props. The biggest difference between the two groups is that methods in the domain of future studies are focused on research, and in the domain of design, the methods are strong in communicating ideas. The nature of these domains affects the methods' focus. Whereas methods like Delphi studies and scenario planning depend on outcomes of research and structured analysis, methods like design props and design fiction are good at exploring a wide area of possibilities.

The advantage of the methods in future studies is their credibility and strong methodology. The weak aspects of these methods are their ability to communicate and their limitation of the focus. On the other hand, the advantage of the methods in design domain is that they can be communicated to a wider audience in different ways that are easier to grasp. The weak aspect of these methods is their validity, as these methods do not use a very structured research background.

Through this comparison of the methods in these two areas, it can be concluded that these two groups can be complementary to each other; if possible, interplay between these groups could produce successful results for anticipating the future.

Scenario planning can act as an intersecting area between these two groups, so to get

more information about them in the next part, the definition, the history and the aim of this method will be mentioned.

2.1.2 Definition, Aim and History of Scenario Planning

Future scenarios explore alternative futures depending on key drivers, uncertainties and their interactions (Puget sound near shore, n.d.). Scenarios are used as a technique to help people think forward (Evans, n.d.). It is a method to think about possible futures with a variety of different outcomes; instead of trying to predict one's future, its aim is to think of different kinds of possibilities (Peterson et al., 2003). They are 'projections of potential futures' (Fahey & Randall, 1998).

Scenarios are communicated through stories that are built from diverse predictions about the future, these predictions can be very narrow or vastly generalised (Evans, n.d.). The purpose of building future scenarios is not predicting the future, but understanding and communicating the forces that affect it (Mason, n.d.). Scenarios contain several possibilities of the future, some of them more habitual, and others more extreme; this diversity makes the audience think about the future in a more constraint-free way (Peterson et al., 2003). Future scenarios are also powerful when communicating people's behaviour and their interactions with possible events (Dunne, 2008).

Scenarios as a tool for strategic planning, were first used by the US Military after World War II (Mason, n.d.). Herman Kahn popularised it through his own strategy firm, RAND Corporation, with books about possible futures like a nuclear war (Chermack et. al., 2001). These scenarios were communicated through books and media, so that society would be aware of the consequences of their decisions. The first implications of scenarios as a tool for thinking about the future in the industry were Scenarios of Royal Dutch Shell in the 1970s (Mason, n.d.). The company was prepared that the oil prices could fall, although nobody was expecting it at that time.

This short summary of background information on future scenarios revealed that this method's features of being constraint-free and able to communicate to a wider audience makes it the best candidate to act as a bridge between future studies and design.

2.1.3 A case study, F-Project by Whirlpool

The ability of future scenarios as an intersecting area for future studies and design can be better seen with this example. The Project F "fabric care futures" was done by Whirlpool as a project where scenarios act as a common ground. Information about this project has been found in European Commission's "Design for Future Needs" report (2003).

Relevance

Why this case study has been selected as an example is the project's focus and aim. The Global Design Division of Whirlpool was commissioned by the company to think about the future of fabrics and laundry. Because the outcomes of this project were planned to give decision makers insight into the opportunities and needs of future markets, the design division decided to use a strong research oriented methodology to do that. The outcomes of this project were presented in several areas and received a very positive impact (European Commission, 2003). Therefore, this project was selected as a case study that shows the ability of 'scenario planning methodology' to act as a common ground between future studies and design.

Process

The project began with collecting insights in different areas. An institute and designers in Whirlpool were commissioned for this activity. A future Concept Lab in Milan did field research to find out new trends and usage in society about washing activities. Designers observed people and conducted interviews to gain insights from the viewpoint of users.

Later on, these insights were collected and transformed into five scenarios in several workshops. Both internal designers and two external design teams participated in these workshops. Five scenarios were built using the insights and facts provided earlier. Technological innovations, social changes, environmental, ecological concerns, energy and water issues were important drivers in this context.

In the next workshops, these scenarios were used to design and visualise products for each context. Ideas were synthesised from drivers in the scenarios and turned into models and visuals. Videos and storyboards were created explaining the scenarios and prototypes that were produced to communicate the product ideas.

Details

Project F was very successful in communicating the vision of the company for the future. Future Scenarios provided an important base for seeing opportunities for the future markets. After presenting the results to a wider audience, the company gained important comments from users and experts. The final prototypes of the future products were presented in fairs like HomeTech in Berlin, and Salone del Mobile in Milan.

For example, the project “BioLogic” (Fig 15) gained very positive comments from the audience and for the company this led to another research question about why people liked this project. Also, the company continued the development of products in this direction.



Fig. 15: BioLogic, a kind of slow-cleaning device that cleans cloths using a biological process.



Fig. 16: ClaenSpace is a thought about washing as a social activity.

CleanScape is also another outcome of the project. It uses the concept of laundry as a social activity. Like in the time before industrialisation, laundry was done in a common place with water and physical action (Fig 16).

The work between designers and scenario planners resulted in some very positive outcomes. This interplay between designers and planners was beneficial for the integration of different parts of the company. The design group also gained a better

credibility from the decision makers, as they were working side by side with the scenario planners. In the Design for Future Needs Report (European Commission, 2003), the benefits of this interplay are summarised in the following points:

“

- Create dialogue between internal stakeholders (design, marketing, engineering and executive decision-makers)
- Synthesise ideas about new technology and user behaviours
- Visualise ideas (abstract complicated ideas and communicate them to the public)
- Create alternative models
- Spark internal/external communication
- Create openness to multiple alternatives
- Affect strategic decision-making
- Communicate internally and externally to get buy-in
- Develop a vision of its own future ”.

2.1.4 Conclusion

Methodologies explored in the first chapter revealed the idea that the domains of future studies and design can learn from each other and would be stronger when both sides could work together. This part of the chapter showed that scenarios are important tools for both of these areas. Although their implementation differs slightly, future scenarios can act as a common ground between two disciplines of future studies and design. As we also look at the definition and aim of those scenarios, we can conclude that future scenarios can work for design projects very well. Design projects often begin with research on a market or users. Sometimes when the scope of the project is not only creating products, but also thinking on future needs and opportunities, then methods anticipating the future are being used. Scenarios as a tool are widely used among designers, on many steps of design practice like usage-scenarios or exploration scenarios. At this moment, it can be seen that a useful intersection between those two areas are future scenarios.

2.2 Benefits of using Future Scenarios in Design Projects:

In this part of the chapter the second research question, ‘What are the benefits of using future scenarios for designers?’ will be explored. Therefore, the benefits of future scenarios against other methods will be discussed first; second, the compatibility of future scenarios to design will be investigated; later on, the case study ‘Vision of the Future’ by Phillips will act as an example of this area.

2.2.1 Benefits of Future Scenarios in comparison to other methods

Future Scenarios have quite a lot of benefits compared to other methods of thinking about the future. After the 1970s, forecasting methods began to be more and more wrong because of the complexity and disruptive nature of the world’s economies and politics (Wack, 1985). Therefore, a need to think about the future as a variety of possible scenarios emerged. The driving forces became very complicated and uncertainty rose, so forecasting certain issues became difficult (Marsh, 1998). On the table in the next page (Fig.17), a comparison between scenarios, forecasts and visions can be seen.

SCENARIOS	FORECASTS	VISIONS
Possible, plausible futures Uncertainty based	Probable futures Based on certain relations	Desired future Value based
Illustrate risks	Hide risk	Hide risk
Qualitative or quantitative	Quantitative	Usually qualitative
Needed to know what we decide	Needed to dare to decide	Energizing
Rarely used Strong in medium to	Daily used Strong in short-term	Relatively often used Function triggers
long-term perspective and medium to high uncertainties	perspective and low degree of uncertainty	for voluntary change

Fig. 17: Comparison of Scenarios, Forecast and Visions for anticipating Future.

Future Scenarios allow the audience to understand the process of thinking about the future more easily; instead of using complicated mathematical models and planning methodologies, it uses stories and a more open way of building it (Dearlove, 2002). They are thought to be a replacement for forecasting techniques (Wright et al., 2013).

Another benefit of scenarios is the usage of them, the outcomes do not have to be judged whether they were correct or not, the important issue is to be prepared for each scenario (Mason, n.d.). Scenarios help to imagine ‘unthinkable’ situations (Schwartz, 1996). According to Aneggreeni & Van Der Voort (n.d.), scenarios are ‘reflective, at once concrete, flexible, and multi-faced’. Because of their form of being stories, they are very open to different audiences during their building process, and also afterwards (Jonas, 2001, Peterson et al., 2003). They are an ideal tool for thinking about the far future because as the time span extends, the facts and numerical values become less defined (Evans, n.d.).

Scenarios are useful for communicating a common ground about certain subjects within a company (Wack, 1985). They can be used to understand visions of different participants (Ogilvy, 2002). One example of this is the Mont Fleur Scenarios (Kahane, 1998).Wilson underlines the benefits of scenarios through their transparency in creation, participation of different groups into the process, ground for open-discussion and connection to humans (Wilson, 1998).

2.2.2 Compatibility of Future Scenarios in Design Practice

To explore the compatibility of future scenarios in design, it is essential to show how scenarios are generally used in design. There are several implications of scenarios in the domain of design, as well as in the academic environment and in the commercial environment.

Ramirez et al. (2005) lists the following academic institutes as users of future scenarios in the design domain: the University of Art and Design Helsinki used future scenarios for the Humantec Project, the Technical University of Delft uses scenarios for projects like Sus-house, and the Design Academy of Eindhoven used them for projects like Nomadic Dwelling. The Royal College of Arts, the State Academy of Visual Arts Stuttgart, Royal Melbourne Institute of Technology, and the School of Design Victoria University of Wellington are the other institutes.

Scenarios are used for analysis, projection and synthesis intentions in the design domain (Jonas, 2001). The following chart (Fig.18) shows different usages of scenarios in different steps of the design process:

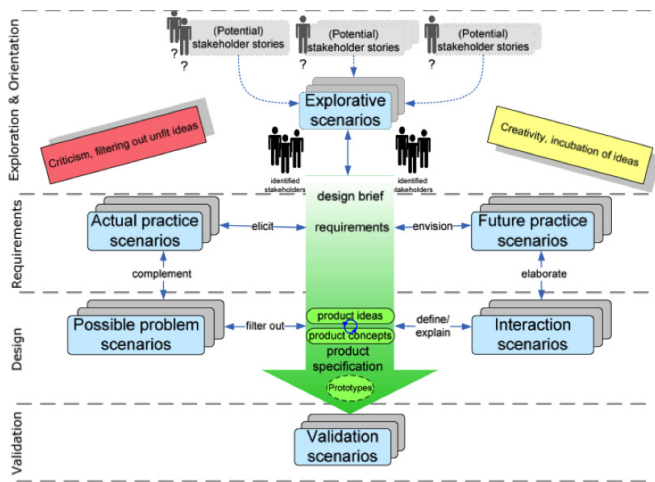


Fig. 18: Scenarios in different phases of the design process with a variety of aims.

It can be seen that scenarios are an important element in different phases of design. Design activity focuses quite a lot on the context of the product or service. Scenarios are beneficial tools for thinking about the context. They are also important for communicating insights from users’ research. A lot of information can be compromised into a single scenario.

Generally, scenarios go along with the design process, in every step they can be used as a tool. This feature of scenarios makes it a beneficial tool in the design process for envisioning the future.

2.2.3 A Case study, Vision of the Future by Phillips

Many corporations use Future Scenarios to think about new opportunities and help them in their decision-making. There are specific benefits for every type of company. For a design company, the most important benefit of using scenario planning methodology for building up scenarios is the increase of credibility among other divisions of the firm. Phillips Design uses this methodology for creating future scenarios. The research and the scenario-building activity they undergo before working on product ideas enhances their communication abilities as well as their ideas’ validity. Sometimes designers depend on their intuition when coming up with new ideas, but in corporate environments, every step should be justified with research. A company’s exploration of future opportunities and markets is an important area that affects several resources; therefore, Phillips Design decides to use a more methodological stance when doing this for the ‘vision of future’ project. In 1958, Le Poème Électronique and in The Home of 1975, the company hired specific designers to envision the future, but did not conduct any extensive research on drivers, forces or trends.

Relevance

This case study was selected to show the benefits of future scenarios in the domain of design. Phillips Corporate Design published a project in 1995 about their vision of everyday objects in 2005. This vision was found quite successful, as 70 percent of their products were realised within this time span (Uselog, n.d.). Maybe the most noticeable product that was visioned by the project is ‘Shiva, digital assistant’, which is similar to a smartphone that we use today. Phillips has a long tradition of making visions for the future of products. Beginning in 1958 with Le Poème Électronique in Brussels at



Fig. 16: Le Poème Électronique is the first attempt of Phillips to show their visions to a wider audience.

the World Exhibition, the company produced prototypes, books, videos and exhibitions around this subject. (Phillips Design, 2005) But a methodological way was not always selected to think about the future; therefore, this example is quite important to show the value of using future scenarios for anticipating the prospective of everyday life.

Process

Lambourne et al. (1997) describe the process of building this vision of Phillips in their article. First, they ask two forecasting institute Trend Labs, Milan and the Research Institute for Social Change, to get information about the changes that will happen in people's lives for the next few years. Parallel to this commission, the design group also did research of their own, by collecting insights from different business groups within Phillips and by gathering some external research about technology from Germany and Japan.

The next step was to organise a series of workshops. In these workshops, 30 people from different backgrounds like engineering, sociology, graphic design, product design, film, cultural anthropology etc. were involved. During these workshops, participants created 300 scenarios. Each scenario included a title, the sensitivity of the scenario, time/space, six lines of description, the benefit to the user and the involved technologies.

Later on, these 300 scenario ideas were grouped and evaluated by experts. These groups were created around product-interaction philosophies.

The next step was to build video clips that would communicate the selected 60 scenarios to a wider audience. Besides video clips, a book, an exhibition with the design probes and a website were also created.

Scenarios were developed according to two main areas, socio-cultural trends and emerging technologies, and the results were divided into four domains of everyday life: personal, domestic, public and mobile (Fig.17).

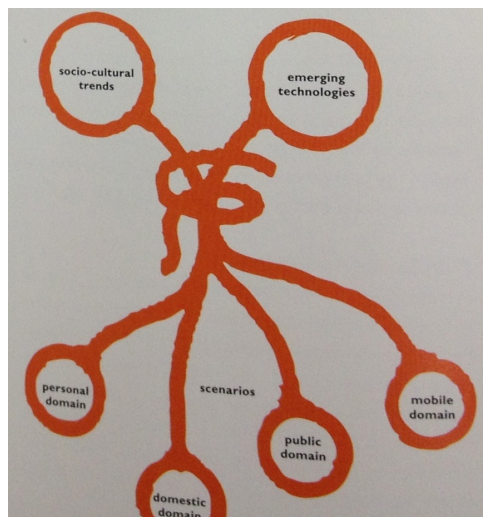


Fig. 17: Four Domains of the everyday life: Mobile, Public, Domestic and Personal

The insights gathered from internal and external research about socio-cultural trends were then divided into six sensitivity areas: subjectivity, sociability, exploration, connectivity, ethics and holism. These areas were used for building sensitivity matrices;

each area's relation with time and space were shown. For each domain; personal, domestic, public and mobile, one sensitivity matrix was prepared (Fig.18).

		MAJOR DRIVING FORCES FOR THE FUTURE					
		people		link		balance	
		SUBJECTIVITY	SOCIABILITY	EXPLORATION	CONNECTIVITY	ETHICS	HOLIDAY
time	TEMPORAL DEPTH	☁	☁	☁	☁	☁	☁
	TEMPORAL ACCELERATION	☁	☁	☁	☁	☁	☁
space	SPATIAL LOCATION	☁	☁	☁	☁	☁	☁
	SPATIAL DILATION	☁	☁	☁	☁	☁	☁

Fig. 18: An example sensitivity matrix

These matrices and insights from technological research were combined and used in the two workshops for generating scenarios. Six groups of five people were involved in the workshops. In the first workshop, participants were given information about technology forecasting and the sensitivity matrix. During these workshops, 300 scenarios were created.

These 300 ideas were evaluated by experts according to these questions:

- Would a given scenario provide people with genuine benefits?
- Would it fit Philips' major areas of competence and interest?
- Would it be technically feasible?

Later on, 60 scenarios were selected to be developed by interaction designers and product designers. At the end, 45 video clips about 60 scenarios containing 180 products were created over one and a half years. The outcomes were exhibited and communicated through books (Fig.19), video clips and a website.

Some on the outcomes of this project are:

Emotion Containers:

Emotion Containers (Fig.20) can be defined as multimedia devices that are designed to act as a special gift or an object that reminds us of a specific moment. These multimedia devices can store 30 seconds of sound and video, they are made of precious materials, which enable a long life time of the object. The design team describes a user scenario as follows: "The future could be that you are watching an old movie, 'Casablanca', and you remember your best friend with whom you went to see the movie with many times. Instead of calling him up and leaving him a message, you send him 30 seconds of your favorite scene from the movie." (Lambourne et al., 1997)

Shiva:

Shiva (Fig.21) can be defined as a personal digital assistant, which enables the user to do multiple tasks in a certain time. This device combines different functionalities of a notebook, videophone and an interface/display to do office work. (Lambourne et al., 1997) Actually, it is a product that today we call a Smartphone.



Fig. 19: One of the outcomes of the project. 'Vision of the Future' book.



Fig. 20: Emotion Containers.



Fig. 21: Shiva.



Fig. 22: Hot Badges.

Hot Badges:

These tokens (Fig. 22) contain information about the wearer of this badge. The user is notified when a person with similar interests are near. They are designed to bring people with similar interests together easily. (Phillips Design, 2005)

2.2.4 Conclusion

As we explored in this part of the chapter, scenarios are a widely used tool in the design domain; therefore, future scenarios can be easily implemented by designers for thinking about the future. The benefits of scenarios when compared to other tools that are used in the future studies domain are that they can be communicated to a wider audience, they can be used as a communication tool between different parts of a company as well as to outsiders. Another benefit of future scenarios is that they permit designers to envision alternative futures. They are flexible and transparent during the creation phase.

Many insights can be compromised into a scenario, which is a good thing when presenting a series of outcomes of research on a certain subject.

To conclude, future scenarios have a lot of benefits compared to other methods of future studies; and the compatibility of scenarios to design domain makes them a valuable tool for designers in the process of anticipating the future. The case study of Phillips also shows that this tool can result in very successful results in the domain of design.

2.3 Implication of Scenario Planning Methodology in Design Practice:

The third part of this chapter will answer the third research question, ‘How can scenario planning methodology be implemented in design practice?’ For this, first the methodology of scenario planning will be explored; second, the practise of scenario planning will be summarised. Finally, the case study, ‘Bathroom of 2020’ by Roca Innovation Lab, will act as an example implication of scenario planning methodology in design practice.

2.3.1 Methods of Scenario Planning

There are many ways and methods to create future scenarios. Every institute and organisation has developed their own method that best fits their needs. In this part, some of those methods will be summarised.

Lindgren and Bandhold (2009), who own a strategic planning firm called “Kairos Future”, have developed the TAIDA method. TAIDA consists of five steps; tracking, analysing, imaging, deciding and acting. The first step is dedicated to tracking the changes happening now. In the second step, those changes are analysed. In the third step, images of possible futures are created. In the next step, focus is generated for certain issues. In the last step, the organisation changes its actions according to the scenarios.

Ramirez et al. (2005) summarise the process of scenario building as follows: First, the corporation’s vision about the future is analysed. Later on, drivers in social, technological, economic, environmental and political issues are listed. In the third step, a workshop with managers and scenario experts is held by using the insights generated in the first two steps. In the last step, distinctive drivers are chosen to generate

scenarios.

Reinders et al. (n.d.) suggest using the scenario building method that was adapted from the Shell Strategy Group for developing products. This method has four parts. In the first part, the market sector and society are analysed to find out drivers, uncertainties and effective factors. In the next step, a strategy matrix is developed. In the third step, three scenarios are placed onto the matrix according to the insights from the first step. In the last step, for each scenario, a different product is designed.

Evans (n.d.) summarises his experience of scenario building with the following steps. The process begins with a series of workshops where 300 short stories are generated based on 'people, time, space, objects, and circumstances', by using outcomes from technological and socio-cultural research. Later on, those stories are used to build videos, objects and print materials that communicate these scenarios to a wider audience. In the last step, feedback from the wider community is used to judge the impact of the scenarios for further development in the organisation.

Perrottet (1998) uses this method following four steps. First, list all the drivers to be used. Second, find the relations between those drivers. Third, determine the areas where uncertainty is great. Fourth, develop scenarios for those uncertain areas using the drivers and their relations to each other.

Early (1998) develops scenarios for organisations following these seven steps: identify the factors that affect the organisation; identify areas to be changed; find out the relations between these areas; for every area, think about the time span; select key drivers for the areas; generate three scenarios; develop these three scenarios using more information about the drivers and uncertainties; support your scenarios with extra materials, images and insights.

Peterson et al. (2003) summarise the scenario generation process in five phases: identify a problem; according to this problem, find out drivers and think about the alternatives; use these alternatives to develop scenarios; test those scenarios before communicating with a wider audience.

2.3.2 Practises of Scenario Planning

Scenarios can be used in different contexts and for a variety of purposes. Some of them can be listed as follows: Oil companies use scenarios to understand relations between price, reserves and policy; consumer product companies use scenarios to understand user interactions and behaviour; advanced technology companies use scenarios to imagine the interplay of different technologies in the future; financial service companies use scenarios to think about emerging markets and diminishing ones (Fahey & Randall, 1998).

Scenarios are also naturally embedded in our thinking system. Research in Sweden showed that scenarios are automatically generated in the brain to make people be prepared about uncertain events in the future (Paich & Hinton, 1998). Peter Schwartz, one of the pioneers of scenario planning, was consulted by the director Steven Spielberg for the film *Minority Report* (Dearlove, 2002). Future scenarios are also used by policy makers to communicate certain subjects to society, like the examples in "Creating Better Futures" by Ogilvy (2002).

Lindgren and Bandhold (2009) underline the following points to achieve a good scenario: It is important to use an appropriate method for the aim of the scenario

building process; storytelling is an essential feature of every scenario; highlighting uncertainties is also valuable for every scenario; also, relations between drivers and elements are important for each scenario.

Generating more than three or four scenarios is not useful in many cases, and increasing the amount of scenarios decreases their power (Paich & Hinton, 1998, Schwartz, 1996, Perrottet, 1998). It is good to have one alternative scenario that puts fear in the mind of decision makers (Schwartz, 1996). Another important feature of well-prepared scenarios is that they are focused on one problem, but they have the necessary relations to sub-elements of this problem (Wilson, 1998). A good narrative enhances the quality of the scenarios; in this way, scenarios differentiate themselves from predictions (Ogilvy, 2002).

It is also important to involve decision makers in the process of scenario building; otherwise what is learned from the scenarios will not be implemented later on (Schwartz & Ogilvy, 1998). Scenarios should also surprise and challenge the mindset of managers (Marsh, 1998).

The visual qualities of scenarios are important elements that are essential for communicating them; images, graphs and physical materials will enhance the effect of scenarios (Marsh, 1998, Schriefer, 1998, Thomas, 1998).

Scenarios should combine both, knowledge from the inside, like the advice of managers; with the findings of the outside, like social research (Wright et al., 2013, Wack, 1985). Important points to consider when developing scenarios are summarised by Shoemaker (1998) as follows: include decision-makers into the process; have a good balance of people from outside and inside for the scenario building; do not develop too many scenarios; scenarios should be focused, but they also need also to have a certain diversity; the scenarios should be dynamic and surprising so you can tell that they are important.

2.3.3 A case Study, Bathroom 2020 by Roca Innovation Lab

This case study will act as an example of how scenario-planning methodology can be applied into a design project. This example will show how designers can use a methodology originated from future studies into their practice. An interview with Stijn Ossevoort has been made about his experience as a strategic designer at Roca. He was responsible for developing a project about the future of bathrooms for 2015. The team consisted of 6 designers and they worked for 10 months on the project as a part of their responsibilities.

Relevance

For the example implementation of future scenarios into design projects, this case study was selected because the process strictly followed the methodology. All the steps that are mentioned in the process of future scenario building by the scenario planning methodology can be found in this example.

Process

The process of developing the scenarios had several steps. In the beginning of the project, James Woudhuysen, an expert on scenario building gave a workshop on scenario building. He also provided some insights about the future of bathrooms, which he had collected over the years.

The next step was to collect more information about bathrooms and the future. Literature and Internet research, besides following articles from different media sources such as newspapers, magazines, and financial reports was the way to get more insights about the subject.

Afterwards, designers conducted ethnographic research with some customers. Designers did interviews, cultural probes and observations.

Insights from these three sources; expert, research and users were used for developing 100 descriptors. These descriptors were small facts, predictions, and speculations about the future in 2015.

These 100 descriptors were mapped out to build a hierarchy, groups, and relations between them. These descriptors were grouped and evaluated using the drivers behind them.

Later on from these descriptors, two kinds of scenarios were produced. One was called “mood scenarios”; the other one was called “stories”. In the mood scenarios, facts were presented in forms of journal articles or news. The stories scenarios were created around the usage and behaviour of the people in year 2015.

After developing three scenarios in the forms of stories and mood scenarios, one of them was selected to be communicated as an experience model. The others were planned to be communicated through a booklet.

Details

A core activity was collecting different insights. The collection of different trends from

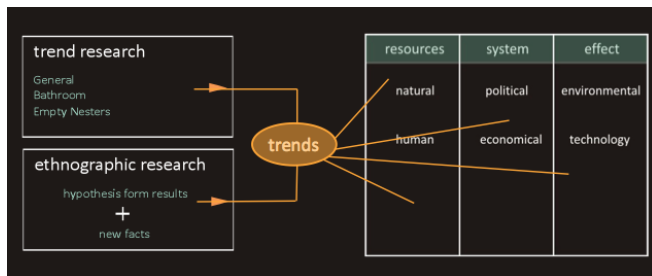


Fig. 23: Trend Research and Ethnographic research were the main sources for finding trends and drivers..

These findings later on turned into descriptors, which were categorised into three



Fig. 24: Descriptors were grouped into three categories.

Descriptors, which were grouped into three, were mapped onto a trend map, containing

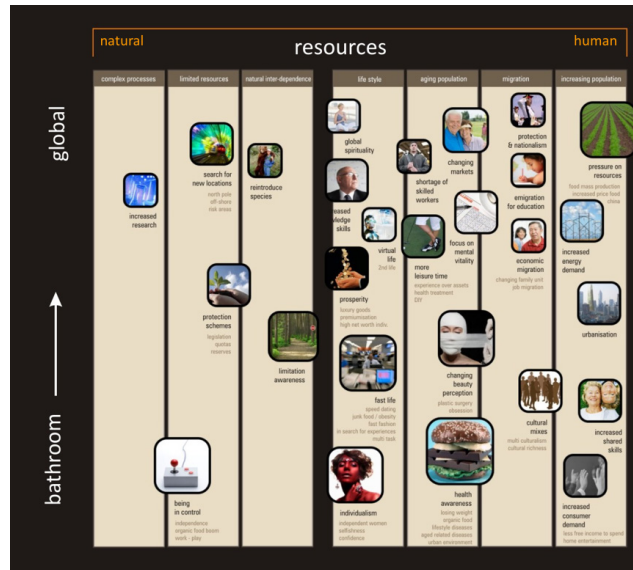


Fig. 25: The three categories are used to map out the descriptors and see their connections

This map of 100 descriptors was grouped into 9 main drivers, according to relevance, target, geographical place and sector of the project. These were; global warming, limited resources, environmental pollution, economic malaise, networked society, multi-cultural society, food and demographic changes.

After evaluation of these 6 main drivers, 3 scenarios were built. These scenarios were generated in two ways. The first way was to use the drivers and insights for building

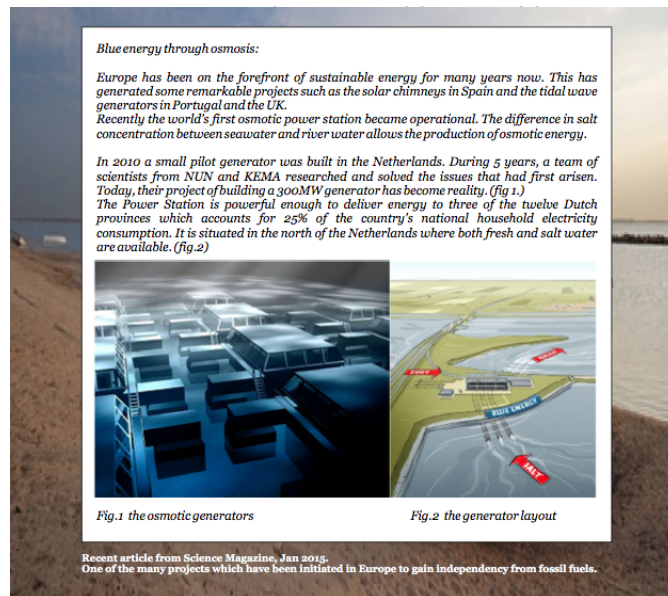


Fig. 26: A fictional newspaper-like article for describing one for the scenarios.

Each scenario included 3-4 fictive newspaper articles, websites or reports. The aim here was to turn facts into more tangible scenarios. Those tangible representations were called mood-scenarios.

Later on, those mood scenarios were used to build stories that were more about the

emotional state of the people in the year 2015 (Fig.27). Therefore, an external writer was commissioned for the writing of these short stories. Those stories contained the facts from the mood-scenarios and were aimed to underline the human side of the

The Musketeer

- Now, this is when.

- I'm on it, grandma.

Juanita - her actual name was Jane but she thought Juanita sounded hipper, kicked off her sneakers and threw herself on the sofa. It swallowed her in a whooshing sound. After all these years, she could still hear her grandma's voice whenever she did something for the community. She still missed her so and hoped that wherever she was, she could see and be proud of her Musketeer. Today's action was exhausting but fulfilling as usual. They had raised funds for solar panels for the families who could not afford them. She was amazed but proud of the community's response: everybody was there, prepared to do their utmost best for the sake of their neighbours. Children were running around, giving away leaflets while their parents were selling home made organic meals and desert. Samosa, roti, sushi, crêpes,.. all the cultures were represented but Carlito's pizza was the biggest success. "I haven't been to university, you see; you can be sure there's no engineering in my dough". Nobody bothered explaining to that ten year old that genetically engineered vegetables had nothing to do with him having a degree. For once, they were laughing with the issue; nobody wanted to spoil the moment. Even Jarrett smiled and god knows he was in no mood for fun.

- Where are the lottery tickets?

- I don't know, Jarrett.

- For Pete's sake! How can you not know? Are you co-founder or what?!

- I love you too, sweetheart.

- Oh shut up!

Fig. 27: One of the stories prepared for the scenarios.

2.3.4 Conclusion

There are several methods of how to build future scenarios, but most of these methods can be summed up into the following steps: gathering insights, trends, drivers and forces; sorting out these drivers and analysing them; synthesising possible alternative futures. There are important points that experts suggest to keep in mind, for example the number of alternative futures or the process of gathering drivers.

As we can also see in our case study, after becoming acquainted with the scenario planning methodology, designers can implement this method and create future scenarios.

3. Conclusions

The research revealed that scenarios are an important element both in future studies and design practice. Scenarios can be seen as an intersection between these two fields; under the heading of 'thinking about the future', both designers and foresight professionals rely on scenarios.

There are many ways to speculate and think about the future, and scenario building is only one of them. But it seems that since it is going to be more difficult to think about one future, producing alternative scenarios is and will be an effective tool for doing that. Also, for designers there are several tools to design for the future, but scenario building seems to be one of the most appropriate tools. As scenarios are used in many other steps during the design process, designers can adapt scenario building methodology when thinking and creating for the future. Using a methodological way for generating ideas about the future enables designers to be more credible.

When we look back at the research questions:

Can we use future scenarios as a common ground between future studies and design?

Scenarios are an effective way to think about alternative futures, they are powerful in simulating trends, technological developments and social changes in the future; therefore, they are widely used in future studies. Also, design professionals make use of scenarios by communicating design ideas to the consumers, or by thinking about the interaction between the user and the product. It is a cost-effective way of testing product ideas and usability of the artifacts. Scenarios are an important intersection between future studies and design practices; both disciplines are already using scenarios in their own field. It would be very helpful for designers if they could use the methodological background of scenario building developed in future studies in their own practice. The communication ability of designers and the credibility of scenario planning methods would result in a successful combination.

What are the benefits of using scenarios when designing for the future?

Scenarios are good at describing the context of a certain issue. Designers can make use of this ability when they are thinking about the future. The more interesting side of the future is people's emotions and society's dynamics; scenarios provide an effective method to think about these issues, which are core elements of design practice. Scenarios also enable designers to test their ideas and products. They can be used as a thinking tool as well as a tool for communication. Scenarios can act as a bridge between different departments of a company to convey certain messages. Scenarios are good at communicating certain issues to a wider audience, as many people can understand them and they are effective for letting people imagine a certain condition. Designers can use scenarios as a means to convey messages to society as well.

How can scenario planning methodology be implemented in design practice?

As it has been seen from the case studies, the implication of scenario planning methodology in design projects can differ slightly according to the scope of the project and the people using the methodology. The methodology can be used strictly like in the example of 'Bathroom of 2020', or the methodology can be used with a combination of

other tools like in the example of 'Vision of the Future'. The real important point here is that scenario planning methodology adds credibility and validity to the design projects.

With a strong research on drivers, forces and trends, the outcomes of the projects can be more convincing to decision makers, other divisions of a company and to users. Scenario planning methodology might have different interpretations by designers and companies, but the strong research part should be preserved at all costs.

In conclusion, although scenarios are widely used in the design domain, their full potential has not yet been revealed. Thinking in scenarios provides more advantages to designers than they currently use. Designers should make use of methods which are developed by future studies, and interpret them according to their needs, in order to design better futures. By doing so, the outcome of their visions for the future will be more credible, and the impact of their ideas on the future will be bigger.

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Annex

Interview with Nicolas Nova

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Fazil Akin: How do you define near future? Why did you choose to work on near future instead of far?

Nicolas Nova: For me, near future is the next 3-4 years. And far future begins like 10 years from now on. For companies the near is more important, it is also more accurately to be predicted. You can just speculate about the far future but near future is more affected from the things that are happening now.

Fazil Akin: Can failures be used as method to design future products?

Nicolas Nova: In the companies it is difficult to get information about failures. There, academic papers about failed prototypes can be found and this kind of literature 'grey literature' can be very useful. Patterns from these literature can be helpful, too.

Fazil Akin: Usage of science fiction movies, can they be helpful to design for near future?

Nicolas Nova: The objects in the science fiction movies can be interesting, too. Although these objects are a part of a certain narrative, they can be helpful in a sense to explore ideas. It allows the ideas and tries to influence the audience on how things should be or shouldn't be. Science fiction also influence computer sciences and researchers in the field of digital interaction. For them science fiction create for them a very positive vision. We can see also science fiction as a test of a design. For example in the Minority Report movie designers and technologists build the gestural interface which was shown in the movie and sell those interfaces. There is a double relationship. There are directors, writers who influence design but there are also researchers and designers that influence directors, science fiction producers. This interplay can be important for people who are searching for weak signals and potential inspiration for how future can be. This is one of the way to see how to see an object in certain context.

Another interesting way to find inspiration is called 'idioms'. These are the vocabularies people use when describing object in the future. What count as futuristic for people? What makes people hope and dream about certain technologies and society in the tomorrow. It can be an indicator of how things evolve through time. Vocabularies which were thought to be futuristic before 20 years involved more technological worlds than today's futuristic vocabulary. For example 15 years ago words like 'networking, automatic'. Evolution of words in financial sector or political world are more involved now. How those words could influence objects could be a way to speculate on future objects.

Fazil Akin: Is it easier to predict the technological side or social/cultural side?

Nicolas Nova: It is quite difficult. It is more about setting a scenario. If you think about kitchens. If I had to explore the near-future of kitchen in regards to technology, I would rather observe people using their smartphones or tablets in the kitchen than exploring how they use a smart-fridge. What is the role of smartphones today in the kitchen? It

would give you the possibility to speculate how a future service would be helpful for them in the kitchen. Then how such a service would be beneficial for mother with 2 kids. I would set a video in a daily life with problems like what happens if I forget my money at home or if the internet connection doesn't work. By contrasting social issues and technology, I would try to find possible scenarios how things might happen, possible usage scenarios of these products. Potential scenarios to re-design the products.

Fazil Akin: You do the research now but you expect the results for products in 2-3 years? How can you increase the credibility of your research results?

Nicolas Nova: It is important always to state that your scenarios are hypothesis. You will also be able to influence the future with your scenarios. In this moment the notion of design fiction, by creating prototypes that looks like they are working that are embedded in certain narratives you show some problems, opportunities, limits. This is a way make certain audience understand possibilities of a certain object. This fiction shouldn't be very clean. For example the visions of big companies, you will see that everything is very clean, everything works fine. I don't find these visions convincing, things doesn't work like that. In a way to make it looks realistic you should show problems, you should props that are physical. It will make people understand they will interact. You should make scenarios with these physical object more tangible than saying your devices will be more smart. Because it's just a statement, it is not convincing. General public wouldn't be convinced. Investors in most times hide problems. But for people problems are more interesting.

Fazil Akin: Can you suggest some books about future scenarios?

Nicolas Nova: Publications of Institute of Future in Paolo Alto. Stuart Candy's books in University of Hawaii. He has a Phd on designing future object and design fiction. Peter Schwartz's book. Foundation of Future Studies would be another book. There are also group of designers like that create scenarios of future. Justin Pickard, Changeist.com, next nature.net

...

Fazil Akin: Thank you.

Interview with Stijn Ossevoort

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Fazil Akin: What methods did you use for anticipating the future?

Stijn Ossevoort: We first invited an expert James Woodhouse in the beginning of scenario building. He gave us a file with lots of text. He collects fact. He didn't structures them but it was helpful. The method was using an expert like him to start the process. Later on we started a research on internet and literature with words he gave us. Then we started an ethnographic research. We envisioned with people the future. It was more a designer's interpretation of an ethnographic research. Going to people, taking picture, interviewing them. Later on we build scenarios and got some feedbacks on them. We kept track on every article in newspapers etc. At that time articles written by Deutsche Bank were the most interesting ones. They did quite good documents to predict the future for investors. Which areas are going to grow etc. You should watch out which newspapers you use because some of them just produce sensation. The guardian is a very good one, in German Der Spiegel is quite good one. They have experts. Instead of inviting an expert you read newspapers.

Fazil Akin: What advantages you see in scenarios for designers?

Stijn Ossevoort: Design is not a single entity. It works as a story. Scenarios are stories. These stories make design work. Scenario is a kind of perception how things work. I am disappointed sometimes student's work when they make a non-working model. If you make a zoo, you should make a scenario to experience it. If you make a working model it's ok. But with a non-working model you need a scenario.

Fazil Akin: What are the differences building a scenario as designer in comparison to a manager or ...?

Stijn Ossevoort: I think designer should put more efforts in this, call it strategic design field. It's a designer's job together with management department, but it is seen as a manager's job normally. It is an area where lots of things could be but unfortunately it is not used very often. There should be a course in design schools called Strategic Design. Maybe as a word strategic design is not correct. Maybe it is used for something different in management discourse.

Fazil Akin: What are the contributions designers could put into scenario planning?

Stijn Ossevoort: Designers are open-minded. Good scenario and strategic design could work with a team with different backgrounds. A designer in such a team could provide insights very close to the user. User centred part would be enchanted of the project. Also not every designer is the same. A designer could think on society another on materials and technology, in every team there should be one.

Fazil Akin: What other people could be part of such a team?

Stijn Ossevoort: Then you should go to the five categories. One thing is society, the other economic side... You can even have five designers instead of five experts because sometimes the experts are not open-minded

Fazil Akin: What were your steps for building up scenarios?

Stijn Ossevoort: We got lots of resources. We wrote them down. We tried to structure them. We had 100 or so much. But we should have more. For the most likely possible futures. Like a hierarchy and connection between these findings. Connecting them was very important. We could use the same drivers and connect them differently to produce three different scenarios. We ended up with scenarios with same drivers and different ones. It was almost like a backwards engineering. I wrote these three texts, documents which contained factual information of the future, written like a journal or a magazine which describes the future as it is. Not with a user, so we wanted to turn them into scenarios. We started to use the ingredients to design a bathroom but also we started to use the same ingredients to write a scenario from the view of a user. We had two things facts and story from user's point of view. If you read these stories. We had a good scenario writer. I told him we need these things to be in. People are selfish, people are this, people are that. You should put these things in. We add these ingredients in the facts and also into the stories.

Fazil Akin: Where did you get the drivers?

Stijn Ossevoort: It is a networking thing like the expert. Everyday we spent hours for digging into newspapers. It was a team effort. Everyday for one or two hours we

searched for drivers.

Fazil Akin: What were the challenges you encountered during the scenario building process?

Stijn Ossevoort: Communication with the management was quite hard, the structure of the company. Maybe because of the family-owned company. Another problem was the budget, there was a big budget but it was never there. Budget is actually a nice challenge. Limitation is quite good.

Fazil Akin: How many people were in the team?

Stijn Ossevoort: Six people in the team and an external writer for the scenarios. At the end two people were involved for the final designs. All six people were designers from different backgrounds. All product designers. One from Korea, one Polish. Maybe not different enough.

Fazil Akin: How did you presented the scenarios?

Stijn Ossevoort: We wanted to present all three and one of them should be an experience model. But than the management water to choose one. It was a wrong thing. We wanted to presented all of them. We had an internal presentation on moods, I called it moods these journal-like documents. A powerpoint presentation on how things would evolve. They should choose moods that fits best to the company. But all three scenarios should be worked out.

Fazil Akin: You choose to have three scenarios?

Stijn Ossevoort: Yes, two is like black and white. with four you have the same issue the dualism go on. Then you should use five. Why to make five if three is enough. One doesn't work, because it's like you know the future. Three is the magical number. The minimum democratic amount.

Fazil Akin: How long was the project?

Stijn Ossevoort: It was about 10 months. We did two things in the same time. Visionary concepts and innovative concepts. One was for thinking for 5 years on or 15 years on from now. We didn't wanted it to be too far away.

Fazil Akin: How was the experience model?

Stijn Ossevoort: It was planned like a working model. It was a bath that would morph. First it was not there and the tiles should morph into a bath. It was technically challenging and there was no budget. We had future scenario, moods and a user story at the end.

Fazil Akin: How do you build up successful scenarios?

Stijn Ossevoort: The important thing is to be open-minded to lots of things. Having a more open discussion. You shouldn't think the bathroom alone, if something happens in the world it affects the bathroom, too. Like a financial crisis.

Fazil Akin: How can you make that the management should be aware of the scenarios?

Stijn Ossevoort: Just involve them, if they say they don't have time then it is quite difficult. Somebody should or two people in the team should a manager.

Fazil Akin: Thank you.

Interview with Massimo Botta:

...

Fazil Akin: How did you used Scenario Planning in your design projects?

Massimo Botta: During the years 1994 and 1995 in Domus we used scenarios for two things. For interactive products as interaction scenarios and for developing products as a general framework. This framework was done for envision technology, societies in certain topics, to explore them.

For the 'Project Odyssey' in years 1999 and 2000 we began with personas we called them 'Playing Actors' and moved on scenarios. We collected first specific trends, design drivers, changes in society and build a conceptual framework. We used existing products and developed scenarios around them. Later on we developed concepts. We called them Stories. They contained descriptions, technology and components. In Anderson Company, a window maker from the US. We wanted to explore the area how windows could act as an active product. Like a consumer product. We classified the usage of windows as yesterday, today and tomorrow. Yesterday they were a passive product. Today the technology is involved for producing the glass or frame. Tomorrow windows could act as an augmented ambient. We begin with collecting information on trend areas, acting design and design drivers. The findings, we grouped them into three areas interaction, safety, microclimate. We found some intersecting points between these areas environment, technology, energy systems, life style, structure. Later on we placed those findings into three dimensional structure and sorted them according to their activeness and passiveness with a time constraint.

Fazil Akin: How do you collected the trends and drivers?

Massimo Botta: You can hire some companies to that. But as a designers you should always be sensible to those drivers and trends. That is one of the key abilities of a designer. To observe the society and be sensible to changes and trends. Some user researches could be also useful to get insights from them.

Fazil Akin: What are the advantages of Scenario Planning for designers?

Massimo Botta: It is a strategic tool. The outcomes, scenarios are very good as a starting point for discussion. They are also helpful for decision-makers. If you want to convince them for a certain idea, you should fill the background of your idea with scenarios and research.

Fazil Akin: What is for you very important in scenario planning?

Massimo Botta: If you really want to benefit from the outcome of the scenarios you should involve managers into the process. You should co-design the scenario with them. You should make with them some workshops, also preparation for the workshops is essential. Managers wouldn't have much time so you should try to be very focused on the subject, explain in the tools to them, prepare the materials before 1 week of the workshop. It is also important how you present the results, show that the scenarios were build using their decisions and efforts. Also you should be experienced with the

methodology of scenario building.

...

Fazil Akin: Thank you.

